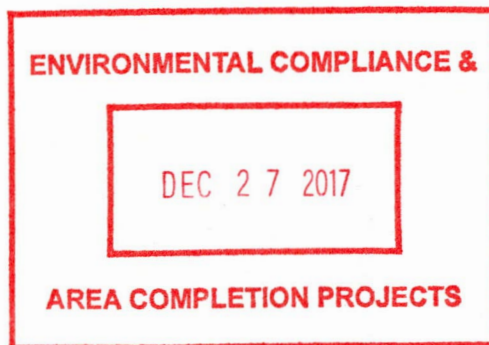




December 20, 2017

Mr. Brian T. Hennessey, SRS Remedial Project Manager
Infrastructure and Area Completion Division
U. S. Department of Energy
Savannah River Operations Office
Post Office Box A
Aiken, South Carolina 29802



Re: Resource Conservation and Recovery Act Facility Investigation / Remedial Investigation Report with Baseline Risk Assessment and Corrective Measures Study / Feasibility Study (RFI/RI/BRA/CMS/FS) for the G-Area Oil Seepage Basin (GOSB) (U), CERCLIS Number: 93 (SRNS-RP-2017-00218, Revision 0, September 2017) received September 22, 2017.

Dear Mr. Hennessey:

The Department has completed its review of the above referenced document pursuant to the Savannah River Site Federal Facility Agreement. The attached comments were generated as a result of this review. These comments must be addressed prior to final approval of the above referenced document. As specified in Section XXII, Review/Comment on Documents, the appropriate technical staff will be available to participate in a joint DOE/EPA/DHEC comment resolution meeting to discuss these comments, if necessary.

To schedule a meeting to resolve the attached comments or to obtain further information, please contact me at (803) 898-4331.

Sincerely,

Susan B. Fulmer, P.G., Manager
Federal Remediation Section
Division of Site Assessment, Remediation, Revitalization
Bureau of Land and Waste Management

cc: C. L. Bergren, SRNS-ACP (Signed Original)
Travis Fuss, Aiken Environmental Affairs Office (via email)
Jon Richards, EPA Region IV
Heather Cathcart, BLWM

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General Comments

- 1.a. The use of "frequency of detection" as a line of evidence for the refinement of constituents of concern (COC) needs to be addressed by the Core Team in future scoping meetings. For this document, there are a sufficient number of valid lines of evidence for each COC in the uncertainty analysis so that the "frequency of detection" line of evidence can be deleted.
- 1.b. Furthermore, in the "Environmental Compliance and Area Completion Projects Regulatory Document Handbook" (ERD-AG-003), Protocol P.1.9 - Constituents of Concern Refinement Process, Section 2.0, Description of Uncertainty Factors (2006) discusses data quality of the data set, abundance of detects, and the quantity of the data points. The ERD-AG-003 does not mention a specific quantity of data points when there is a limited sample size for each area of concern nor does it define "infrequency of detection". In Appendix C - Human Health Risk Assessment, Section C-2.3, page C-14, "frequency of detection" was not mentioned as a major category for the refinement of COCs. In Appendix D - Ecological Risk Assessment, Section D-2, Ecological Risk Assessment Process, page D-19, frequency of detection is mentioned in the first paragraph (and a couple of other areas in this section) with other uncertainties associated with certain COPCs and RCOCs but does not state a specific limit. The Department agrees with the Project Team that the discussion supports the understanding of the nature and extent of contamination, as stated in the Draft SRS Responses to SCDHEC for the most recent RI/BRA LTR IOU, SRNS-RP-2017-00139.

The EPA guidance document Risk Assessment Guidance for Superfund (RAGS) Part A, Chapter and Section 5.9 discusses further reduction of COCs in Section 5.9.3 Evaluate Frequency of Detection (1989). This strategy for refinement of COCs is continued in the updated EPA guidance documents for human health and ecological risk assessments in 2014 and 2015, respectively. Again, the Department reiterates our desire to discuss this with the Project Team in the future.

2. Chapter 5 discusses Alternative A-3: Place 0.6-meter (2-foot) Clean Fill Layer and Manage Surface Water and Alternative A-4: Backfill Basin and Manage Surface Water. Both of these alternatives would leave constituents in place that would be a potential risk to the industrial worker as well as an ecological risk. Consequently, LUCs and 5-year remedy reviews would be necessary. In Chapter 6, it is stated that Alternative A-4 may be the most favorable remedial action for the operable unit. However, being that the Department believes that this alternative will require LUCs and 5-year remedy reviews adding additional associated cost, Alternative A-5: Excavate and Manage Surface Water should be viewed as the most favorable based on the elimination of risk to the industrial worker and environment and the cost involved.

Specific Comments

1. Chapter 2, Section 2.2.1, Surface Water Hydrology, page 2-2. The first sentence listing the five major streams at SRS includes Upper Three Runs twice; it should list Steel Creek instead.

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2. Chapter 2, Section 2.2.3, Geology, page 2-3. The first sentence of the second paragraph of this section refers to Figure 2-5 while discussing the geologic units associated with GOSB OU. It appears that Figure 2-6, which shows the individual geologic units, should be referenced instead. Please correct.
 3. Chapter 3, Section 3.7.2, G-Area Oil Seepage Basin Interior Subunit Characterization and Data Summary, page 3-9. The bottom of this page states that there are seven constituents that exceed the RSL/PRG at the Basin Interior Subunit; however, according to the data presented in Table C-1 of Appendix C, there are a total of fifteen including chromium, benzo[a]anthracene, benzo[b]fluoranthene, alpha-chlordane, gamma-chlordane, Cs-137, Th-232 and U-238 in addition to the seven listed. Please revise this section to include these constituents and also revise Section 3.7.3 accordingly.
 4. Section 3.8.2, G-Area Oil Seepage Basin Berm Subunit Characterization and Data Summary, page 3-15. This section states that there are five constituents that exceed the RSL/PRG at the Berm Subunit; however, iron, which is listed as one of them, exceeds the screening value of 0.1xRSL but not the RSL itself. Additionally, according to data presented in Table C-5, there are a total of nine constituents including chromium, benzo[a]pyrene, benzo[b]fluoranthene, Th-232 and U-238 in addition to arsenic, thallium, K-40 and Cs-137. Please revise this section and Section 3.8.3 accordingly.
 5. Chapter 3, Section 3.8.3, G-Area Oil Seepage Basin Berm Subunit Nature and Extent of Contamination, page 3-15. This section lists barium, manganese and Cs-137 as constituents that exceed two times the average SRS all-depths background concentrations; yet according to Table A.2.1.3 in Appendix A, the maximum all-depth concentrations for these constituents are below their respective background concentrations listed in Table C-5 of Appendix C. Furthermore, Table C-5 lists these constituents as "no" for "Exceeds 2X Average Background?". Additionally, U-238 is listed as "YES" for "Exceeds 2X Average Background?" but is not listed in this section. Please correct.
 6. Chapter 3, Section 3.9.2, Pipeline Subunit Characterization and Data Summary, page 3-19. Based on the maximum concentration listed for chromium in Table A.3.1.1 in Appendix A (41.4 mg/kg), chromium should be added to the list of constituents that exceed their respective RSL/PRGs (0.3 mg/kg) in this section. Please correct.
 7. Chapter 3, Section 3.9.3, Pipeline Subunit Nature and Extent of Contamination, page 3-19. Based on the maximum concentration listed for silver in Table A.3.1.1 (1.76 mg/kg), silver should be added to the list of constituents that exceed two times the average background (0.73 mg/kg) in this section. Please correct.
 8. Chapter 5, Section 5.1.2.4, Removal and Disposal, page 5-6, second sentence. Please change "Three Rivers Landfill" to "Three Rivers Solid Waste Authority Class Three Landfill (Three Rivers Landfill) [Permit #024202-1101]" for clarity.

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9. Chapter 5, Section 5.1.2.4, Removal and Disposal, page 5-7, please include the management of basin water in the last paragraph of this section.
 10. Chapter 5, Section 5.2.1.2, Alternative A-2: Land Use Controls, page 5-8. Please include that Alternative A-2 would include 5-year remedy reviews.
 11. Chapter 5, Section 5.4, Detailed Analysis of Alternatives, pages 5-17 through 5-24. This section discusses the de-watering of the basin for three of the alternatives presented, and references Figure 5-2, page 5-28, which shows the intended area to receive the basin water via spray irrigation, but does not elaborate what this area is or the benefit this area would receive by receiving the basin water. Please clarify.
 12. Chapter 5, Section 5.4.5.2, Compliance with ARARs, Action Specific ARARs, page 5-23. Please use the complete regulation title for clarity: Regulation 61-107.5 SWM: Collection, Temporary Storage and Transportation of Municipal Solid Waste and Regulation 61-107.19 SWM: Solid Waste Landfills and Structural Fill.
 13. Appendix B, Section B-2.4, G-Area Oil Seepage Basin Modeling Parameters, page B-19. Based on the data in the Tier 1 Screening Results tables for each subunit in Appendix B, a constituent is retained as a Tier 1 CM COPC only if the source zone concentration is greater than both the Tier 1 Source-Specific SSL and the Tier 1 MLSSL. This should be stated in Step 3 on page B-19 for the Tier 1 screening methodology, which references "action levels" as the benchmark for comparison in determining Tier 1 CM COPCs.
 14. Appendix B, Section B-2.4, G-Area Oil Seepage Basin Modeling Parameters, page B-19 and Tables B-5, B-7, B-9 and B-11. The methodology for selecting Tier II CM COPCs is unclear. According to Step 4 on page B-19, analytes predicted to exceed action levels within 1,000 years are retained as Tier II CM COPCs. These "action levels" are not defined in this section, nor are they defined in the Tier II Screening tables for each subunit. Specifically, the following analytes are listed as having predicted groundwater concentrations higher than their action levels yet are not retained as Tier II CM COPCs: arsenic (Tables B-7 and B-9), K-40 (Table B-9) and Ra-226 (Table B-11). The predicted groundwater concentration for cobalt exceeds the Tier II SSL in Table B-5, but apparently because it is below the action level listed in this table, it fails the Tier II screening process. Furthermore, the predicted groundwater concentration for arsenic in Table B-9 is higher than both the listed action level and the Tier II SSL; however, it is not retained as a Tier II CM COPC. Please explain.
 15. Appendix C, Section C-2.3, Refinement of Constituents of Concern/Results. These pages discuss the uncertainty analysis for the refinement of COCs. Please remove as a line of evidence those that list infrequently detected. See General Comment #1.

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16. Appendix C, Section C-2.3.1.1 Sediment Media, page C-16, first sentence. This sentence references Table C-1 for the results of the Human Health COPCs in the GOSB Interior Subunit, pages C-51-52. Therefore, please change GOSB Berm Subunit to GOSB Interior Subunit in the first sentence.
 17. Appendix C, Section C-2.3.1.2, Basin Surface Water, pages C-25-C-35. Please change the line of evidence for cadmium, chromium, lead, and bismuth-214 from "The mean concentration is below the screening level," to "The mean concentration is below the MCL." Also, please make this change for lines of evidence that include the "most recent sampling event are well below..." for these constituents.
 18. Appendix D, Section D-2.3, Results/Refinement of Constituents of Concern. These pages discuss the uncertainty analysis for the refinement of COCs. Please remove as a line of evidence those that list infrequently detected. See General Comment #1.