



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

October 3, 2017

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

**ENVIRONMENTAL COMPLIANCE &**

OCT - 3 2017

**AREA COMPLETION PROJECTS**

**EPA REMEDIAL INVESTIGATION/BASELINE RISK ASSESSMENT  
FOR THE LOWER THREE RUNS OPERABLE UNIT, CERCLIS Number 35  
[SRNS-RP-2017-00139], REVISION 0, JUNE 2017, Revision 1, September 2016, Savannah  
River Site, Aiken, South Carolina**

Dear Mr. Hennessey,

The U.S. Environmental Protection Agency, Region 4 (EPA), has reviewed the RI/BRA for the Lower Three Runs OU, CERCLIS Number: 35, SRNS-RP-2017-00139, Revision 1, June 2017. EPA comments are attached.

If you have any questions or require additional information, please contact me at (404) 562-8648.

Sincerely,

A handwritten signature in black ink, appearing to read "Jon Richards".

Jon Richards  
Remedial Project Manager  
Superfund Division

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

## SPECIFIC COMMENTS

1. **Appendix C, Section C.2, Ecological Risk Assessment (ERA) Process, beginning on page C-22 of C-376 and additionally on Page 3-30 of 3-114 of the Report**, outlines the ERA process and identifies Constituent of Potential Ecological Concern (COPECs), followed by Constituents of Potential Concern (COPCs), followed by Refined Constituents of Potential Concern (RCOPCs), followed by Constituents of Concern (COCs), followed by refined COCs (RCOCs). Each step in the process involves comparing sequentially less conservative exposure concentrations (or doses) to less conservative toxicity values and different Lines of Evidence (LOEs). The current explanation of the step-wise process in Section C.2 is wordy and potentially confusing. It is recommended to augment the existing text by adding a flowchart that shows the five sequential COC-selection steps, starting with the COPECs, together with the decision points after each step to determine if a constituent is removed from further consideration or continues down the ERA process. *Please amend the report by including the requested flow chart.* It is anticipated that this new figure will provide a helpful tool to support future risk management decision making by the Agencies.
2. **The first paragraph of Section 3.2.5, PAR Pond Characterization (2016), on page 3-18 of 3-114 in the Report** states that surface water samples were collected from 14 locations in PAR Pond. The second paragraph in Section 3.12.2, Exposure Area 6 Characterization and Data Summary on Page 3-63 of 3-114 in the Report mentions that 11 surface water samples were collected from PAR Pond in 2016. Figure 3-6 appears to show up to 18 surface water sampling locations in PAR Pond. Table A.1.6.2 presents analytical data for between 8 and 52 surface water samples collected from PAR Pond. The report is confusing and unclear on the number of actual surface water samples obtained from PAR Pond in 2016 and earlier for use in the ERA. *Please amend the text to clarify this issue.*
3. The report uses soil screening activities obtained from the Residual Radioactivity (RESRAD) Biota database to determine if a radionuclide present in sediment/soil should be retained for further evaluation if it lacks a screening value or measured background concentration. However, this approach does not appear to have been systematically applied in the refinement-level uncertainty discussions across all the radionuclides and exposure areas. For example, a radionuclide detected in sediment/soil but lacking a screening value or background concentration may be eliminated from further consideration because of its short half-life, with no mention of an acceptable soil screening activity. *Please amend the text to consistently apply the RESRAD soil screening activities. The report should also clarify upfront why the RESRAD soil screening activities were not retained as separate screening values, but instead are only presented in the uncertainty analysis and yet are used extensively to eliminate COPECs.*
4. The refinement-level uncertainty discussion for each Exposure Area (EA) describes the evidence to determine if a COC should be retained or not for further remedial evaluation. These discussions are thorough but quite wordy. The risk management decision-making process would be greatly helped by including a table for each EA that shows the EA-specific COCs to the left and, at the top, all of the LOEs presented in the discussion, with checkmarks that show what LOEs were applied to which COCs. These tables would provide a succinct summary of the uncertainty discussions and will provide a helpful tool

to support future risk management decision making by the Agencies. *Please amend the report by including these requested tables.* ARF # 021265

5. Bird and mammal Toxicity Reference Values (TRVs; in units of mg/kg body weight per day) typically come in two varieties, namely no-effect TRVs and low-effect TRVs. Neither Appendix C, Ecological Risk Assessment, nor Attachment C-9, Trophic-level Modeling Report, in Appendix C clearly specifies whether the TRVs used to calculate the receptor-specific Hazard Quotients (HQs) represent no-effect or low-effect values. *Please amend the text to clarify this important issue.* Note that an easy way to resolve this ambiguity is to consistently use the notation TRV<sub>no-effect</sub> and/or TRV<sub>low-effect</sub> in the tables and the text.
  
6. The table numbering in the text does not match the actual table numbers (e.g., Table C-6 on Page C-49 and Table C-7 on Page C-43 in the text are actually Tables C-7 and C-8, respectively). *To avoid confusion, please ensure that all the table numbers in the text are made to correspond to the appropriate tables.*