



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

June 16, 2022

ENVIRONMENTAL COMPLIANCE &

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

JUN 16 2022

AREA COMPLETION PROJECTS

Dear Mr. Hennessey:

The U.S. Environmental Protection Agency (EPA) has reviewed the Department of Energy, Savannah River Site Treatability Study Data Report for the Groundwater Injection and Discharge Canal Neutralization at the D-Area Groundwater Operable Unit, 2021 Data and Information, SEMS #63, Revision 0 dated January 2022.

EPA can not approve this report until the below comments are 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 cursive script that reads "Diedre Lloyd".

Diedre Lloyd  
Senior Remedial Project Manager  
DOD Coordination Section  
Superfund & Emergency Management Division

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

**EPA COMMENTS ON THE TREATABILITY STUDY DATA REPORT  
FOR GROUNDWATER INJECTION AND DISCHARGE CANAL NEUTRALIZATION AT  
THE D-AREA GROUNDWATER OPERABLE UNIT  
2021 DATA AND INFORMATION**

**SEMS NUBER 63**

**DATED JANUARY 2022**

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**EPA GENERAL COMMENTS:**

1. It is unclear if installation of the ten injection wells at a depth greater than planned and into the deeper, mid to lower zone of the Upper Three Runs Aquifer (UTRA) are sufficiently placed to meet the neutralization of acidic condition goals.
  - a. For example, the text in Section 2.0 (Project Description) states, “Based on aqueous chemical equilibrium modeling software, a total of 10 pore space volumes of injected potable groundwater could significantly displace and raise the pH levels in the upper water table within a three-year study period.” However, the text also indicates that the lower vadose zone is not expected to be neutralized or have much change in pH as a result of the groundwater injection treatability study. As such, it is unclear how the increased depth of the injection well installations may impact the modeling software calculated number of pore volumes in the upper water table that were based on shallower well installation depth. Please include a discussion of the number of pore volumes of groundwater and timeframe that would be needed to raise the pH levels in the upper water table since the monitor wells were installed at a depth greater than planned and revise Section 2.0 to clarify how the installation of the ten injection wells in the deeper mid to lower zone of the UTRA will sufficiently meet the neutralization of acidic condition objective goals and raise the pH levels in the vadose zone and describe any potential issues or deviations that could occur due to the deeper screened intervals.
2. The Data Report includes Figure 4 (D-Area Treatability Study Injection Wells, Reactive Structure, and Projected Water Table Elevation); however, there is no reference to this figure in the text and additional discussion and significance of this figure is not presented. Please revise the Data Report to include a reference and discussion of the significance of Figure 4 in the text.

**EPA SPECIFIC COMMENTS:**

1. **Section 5.1, Injection Well Installation, Page 7 of 42:** It is unclear when development of the injection wells took place or what data was collected during well development. Please revise Section 5.1 to include a reference to where the field data collected for well development can be located and if not included in this report. Please revise the report to include this information.
2. **Section 5.2, CaCO<sub>3</sub> Reactive Structures, Page 8 of 42:** It is unclear if the maintenance of the sediment buildup and leaf drop litter will be coordinated to occur before, during, and/or after heavy or prolonged rain events. For example, the text states, “Maintenance to address this debris is being evaluated and it will be removed as practical;” however, it is unclear if the maintenance activity will be coordinated with the occurrence of major weather events (e.g., heavy or prolonged rain events). Please revise Section 5.2 to include the type of evaluations taking place to monitor the sediment and leaf drop litter buildup for the two reactive structure and when maintenance activities will occur and if activities will be coordinated with major weather events.