REGION 4
ATLANTA, GA 30303

ENVIRONMENTAL COMPLIANCE &

JAN 13 2025

AREA COMPLETION PROJECTS

January 13, 2025

Ms. Avery Hammett
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Remediation and Deactivation & Decommissioning Division
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P.O. Box A
Aiken, South Carolina 29802

EPA Comments on the: FOCUSED CORRECTIVE MEASURES STUDY/FEASIBILITY STUDY FOR D-AREA ASH BASIN WETLANDS (NBN) IN SUPPORT OF THE SAVANNAH RIVER AND FLOODPLAIN SWAMP INTEGRATOR OPERABLE UNIT (U), SEMS NUMBERS: 69 SRNS-RP-2024-01034, REVISION 0, DATED OCTOBER 2024

Dear Ms. Hammett:

The U.S. Environmental Protection Agency, Region 4 (EPA) has reviewed the Focused CMS/FS for the D-Area Ash Basin Wetlands (D-area IOU for River and Floodplains) SEMS Number: 69, (SRNS-RP-2024-01034), Revision 0, dated Oct.2024. EPA's comments are enclosed.

If you have any questions or require additional information, please contact Jon Richards at (404) 431-1340.

Sincerely,

JON RICHARDS

Digitally signed by JON RICHARDS
Date: 2025.01.13 10:22:06 -05'00'

Jon Richards FFA RPM
Federal Facilities Branch
Superfund and Emergency Management Division

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

GENERAL COMMENTS

1. The CMS/FS does not consistently describe the extent of the coal ash at the D-Area Ash Basin Wetlands (DABW). Section 1.2.2 (Nature and Extent of Contamination) states that the ash deposition area is considered the boundary of the wetland, but the red area shown on Figure 2 (Layout of the D-Area Ash Basin Wetlands) does not line up with the wetlands shown in the figure (e.g., the marsh/swamp is not in the northern area and extends further south than the DABW area). Further, based on Figure 10 (Arsenic and Potassium-40 Levels in Sediment/Soil within the 0-1 ft and 0-4 ft Depth Intervals) and Figure 11 (Thorium-232 and Uranium-238 Levels in Sediment/Soil within the 0-1 ft and 0-4 ft Depth Intervals), elevated concentrations of contaminants of concern (COCs) above the preliminary remediation goals (PRGs) are found outside the DABW boundary (i.e., uranium-238 at DAB-37, arsenic at DAB-37 and DAB-39, and potassium-40 at DAB-37, DAB-39, DAB-56, DAB-57, and DAB-58). As such, it is unclear if ash is found at these locations. *Please revise the CMS/FS to clarify the locations and extent of ash found at the DABW and how the extent of ash was determined based on the results presented on Figures 10 and 11.*

2. The COCs in sediment/soil that exceed PRGs have not been delineated as shown by the red sample locations on Figure 10 (Arsenic and Potassium-40 Levels in Sediment/Soil within the 0-1 ft and 0-4 ft Depth Intervals) and Figure 11 (Thorium-232 and Uranium-238 Levels in Sediment/Soil within the 0-1 ft and 0-4 ft Depth Intervals). For example, all potassium-40 sample results exceed the PRG [though its noted that K40 is always natural background and not site-related], and all of the results for the northern sample locations exceed the arsenic PRG. Therefore, it is unclear if the extent of the proposed land use controls (LUCs) boundary in Alternative A-2 (see Figure 12, Proposed Land Use Control Boundary Based on Ash Extent [represented by As and background cleanup level of 8.2 mg/kg]) and the estimated volume of contaminated media to be excavated under Alternative A-3 are sufficient to meet the remedial action objective (RAO). The CMS/FS should discuss whether additional delineation or a buffer zone outside the LUC boundary will be considered to address the areas outside the LUC boundary where sediment/soil exceeds PRGs. *Please revise the CMS/FS to discuss the delineation of the COCs in the sediment/soil at the DABW.*

3. The CMS/FS does not indicate that coal ash samples were analyzed for dioxins and furans (D/Fs) or per- and polyfluoroalkyl substances (PFAS). It is unknown if D/Fs may be potential constituents of concern in environmental media at the DABW based on the presence of coal ash. In addition, it is unknown in PFAS may be present. As such, a screening evaluation of the coal ash should include sampling and analysis of D/Fs and PFAS to assess if there is unacceptable risk to human health or the environment. *Please revise the CMS/FS to discuss the potential for D/Fs and PFAS to be present at the DABW and include additional sampling for these constituents as necessary to address the apparent data gap in site characterization and nature of contamination.*

4. The human health risk assessment (HHRA) in Appendix B does not contain an uncertainty analysis. This is important for risk managers to place the results of the risk assessment in the proper context and is a required component of an EPA risk assessment. *Please revise Appendix B to include an uncertainty analysis.*

5. The output from ProUCL analyses that was the basis for the exposure point concentrations used in the HHRA was not provided in the document; *please revise Appendix B to include the results of the ProUCL analyses.*

SPECIFIC COMMENTS

1. **Section 1.2.1, Unit Description, Unit History, Page 1-6 of 1-14:** The text states that the ash is believed to have been deposited in the DABW via an upgradient drainage ditch, but further discussion of this ditch is not provided. It is unclear if the location of the ditch is known and if it has been characterized for ash COCs. It is also unclear whether this ditch is included in the DABW or if it will be addressed under a different remedial action. Finally, the location of the ditch is not shown on Figure 2 (Layout of the D-Area Ash Basin Wetlands). *Please revise the CMS/FS to discuss the location of the drainage ditch and how it will be addressed. Please also include this drainage ditch on Figure 2.*

2. **Section 1.2.1, Unit Description, Data Evaluation, Page 1-8 of 1-14, and Figure 5, D-Area Ash Basin Wetlands Sampling Locations, Page 6-7 of 6-38:** The data used to support the CMS/FS are not consistently identified in the text and Figure 5. The text lists 28 total sediment/soil samples, but Figure 5 includes only 24 DABW sampling locations. In addition, the depths at which the listed samples were collected are not always specified and it is unclear if some locations were sampled at multiple depths. It is also unclear if the sampling locations shown on Figure 5 include surface water samples, as 39 surface water samples were collected in the 1997 pre-characterization and 23 surface water samples are specified for the later investigations. Further, it is noted that the number and types of samples collected during the 2001 D-Area Expanded Operable Unit (DEXOU) Phase II sampling are not specified in Section 1.2.1. Please revise the text to clarify the locations and depths of the different types of samples used in the data evaluation for the CMS/FS and describe the samples collected during the 2001 Phase II investigation (i.e., the number and types of samples collected). *Please also revise Figure 5 to clarify the sampling locations shown and ensure it is consistent with the description in the text.*

3. **Section 1.2.2, Nature and Extent of Contamination, Page 1-8 of 1-14:** The CMS/FS should include a cross section of the DABW as indicated in Section 1.2.3 (Nature and Extent of Contamination) of Format F-4 in the Environmental Compliance and Area Completion Projects Regulatory Document Handbook, dated June 2023 (the EC&ACP Regulatory Document Handbook). *Please revise the CMS/FS to include a cross section of the DABW, including the depth of known ash within the wetlands.*

4. **Section 1.2.4.3, Summary of Contaminant Fate and Transport and Principal Threat Source Material Evaluations, Page 1-12 of 1-14:** The discussion of the groundwater results in the DABW indicates that arsenic did not exceed the maximum contaminant level (MCL) of 10 micrograms/liter (ug/L) in the second quarter 2023 results, but the sensitivity of the data is not discussed. Based on Figure 8 (D-Area Ash Basin Arsenic Results for Groundwater [2Q23]), the reporting limit for arsenic is 30 ug/L, which exceeds the MCL. *Please revise the text to discuss the sensitivity and uncertainty in the non-detected results with reporting limits that exceed the MCL.*

5. **Section 1.2.5, Problems Warranting Action, Page 1-13 of 1-14:** The text states that the LUC boundary is based on exceedances of two times the average background concentration for arsenic (i.e., 8.2 milligrams per kilogram [mg/kg]), but this value is identified as the 95th percentile background in Table 4 (Summary of the D-Area Ash Basin Wetlands PRGs). It is also unclear why the LUC boundary considers arsenic exceedances and not the other COCs. *Please revise this section to clarify the arsenic value used for the LUC boundary and discuss why data for all COCs were not used.*

6. **Section 2.2, General Response Actions, Pages 2-5 to 2-7 of 2-10:** This section should include a description of the estimated area or volume where treatment, containment, or exposure technologies

may be applied as indicated in Section 2.2 (General Response Actions) of Format F-4 in the EC&ACP Regulatory Document Handbook. *Please revise this section to discuss the estimated area or volume of soil/sediment to which each of the general response actions may be applied.*

7. **Figure 7, D-Area Ash Basin Wetland Topography and Water Table Contours, Page 6-10 of 6-38:** The water table contours from 2018 are shown on this figure, but the groundwater elevations relative to mean sea level are not provided to support the contours. It is also unclear if these are the most recent water levels measured, as arsenic results from 2023 are provided on Figure 8 (D-Area Ash Basin Arsenic Results for Groundwater [2Q23]). *Please revise Figure 7 to include the most recent groundwater elevation measurements to support the water table contours and groundwater flow direction.*

8. **Figure 9, Refined CSM for the D-Area Ash Basin Wetlands, Page 6-12 of 6-38:** There are no volatile constituents of concern in sediment/soil investigated in the HHRA; therefore, the boxes for inhalation of vapors (resident and industrial worker) should contain dashes to indicate an incomplete exposure pathway. *Please revise the conceptual site model figure accordingly.*

9. **Table 4, Summary of the D-Area Ash Basin Wetlands PRGs, Page 6-20 of 6-38:** The footnote (3) indicates the most likely PRG is the lesser of the risk-based levels and the 95th percentile background concentration, but the background concentrations exceed the risk based levels. Based on Section 2.1.3 (Most Restrictive and Most Likely PRGs), the most likely PRG defaults to the SRS background concentration to be technically practical to achieve. *Please revise the footnote to clarify how the most likely PRG is selected.*

10. **Appendix B, Human Health Risk Assessment, Attachment B-1, USEPA Regional Screening Levels Table (RSLs) for Default Resident and Default Industrial Worker Scenarios Page B-25 of B-42:** The date of the RSLs used herein should be included on the table; *please revise the table to provide the release date of the RSLs.*