



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
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ENVIRONMENTAL COMPLIANCE &

October 21, 2024

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Ms. Avery Hammett
SRS Remedial Project Manager
Remediation and Deactivation & Decommissioning Division
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Savannah River Operations Office
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Aiken, South Carolina 29802

AREA COMPLETION PROJECTS

EPA Comments: RESOURCE CONSERVATION AND RECOVERY ACT FACILITY INVESTIGATION/REMEDIATION INVESTIGATION REPORT WITH BASELINE RISK ASSESSMENT AND CORRECTIVE MEASURES STUDY/FEASIBILITY STUDY FOR THE EARLY CONSTRUCTION AND OPERATIONAL DISPOSAL SITE L-3 (EAST OF L AREA) (NBN), L-AREA RUBBLE PIT (131-1L), AND L-AREA RUBBLE PIT (131-4L) OPERABLE UNIT (U), SEMS NUMBER: 91, SRNS-RP-2023-01365, REVISION 0, DATED JULY 2024 , Savannah River Site, Aiken, SC

Dear Ms. Hammett:

EPA has reviewed the RCRA/RI Report with the BRA and CMS/FS for the L-3, L-Area RPs 131-1L and 4L. Attached are our comments:

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

Sincerely,

JON
RICHARDS

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RICHARDS
Date: 2024.10.21
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Jon Richards, FFA RPM
Federal Facilities Branch
Superfund and Emergency Management
Division

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

GENERAL COMMENTS

1. There is a discrepancy related to the evaluation of sediment and surface water in the Report. For example, Section 3.1 (ECODS L-3, LRP 131-1L, and LRP 131-4L Operable Unit Investigation Overview), Page 3-1, indicates that no surface water samples were collected. However, Section 3.6 (Ecological Risk Assessment Modeling), Page 3-12, states, “The ERA [ecological risk assessment] is conducted by comparing constituent concentrations in environmental media within each subunit, including soil, sediment, and surface water...” This may not be the only instance where surface water and/or sediment was mentioned; *please revise the Report to reconcile this discrepancy wherever it occurs.*
2. The Report does not provide a clear description of the extent of soil contamination at each of the three subunits. For example, Section 3.2.1 (ECODS L-3 Subunit) discusses exceedances of the industrial preliminary remediation goals (PRGs) for several constituents, but the locations and depths of the exceedances are not provided. In addition, the site-specific PRGs are later defined in Section 4.3 (Most Restrictive and Most Likely Preliminary Remediation Goals), so it is unclear what levels were used as industrial PRGs for this comparison. Further, as noted in Section 4.2 (Preliminary Remediation Goal Development) and 4.3 (Most Restrictive and Most Likely Preliminary Remediation Goals) of Format F-5 in the Environmental Compliance and Area Completion Projects Regulatory Document Handbook, dated June 2023 (the EC&ACP Regulatory Document Handbook), the Report should include figures illustrating the locations where the PRGs are exceeded at each subunit. *Please revise the Report to provide discussion and figures illustrating the delineation of the extent of soil contamination, including the locations and depths of the PRG exceedances at each subunit.*
3. The Report does not indicate that the soil samples collected at the Early Construction and Operational Disposal Site (no building number) (ECODS) L-3 subunit were analyzed for dioxins and furans (D/Fs). Section 1.3.1 (ECODS L-3 Subunit) notes that sections of the trenches may have been used as a burn pit for disposal of combustible waste. The burning of organic materials such as oils has the potential to produce D/Fs, which are highly recalcitrant and toxic compounds. As such, a screening evaluation of burn areas should include sampling and analysis of D/Fs. *Revise the Report to discuss the potential for D/Fs to be present at the ECODS L-3 Subunit and include additional sampling for D/F as necessary to address the apparent data gap in site characterization and nature of contamination.*
4. It is unknown whether per- and polyfluoroalkyl substances (PFAS) may be potential constituents of concern in environmental media at ECODS L-3, LRP 131-1L, and LRP 131-4L. *Please revise the Report to include a statement regarding the potential presence or absence of PFAS; in the event that PFAS could be present based on site history, etc., a recommendation for addressing this data gap should be included in Section 6.0 (Summary Conclusion).*
5. The most recent EPA Regional Screening Levels (RSLs) were not used. *Please revise the Report to include the May 2024 RSLs, and ensure that there have been no updates to pertinent screening levels.*

6. A construction worker was not included as a potential receptor of interest. Given that construction workers, although short-term, may encounter greater exposure levels than other receptors they should be included in the baseline human health risk assessment (HHRA). *Please revise the Report to add a construction worker to the conceptual site model (CSM) and the baseline HHRA.*
7. The screening process for the HHRA does not address data sensitivity (i.e., an evaluation of detection limits, reporting limits or, preferably, sample quantitation limits for constituents in soil in comparison to applicable health-based screening criteria); according to Section C-2.1 (Soil Media) only detected constituent concentrations were screened. Elevated sample quantitation limits may result in some constituents not being identified as constituents of potential concern (COPCs). To ensure that constituents are not overlooked in the risk assessment, *please revise Appendix C to include a discussion of sample quantitation limits in comparison to the relevant screening levels; COPCs predicated on non-detect results should be added to the COPC list and evaluated in the Uncertainty Analysis.*
8. It is general EPA policy to combine surface and subsurface soils into one exposure medium for hypothetical receptors; however, neither the CSMs nor the HHRA include subsurface soil exposure for this receptor. Subsurface soil represents a part of the soil horizon that could be accessed by both industrial workers and residents if the whole soil column is excavated, and the site is redeveloped. However, all three CSMs show incomplete exposure pathways (shown as a dash) for subsurface soil pathways. Therefore, *please revise the Report to include markers on the CSM indicating that residents could be exposed to subsurface soils, combine all soil data into one statistical model (i.e., 95% upper confidence limits on the arithmetic mean (95UCLs)), and recalculate soil exposure risks accordingly.*
9. Neither Appendix C, Human Health Risk Assessment, nor Appendix D, Ecological Risk Assessment, contain the output from the ProUCL software; *please revise the document to include the ProUCL output.*
10. It is uncertain why aquatic ecological receptors are included on the CSMs. As discussed previously, according to various sections of the Report, surface water and sediment were not media of concern in this investigation and are not included as media of interest on the CSM. Additionally, the dash shown to represent “Incomplete exposure pathway” for aquatic receptors exposed to soil is incorrect. It is recommended that aquatic ecological receptors be removed from the CSMs, or a different symbol should be developed to show that aquatic pathways are not evaluated in this investigation; the addition to the CSMs of surface water and sediment exposure pathways should also be considered. *Please revise the Report accordingly.*
11. The lead screening value has not been updated. *The Updated Residential Soil Lead Guidance for CERCLA Sites and RCRA Corrective Action Facilities* (Office of Land and Emergency Management (OLEM), released on January 17, 2024, recommends that EPA regions use a residential soil lead RSL of 200 parts per million (ppm), which corresponds to a target blood lead (PbB) of 5 micrograms per deciliter ($\mu\text{g}/\text{dL}$). This is half of the previous target PbB of 10 $\mu\text{g}/\text{dL}$. Therefore, soil lead concentrations should be screened using 200 milligrams per kilogram (mg/kg) and those areas in exceedance should be modeled using EPA’s Integrated Exposure Uptake Biokinetic (IEUBK)

Model for Lead in Children; *please revise the HHRA to screen lead in soil using the updated RSL and model the results as appropriate.*

12. The results of a threatened and endangered species (T&E) search for the site is not included in Appendix D; *please revise the Report to include the T&E search.*
13. The removal of constituents from further consideration on the basis of lack of a screening value is inappropriate. Both the HHRA and the ecological risk assessment (ERA) (Appendix D) state in their refinement steps that a constituent is not recommended for further evaluation because, among other things, there is no screening threshold; however, this is an uncertainty that should be investigated for the potential to impact the risk estimates and is not a criterion for removal. *Please revise Appendix C and Appendix D to remove this bulleted statement from the Uncertainty Discussions, wherever it occurs.*

SPECIFIC COMMENTS

1. **Section 1.3.2, LRP 131-1L Subunit, Page 1-6 of 1-16:** Two recently discovered photographs of subunit LRP 131-1L are noted to show land disposal of material on the surface of the subunit and are provided as Figure 1-4 (Photo of Rubble on Surface of LRP 131-1L Subunit [Photo 17471-28]) and Figure 1-5 (Photo of Rubble on Surface of LRP 131-1L Subunit [Photo 17471-29]); however, it is unclear if it is known when these photographs were taken. *Please include a brief statement to clarify the date or timeframe that the photographs were taken.*
2. **Section 2.1.2, Surface Features, Page 2-3 of 2-34:** The second paragraph identifies a depression approximately 3-feet deep that was observed within the northern end of subunit LRP 131-1L; however, the areal extent of this depression is not discussed, and the depressed area is not shown on Figure 1-3 (L-Area Rubble Pit 131-1L Subunit Boundary). In addition, Figure 2-7 (Depressed Area within LRP 131-1L Subunit) appears to show that the area has standing water, but this is not discussed in the text. *Please revise Section 2.1.2 to discuss the areal extent of the depression and the nature of the surface water and include this feature on Figure 1-3.*
3. **Figure 2-12, Preliminary Conceptual Site Model for the ECODS L-3 Subunit, Page 2-25 of 2-34; Figure 2-13, Preliminary Conceptual Site Model for the L-Area Rubble Pit 131-1L Subunit, Page 2-26 of 2-34; and Figure 2-14, Preliminary Conceptual Site Model for the L-Area Rubble Pit 131-4L Subunit, Page 2-27 of 2-34:** The nomenclature, “Deep Soils (all depths)”, which is shown to be a complete pathway for industrial workers, is counterintuitive; if subsurface soil is an incomplete pathway for all human receptors (including industrial workers), then “Deep Soil (all depths)” should also be incomplete. *Please revise the CSMs to either remove Deep Soil as an exposure medium or clarify the intended soil depth to differentiate deep soil from subsurface soil.*
4. **Section 3.2.1, ECODS L-3 Subunit, Page 3-2 of 3-50:** The locations of the two confirmation soil samples that were collected for analyses of gross alpha and nonvolatile beta are not provided. For example, it is unclear if these two samples are shown on Figure 3-1 (Sampling Locations at ECODS L-3 Subunit). *Please revise the text to clarify the locations of the confirmation soil samples for gross alpha and nonvolatile beta analyses and include these locations on a figure.*

5. **Section 3.2.2, LRP 131-1L Subunit, Page 3-4 of 3-50:** This section states, “In comparison, seven split samples were collected and had no trigger level exceedances;” however, it is unclear where these split samples were collected and if the parent samples exceeded the trigger levels. The text should discuss how these split samples were collected and analyzed (e.g., if different laboratories or methods were used) to clarify how these samples compare to the samples with trigger level exceedances. *Please revise this section to discuss the split sampling that was performed for seven samples collected at the LRP 131-1L subunit.*
6. **Section 3.2.3, LRP 131-4L Subunit, Page 3-5 of 3-50:** The seven samples that were unable to be collected due to waste material within the sampling depth or poor soil recovery should be identified and any potential data gaps that exist with site characterization should be discussed. For example, it is unclear if any of these samples were located in the peripheral or step-out sample locations, such that the extent of contamination was not determined. *Please revise this section to identify the seven samples that were unable to be collected and discuss if there is a data gap that exists in the delineation of the soil contamination.*
7. **Section 3.3, Unit-Specific Constituent Screening, Pages 3-7 to 3-8 of 3-50, and Appendix A, Investigation Data/Data Summary Tables:** This section does not discuss the analytes included in the screening process to identify unit-specific constituents (USCs). Based on the tables in Appendix A, different analytes are screened at each subunit. For example, Table A.3-4 (Unit Specific Constituent Screening Table LRP 131-1L Subunit Soil [All Depths]) does not include polychlorinated biphenyls (PCBs), xylenes, or certain pesticides (e.g., dichlorodiphenyltrichloroethane [DDT]) that are included in the tables for the other subunits. *Please revise the text to define the analytes that are included in the USC screening tables for each subunit (e.g., if these are detections only).*
8. **Section 3.8.1.3, ECODS L-3 Subunit Nature and Extent of Contamination, Page 3-15 of 3-50:** The list of USCs includes selenium for the ECODS L-3 subunit, but Appendix A Table A.2-4 (Unit Specific Constituent Screening Table ECODS L-3 Subunit Soil [All Depths]) does not indicate selenium should be a USC (i.e., the maximum detection was less than two times the mean background concentration). *Please revise the list of USCs to remove selenium to be consistent with Appendix A.*
9. **Section 5.1.1, General Response Action, Page 5-2 of 5-60:** 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 5.1.1 of Format F-5 in the EC&ACP Regulatory Document Handbook. *Please revise this section to discuss the estimated area or volume of soil at each subunit to which general response actions may be applied.*
10. **Section 5.2.1.1.4, Alternative A-4: Excavation and Disposal, Page 5-8 of 5-60, and Section 5.3.1.4, Alternative A-4: Excavation and Disposal, Page 5-26 of 5-60:** Section 5.2.1.1.4 identifies approximately 6,728 cubic meters (m³) (8,800 cubic yards [yd³]) of contaminated media to be excavated at ECODS L-3 under Alternative A-4, while Section 5.3.1.4 identifies approximately 8,047 m³ (8,800 yd³) for removal. *Please revise the text to ensure the correct volumes of contaminated media to be removed are presented in each section.*
11. **Section 5.3.2.2, Alternative B-2: Land Use Controls, Page 5-31 of 5-60:** The evaluation of short-term effectiveness states that there is no risk to workers or the community under alternative B-2 but does not take into account the confirmatory drilling that must be

performed to delineate the extent of buried waste to which the land use controls (LUCs) are applied. *Please revise this section to consider the confirmatory drilling that will be performed to delineate the buried waste.*

12. **Sections 5.4.1.3 and 5.4.2.3, Long-term Effectiveness, Pages 5-39 and 5-41 of 5-60, Table ES-1, Comparative Alternative Analysis for Early Construction and Operational Disposal Site L-3 (no building number), L-Area Rubble Pit (131-1L), and L-Area Rubble Pit (131-4L) Operable Unit, Page ES-6 of ES-6, Table 5-7, Comparative Alternative Analysis for ECODS L-3 Subunit, and Table 5-8, Comparative Alternative Analysis for LRP 131-4L Subunit, Pages 5-59 and 5-60 of 5-60:** The text states that Alternatives A-2 and A-3 and Alternatives B-2 and B-3 should be ranked equally for the long-term effectiveness because they remain effective as long as LUCs are in place; however, Tables ES-1, 5-7, and 5-8 do not rank these alternatives equally. Alternatives A-3 and B-3 are ranked higher (4) than Alternatives A-2 and B-2 (3). *Please revise the text and tables to be consistent in the description and numerical ranking of the alternatives.*
13. **Appendix C, Human Health Risk Assessment, Section C-2.2.1, ECODS L-3 Subunit, Page C-17 of C-74:** An obsolete RSL should not be used to determine whether a COPC should be carried forward as a constituent of concern (COC). The text uses the 2009 RSL for total chromium to make the case that evaluating risks based on hexavalent chromium is an overestimate. Beginning in the Fall 2009, EPA began encouraging the collection of valent-specific data when chromium is likely to be a COC at the site, and is no longer supporting the calculation of default screening levels for total chromium. Therefore, *please remove the statement regarding use of an obsolete chromium RSL wherever it appears.*
14. **Appendix D, Section D-2.3.1.1, Screening Results for ECODS L-3 Subunit for Soil Media (0 to 0.3 m [0 to 1 ft]), Page D-27 of D-156:** Although bis(2-ethylhexyl) phthalate is a common laboratory contaminant, its presence in SRS media samples has not been established; therefore, the potential for bis(2-ethylhexyl)phthalate to be an artifact should not be used as a criterion for removal as a COPC. Therefore, *please remove this statement from this section.*
15. **Appendix D, Section D-2.3.1.6, Uncertainty Discussion for ECODS L-3 Subunit for Soil Media (0.3 to 1.2 m [1 to 4 ft]), Page D-29 of D-156:** The statement, “....screening thresholds [for copper] may be overprotective,” is not supported. *Please revise this section to include further information on copper screening values and discuss why they may be overly conservative with respect to the species of interest.*
16. **Appendix D, Attachment 4, Table D.4-1, Uncertainty Evaluation for ECODS L3 Subunit (Soil 0-0.3 m (0-1 ft)); Tables D.4-2; D.4-3; D.4-4; D.4-5; D.4-6, Pages D-123-134 of D-156:** The green shading on these tables is not explained; *please add a definition of the green shading to the table notes.*