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

October 18, 2018

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

EPA Comments for the Feasibility Study for the Lower Three Runs Integrator Operable Unit (IOU) (U), SEMS Number 35, SRNS-RP-2018-00199, Revision 0, dated July 2018, Savannah River Site, Aiken, South Carolina

Dear Mr. Hennessey,

The U.S. Environmental Protection Agency, Region 4 (EPA), has reviewed the FS for Lower Three Runs OU, SRNS-RP-2018-00199, Revision 0, July 2018. EPA comments are attached.

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

Sincerely,

Jon Richards
Acting FFA Remedial Project Manager
Superfund Division

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

I. GENERAL COMMENTS

1. The Feasibility Study for the Lower Three Runs Integrator Operably Unit (IOU) (U) [LTR IOU FS] does not provide sufficient information about how the cost estimates for the remedial action alternatives were evaluated since no backup information or analyses are provided. In addition, According to Section 6.2 (Detailed Analysis of Alternatives) of EPA document *Guidance for Conducting Remedial Investigations and Feasibility Studies under CERCLA* (EPA RI/FS guidance), each alternative selected for the detailed analysis should be reviewed to develop order-of-magnitude cost estimates (i.e., having a desired accuracy of + 50 percent to -30 percent). However, Section 4.0 (Detailed Analysis of Alternatives) of the LTR IOU FS does not provide order-of-magnitude cost estimates with accuracy ranges of +50% to -30%, with a breakout for capital costs and operation and maintenance costs totals. *Please revise the LTR IOU FS to include backup information about how cost estimates were derived. In addition, for the remedial alternatives selected for detailed analysis in Section 4.0 of the LTR IOU FS, include the cost estimates with accuracy ranges of +50% -30% and a breakout of capital versus operation and maintenance costs, in accordance with EPA RI/FS guidance.*

2. It is EPA's position that Par Pond water level maintenance will likely need to be included with all applicable alternatives, as maintaining the water level as outlined in in the existing Interim ROD is key for the alternatives to be successfully implemented resulting protection of human health and the environment. However, it is unclear in the FS how the water level will be maintained. The existing IROD regarding water level maintenance needs to be superseded by this Final ROD for OU 35. *Therefore, the cost of maintaining the water level and by doing so keeping any contaminated sediments in the PAR Pond system from migrating beyond the existing PAR Pond dam needs to be properly evaluated.* It is not clear that the FS does this in a complete and thorough way.

3. It is noted that the LTR IOU FS on **page 70 of 124** states, "None of the alternatives apply a treatment technology. Therefore, no reduction of toxicity, mobility, or volume through treatment is accomplished from any alternative evaluated for the Upper subunit of the LTR IOU." However, based on recent conversations between the EPA and the Department of Energy (DOE), an argument could be made that the drying agents used to dewater/stabilize the waste would reduce contaminant mobility and thereby qualify as treatment regarding Principal Threat Waste (PTW) and Alternative A-5: Excavation and Disposal of PTSM Sediment/soil. *No response required.*

4. **Section 3.1.2** (Alternative A-2: Land Use Controls with Monitored Natural Recovery) states the use of land use controls, institutional controls and Monitored Natural Recovery (MNR) have a high degree of certainty to continue within an acceptable time frame. However, the text does not define what is considered an 'acceptable time frame' and does not discuss how the timeframes needed for MNR to achieve an acceptable risk apply to this requirement. For example, Section 1.3.1 (Exposure Area 1: Pond A – Including R-Area Discharge Canal) states it will take 290 years for the Cesium-137 (Cs-137) levels to meet the remedial goal (RG) of 0.68 pico Curies per gram (pCi/g). *Please revise Section*

3.1.2 to discuss the timeframes needed for the Cs-137 levels to decay to the RG and why this timeframe is considered acceptable. This may include information pertaining to the Department of Energy's long-term stewardship of the Savannah River Site.

5. **Table 4-10**, Potential ARARs and TBC Criteria for the Lower Three Runs IOU Feasibility Study, includes Applicable or Relevant and Appropriate Requirement (ARARs) which do not meet the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) §121 statute for selecting a remedy that is protective of human health and the environment in accordance with maintaining an excess upper bound lifetime cancer risk to an individual of between 10E-04 – 10E-06, as follows:

    - Table 4-10 includes DOE Order 458.1(4)(b)(1) and (2), limiting the exposure of members of the public to radiation sources as a consequence of all USDOE activities to no more than a total effective dose 100 millirem/year, and As Low As Reasonably Achievable (ALARA), as an action-specific ARAR. The DOE requirement does not meet the CERCLA Section 121 federal statutory requirement for maintaining an excess lifetime cancer risk remaining after remedial action completion within the risk range of 10E-04 – 10E-06. As such, the DOE Order 458.1 is not an ARAR for the CERCLA cleanup of the LTR IOU.

In accordance with the CERCLA Compliance Policy in the 40 Code of Federal Regulations (CFR) Section 121(d)(2)(A), superfund remedial actions must meet Federal standards, requirements, criteria, or limitations that are determined to be legally ARARs. This includes the requirement that selection of a remedial action must result in concentrations of carcinogens that do not exceed an excess upper bound lifetime cancer risk to an individual of between 10E-04 – 10E-06. *Please revise Table 4-10 to remove reference to ARARs that do not meet the federal statutory requirement to maintain an excess upper bound lifetime cancer risk to within the 10E-04 – 10E-06 risk range for remedial actions at the LTR IOU.*

II. SPECIFIC COMMENTS

1. **Table 2-2. Summary of the RGOs for the Upper Subunit of the LTR IOU, page 36-of 134:** The table includes a column labeled "IOU On-Site Worker," but does not include footnotes or a discussion which states where the "IOU On-Site Worker" values were obtained (i.e. such as the Preliminary Remediation Goal Calculator*). Please revise Table 2-2 to include a more detailed column labels and/or footnotes as appropriate to fully identify where values listed in the table were referenced.*

2. **Table 2-2. Summary of the RGOs for the Upper Subunit of the LTR IOU, page 36-of 134:** The most likely remedial goal option (RGO) for Cs-137 of 0.68 pCi/g was selected based on twice the 95th percentile for the SRS site-wide background. However, the basis for selecting twice the 95th percentile for the entire facility versus selecting a background value from areas surrounding the LTR IOU is unclear. Background values used for identifying when concentrations of constituents are due to anthropogenic/background sources versus site contamination should be based on site-specific information to the greatest extent possible. *Please revise the LTR IOU FS to include additional text explaining how the background value determined most*

appropriate for the purpose of identifying the RG for the LTR IOU was selected. Also, please include text explaining why the chosen RG of 0.68 pCi/g for Cs-137 is appropriate.

3. **Section 4.1.1.2, Alternative A-2: LUCs with MNR, page 61 of 124:** The second paragraph states that costs for this alternative can be reduced by alternating remote sensing and ground truthing surveys at five-year intervals. However, the text does not explain or define what the terms 'remote sensing' and ground truthing' represent. *For clarity and completeness, please revise this text to include a brief description of the remote sensing and ground truthing monitoring techniques.*

4. **Table 4-1, Detailed Analysis EA1 R-Area Discharge Canal and Pond A, page 77 of 124:** The table indicates that maintaining the water level of Pond A does not provide any benefit to human health or the environment; however, information in the table does not reference the reason why this alternative is not applicable. *For clarity and completeness, it is recommended that a footnote be added to Table 4-1 stating that EA1 is not directly connected to the water body controlled by the dam and is the reason maintaining the water level does not apply.*

5. **Page 70 of 124 states**, "None of the alternatives apply a treatment technology. Therefore, no reduction of toxicity, mobility, or volume through treatment is accomplished from any alternative evaluated for the Upper subunit of the LTR IOU." However, it is EPA's position that the drying agents used to dewater/stabilize the waste would reduce contaminant mobility and thereby qualify as treatment regarding Principal Threat Waste (PTW) in Alternative A-5: Excavation and Disposal of PTSM Sediment/soil. *EPA requests that the stabilization needed for disposal of the material be considered treatment and described as such in the Feasibility Study (FS).*