



SC DEPARTMENT of
**ENVIRONMENTAL
SERVICES**

Susan Fulmer, P.G.
Bureau of Land and Waste Management
2600 Bull Street
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ENVIRONMENTAL COMPLIANCE &

May 8, 2025

Mr. Matthew R. Baker, Action FFA Remedial Project Manager
Remediation and Deactivation & Decommissioning Division
U. S. Department of Energy
Savannah River Operations Office
Post Office Box A
Aiken, South Carolina 29802

MAY - 8 2025

AREA COMPLETION PROJECTS

Re: Contaminant Fate and Transport Modeling for C-Reactor Lead and Heavy Water Sources, SEMS
Number: 79 (SRNS-RP-2025-00161, March 2025) and Supporting Documents, received April 10,
2025.

Dear Mr. Baker:

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/SCDES 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,

for **Heather H. Cathcart**
Digitally signed by
Heather H. Cathcart
Date: 2025.05.08
11:16:22 -04'00'

Susan B. Fulmer, P.G., Manager
Federal Remediation Section
Division of Site Assessment, Remediation, Revitalization

cc: C. L. Bergren, SRNS-ACP (Signed Original)
Gregg O'Quinn, BRLS - Aiken
Jon Richards, EPA Region IV
Heather Cathcart, BLWM

South Carolina Department of Environmental Services Comments on:
Contaminant Fate and Transport Modeling for C-Reactor Lead and Heavy Water Sources, SEMS
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Specific Comments

1. Section 2.3.1, 20-ton Process Area Lead Source, page 17. It is stated in the first paragraph that an accurate account of the amount of lead in the process area was not available at the time of this modeling effort; however, the next paragraph states that the thickness for the lead shielding in the process area was estimated from using the mass of lead (20 tons). This implies that the mass of lead was already known, and therefore, contradicts the statement from the previous paragraph. It is unclear whether the thickness of the lead shielding was derived from a known mass of lead, or if the mass of lead was calculated based on an estimated lead thickness. Please clarify how the 20 tons of lead mass was calculated.
2. Section 2.3.2, 230-ton Crane Maintenance Area Lead Source, page 18. This section should clarify how the total lead mass of 230 tons was derived (i.e., from known inventory or from estimation/calculation).
3. Section 3.2, Vadose Zone, page 33. The first sentence on this page indicates that the vadose zone modeling was based on soil lithology from a boring CRG-5. Please provide the location of this soil boring on a figure.
4. Section 5.1.1, No Action (LS-PA-S1), page 64. The last paragraph of this page states that the maximum groundwater concentration of lead from the Process Area lead source occurs at the end of the 100,000 year simulation. The beginning of this section indicates that the 100,000 year time period is included for seeking peak concentrations in this analysis; however, it appears that a longer time period is needed for this determination, similar to the 1,000,000 year analysis performed for the Crane Maintenance Area lead source. Please clarify.