



Department of Energy
Savannah River Operations Office
P.O. Box A
Aiken, South Carolina 29802

ARF-023097

FEB 23 2021

Ms. Susan B. Fulmer, P. G., Manager
Federal Facility Agreement Section
Division of Site Assessment, Remediation and Revitalization
Bureau of Land and Waste Management
South Carolina Department of Health and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

Mr. Jon Richards
Savannah River Site Remedial Project Manager
Superfund Division
U.S. Environmental Protection Agency, Region 4
61 Forsyth Street, SW
Atlanta, Georgia 30303

Dear Ms. Fulmer and Mr. Richards:

SUBJECT: Savannah River Site's Responses to the Regulatory Comments on the D-Area Groundwater Operable Unit Letter Report for Calendar Year 2019 Data, SEMS Number 63 (IACD-20-173, dated July 29, 2020)

In accordance with the terms of the Federal Facility Agreement, the U. S. Department of Energy (DOE) is submitting the enclosed responses to the regulatory comments on the D-Area Groundwater Operable Unit Letter Report for Calendar Year 2019 Data, SEMS Number: 63 (IACD-20-173, dated July 29, 2020) for your review. The South Carolina Department of Health and Environmental Control (SCDHEC) and the U. S. Environmental Protection Agency (EPA) provided comments and conditional approval on November 19, 2020 and December 4, 2020, respectively. This report will not be revised; however, all comment responses will be addressed in the next report, as applicable. Please review the responses and provide your approval within thirty (30) days of receipt.

The effort and time that the SCDHEC and the EPA have provided on this operable unit are greatly appreciated. Questions from you or your staff may be directed to me at (803) 952-8365, or the DOE Federal Project Director, Ms. Karen Adams, at (803) 952-7871.

Sincerely,

Brian T. Hennessey

Digitally signed by Brian T.
Hennessey
Date: 2021.02.22 09:27:28 -05'00'

Brian T. Hennessey
SRS Remedial Project Manager
Infrastructure and Area Completion Division

IACD-21-124

FEB 23 2021

Ms. Susan Fulmer
Mr. Jon Richards

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Enclosures:

- 1) SRS Responses to South Carolina Department of Health and Environmental Control Comments on the D-Area Groundwater Operable Unit Letter Report for Calendar Year 2019 Data (IACD-20-173, dated July 29, 2020), SEMS Number: 63
- 2) SRS Responses to U. S. Environmental Protection Agency Comments on the D-Area Groundwater Operable Unit Letter Report for Calendar Year 2019 Data (IACD-20-173, dated July 29, 2020), SEMS Number: 63

cc w/o encl:

J. Blalock, SCDHEC-Columbia
S. French, SCDHEC-Columbia
M. Reece, SCDHEC-Columbia
G. K. Taylor, SCDHEC-Columbia
T. Fuss, SCDHEC–Aiken Environmental Affairs Office
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R. H. Pope, EPA-Atlanta

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D. Lloyd, EPA-Atlanta
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SRS Responses to U.S. Environmental Protection Agency Comments
on the
D-Area Groundwater Operable Unit Letter Report for Calendar Year 2019 Data, SEMS Number: 63,
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EPA GENERAL COMMENTS

1. The D-Area Groundwater Operable Unit Letter Report for Calendar Year 2019 Data, SEMS Number: 63; dated July 29, 2020 (the Report) on page 2 under the “Monitoring Results” discussion states that locations where groundwater and surface water were sampled in the D-Area Operable Unit (DAOU) is provided on Figure 1, Sampling Location for the DAG OU, Page 11. However, none of the building structures or ash basins/land disposal areas are labeled on this figure. This information is required to provide an adequate presentation of where the source areas are located, where plumes are located relative to all source areas, and to demonstrate how the monitoring network is sufficient for monitoring plume(s) stability and potential for expansion/migration. Ensure the next D-Area Groundwater (DAGW) Operable Unit (OU) groundwater monitoring report to be submitted in 2021 addresses this issue by including all pertinent figures, labeling of buildings/structures pertinent ash basins and subunits (i.e., the 484-D Powerhouse [Powerhouse Subunit], the D-Area Heavy Water Facility [Bubble Tower Subunit], the Moderator Processing Facility [Moderator Processing Subunit], D-Area Coal Pile Runoff Basin [489-D], Coal Storage Area [484-17D], 488-2D Ash Basin, and 488-1D Ash Basin, etc.).

Response: Agree/Clarification. The previous sources to groundwater contamination are currently provided in the contaminant’s respective plume map figures. However, a figure featuring the D Area Operable Unit subunits and facilities that had previously or have the potential to impact groundwater conditions will be included in future monitoring reports. For clarity, these details will be included in a separate figure, rather than overlaid on Figure 1. The sources will continue to be provided in each respective plume map. No change to the 2019 Groundwater Monitoring Letter Report is proposed.

Responsible Party: William Jolin, 803-952-6122, william.jolin@srs.gov

2. The Report discussion on page 5 under the heading ‘Changes in the Monitoring Program (Effective 2019)’ states fourteen new wells out of a total of seventeen proposed wells (nine wells in the Upper Three Runs Aquifer Unit [UTRAU] and eight wells in the Gordon Aquifer [GAU]) were installed in the first half of 2020. However, the Report does not provide a figure depicting the location of the fourteen newly installed wells, the location of the remaining three proposed three wells planned for installation, or discuss how these wells further delineate all source areas and plumes vertically and horizontally for the DAGW OU. Ensure the next DAGW OU groundwater monitoring report to be submitted in 2021 addresses these issues and please ensure provision of adequate supporting figures.

Response: Agree. The *RCRA Facility Investigation / Remedial Investigation (RFI/RI) Letter Work Plan in Support of the D-Area Groundwater Operable Unit (D-Area Upgradient Sources) (IACD-19-185, submitted October 1, 2019)* proposed new wells in order to better bound the

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VOC, tritium, and metals plumes. The reasoning and location of these wells was discussed in the RFI/RI Letter Work Plan. These wells were recently installed or are currently being installed, and the location of the wells will be represented in future monitoring report figures. Data from the new wells and updates in plume delineation will be discussed in subsequent monitoring reports when available. No change to the 2019 Groundwater Monitoring Letter Report is proposed.

Responsible Party: William Jolin, 803-952-6122, william.jolin@srs.gov

3. From review of Figure 1, Sampling Locations for the DAG OU, Page 11, it does not appear the current monitoring network provides sufficient monitoring wells to identify and bound source areas as result of 484-D Powerhouse subunit operations. As such, it is uncertain whether the powerhouse area is currently a contributing source to the vadose zone and groundwater for volatile organic compounds (VOCs), metals, and polychlorinated biphenyl (PCB) contamination. In order to adequately evaluate whether the powerhouse area is a contributing source of contamination to vadose zone and/or groundwater, ensure the 2021 DAGW OU groundwater report addresses how the new groundwater wells installed in the UTRA and GA will provide sufficient monitoring locations in and near the 484-D Powerhouse subunit.

Response: Clarification. The RCRA Facility Investigation/Remedial Investigation (RFI/RI) Letter Work Plan in Support of the D-Area Groundwater Operable Unit (D-Area Upgradient Sources) (IACD-19-185, submitted October 1, 2019) proposed six wells to be sampled to determine if the 484-D Powerhouse is a contaminant source to groundwater. These wells include previously installed wells (DCB 41A, DCB 41C, DCB 43A, DCB 43C, and DCB 26AR) that have been infrequently sampled in more recent years and the newly installed monitoring well (DCB026D). Sampling included analyses for tritium, TCL/TAL full suite (no pesticides or dioxins/furans; includes PCBs), and diesel range organics (DRO). Data from this sampling event will be reported in future groundwater monitoring reports when available and discussed during the Spring 2021 DAG OU Work Plan Characterization Scoping Meeting. A conceptual site model of potential sources, including 484-D powerhouse, and releases will also reviewed as part of Work Plan scoping. No change to the 2019 Groundwater Monitoring Letter Report is proposed.

Responsible Party: William Jolin, 803-952-6122, william.jolin@srs.gov

4. Based on the contaminant plume maps (Figure 2, Tritium Concentration pCi/mL [pico Curies per milli-Liter] in the Upper Three Runs Aquifer Unit (UTRAU) and Gordon Aquifer Unit (GAU), 2Q2019; Figure 4, TCE [trichloroethylene] concentrations µg/L [micro grams per Liter] in the UTRAU and GAU, 2Q2019; and, Figure 6, Field pH of Groundwater and Beryllium Plume in the UTRAU and GAU, 2Q2019) and cross-section maps (Figure 3, D-Area Groundwater Cross Section A-A' for Tritium, 2Q2019; Figure 5, D-Area Groundwater Cross Section A-A' for TCE,
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2Q2019; and, Figure 7, D-Area Groundwater Cross Section B-B' for pH, 2Q2019) the tritium, TCE, and metals plumes are poorly defined vertically and horizontally.

- a. For example, Figure 4 shows monitoring wells outside of the TCE plume in all directions in the UTRAU except for southwest of the plume, west/southwest of DCB 54 and proximal to the DWP-6 piezometer.
- b. In addition, Figure 5 indicates the TCE plume is not defined in the GAU vertically.
- c. As another example, Figure 7 demonstrate that the beryllium (Be) and other metals plume is poorly defined vertically and horizontally. For example, a monitoring well is not located to the north/northwest of wells DCB-65 or DCB72C.
- d. Further, the cross-section provided on Figure 7 only depicts the extent of pH data and does not indicate where Be/metals concentrations are located vertically.

The next DAGW OU groundwater monitoring report submitted in 2021 should address the issues notes above to ensure the full horizontal and vertical extent of all contaminant plumes is adequately defined.

Response: Agree/Clarification. The RCRA Facility Investigation / Remedial Investigation (RFI/RI) Letter Work Plan in Support of the D-Area Groundwater Operable Unit (D-Area Upgradient Sources) (IACD-19-185, submitted October 1, 2019) proposed 17 new wells to expand the understanding of the nature and extent of groundwater contamination and bound the tritium, TCE, and metals/low pH plumes both vertically and horizontally. The wells include eight Upper Three Runs Aquifer wells and nine Gordon Aquifer wells. These wells have recently or are currently being installed, and data from these wells will be reported in subsequent monitoring reports when available and discussed during the Spring 2021 DAG OU Work Plan Characterization Scoping Meeting. Additionally, new cross-sections will be developed which provide better coverage and representation of the D-Area aquifers and contaminants. No change to the 2019 Groundwater Monitoring Letter Report is proposed.

Responsible Party: William Jolin, 803-952-6122, william.jolin@srs.gov

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SPECIFIC COMMENTS

1. Changes in the Monitoring Program (Effective 2019), page 6. The first complete sentence of page 6 states that six previously installed wells were proposed to be sampled to determine any groundwater contamination impact from the 484-D Powerhouse, yet only five wells are listed.

Response: Agree. The sentence stating “Six previously installed wells (DCB 41A, DCB 41C, DCB 43A, DCB 43C, and DCB 26AR) were also proposed to be sampled to determine if the 484-D Powerhouse is a contaminant source to groundwater,” in the Changes in the Monitoring Program (Effective 2019) section should state that 5 previously installed wells (DCB 41A, DCB 41C, DCB 43A, DCB 43C, and DCB 26AR) and one newly installed well (DCB 26D) were proposed. This will be reflected in future monitoring reports where appropriate. No change to the 2019 Groundwater Monitoring Letter Report is proposed.

Responsible Party: William Jolin, 803-952-6122, william.jolin@srs.gov

2. Table 1, Groundwater Samples Analyte List and Sample Frequency, pages 8 and 9. The following wells are shown in Figures 1, 2, 4 and 6, but are not listed on this table: DCB 61, DCB 62, DCB 63, DCB 27, DCB 27C and DCB 27D.

Response: Agree. Table 1 incorrectly omitted wells DCB 61, DCB 62, DCB 63, DCB 27, DCB 27C and DCB 27D. These wells will be included in Table 1 in future reports along with the changes stated in response to Comment 3. No change to the 2019 Groundwater Monitoring Letter Report is proposed.

Responsible Party: William Jolin, 803-952-6122, william.jolin@srs.gov

3. Table 1, Groundwater Samples Analyte List and Sample Frequency, pages 8 and 9. The following wells are listed on this table as monitoring wells, but no analyte suites are provided: DCB 41A, DCB 41C, DCB 43A, DCB 43C, DCB 64, DCB 71A and DCB 71B. Furthermore, wells DCB 71A and 71B are not shown in Figures 1, 2, 4 and 6.

Response: Clarification. The wells listed in Table 1 for which analyte suites are not provided are existing wells in D-Area that are not sampled as part of the D-Area Groundwater OU Monitoring Work Plan (WSRC-RP-2003-4150, Revision 1, June 2004). None of the wells are included in Figures 2, 4, and 6. For clarity in future monitoring reports, only wells and

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surface water stations that are sampled under the D-Area Groundwater OU Monitoring Work Plan will be included in the Groundwater and Surface Water Samples Analyte List and Sample Frequency Tables, and also identified on the Figure of the Sampling Locations for the DAG OU. If samples are collected in the future at additional wells or surface water stations these will be listed in a separate table and identify what they were analyzed for. Plume maps provided in future reports or letters will include these wells with their data, as applicable, and symbolize them differently as additional wells/surface water stations. No change to the 2019 Groundwater Monitoring Letter Report is proposed.

Responsible Party: William Jolin, 803-952-6122, william.jolin@srs.gov

4. Table 1, Groundwater Samples Analyte List and Sample Frequency, page 9. Monitoring well DWP003A should have a "Downgradient" indicator status according to Figure 1.

Response: Agree. The monitoring well DWP003A is considered a downgradient well and will be reflected as such in future reports. No change to the 2019 Groundwater Monitoring Letter Report is proposed.

Responsible Party: William Jolin, 803-952-6122, william.jolin@srs.gov

5. Figure 1, Sampling Locations for the DAG OU, page 11. The color yellow is difficult to see for the downgradient indicator wells. Please use a darker color.

Response: Agree. The yellow color identifying downgradient wells in Figure 1 will be darkened and/or changed in future reports. No change to the 2019 Groundwater Monitoring Letter Report is proposed.

Responsible Party: William Jolin, 803-952-6122, william.jolin@srs.gov
