



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 10  
1200 Sixth Avenue  
Seattle, Washington 98101  
November 2, 1993

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Environmental Protection Agency

Reply to  
Attn of: HW-124

Ms. Alice Williams, Director  
Environmental Restoration Division  
U.S. Department of Energy  
Idaho Operations Office  
785 DOE Place  
Idaho Falls, Idaho 83401-1562

Re: The Draft RI/FS Scope of Work for Operable Units 5-05 and  
6-01, SL-1 and BORAX-I Burial Grounds

Dear Ms. Williams:

We have reviewed the referenced document and have a several  
comments, which are enclosed.

In spite of the number of comments, I am generally pleased  
with the document, and believe that a scope of work meeting the  
needs of the three agencies can be developed as scheduled. I  
look forward to continuing the scoping process for the expedited  
RI/FS during meetings in Idaho Falls later this week.

I you or your staff have any questions about any of the  
attached comments, please contact me at (206) 553-1172.

Sincerely,

*Howard R. Blood*  
Howard R. Blood  
WAG 5 Project Manager

Enclosure

cc: Woody Russell, DOE-ID  
Thomas Stoops, IDHW-IF  
Shawn Rosenberger, IDHW-IF  
Dean Nygard, IDHW

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11/02/93:HRB  
SL1RISOW/REV.LTR

bcc: EPA/George Hofer, Wayne Pierre, EPA/Branch File

**REVIEW COMMENTS  
FOR THE DRAFT  
RI/FS SCOPE OF WORK FOR OPERABLE UNITS 5-05 AND 6-01  
SL-1 AND BORAX I BURIAL GROUNDS**

**GENERAL COMMENTS**

These comments are based on review of Document Number EGG-ER-10998, dated September 1993, and received by EPA on September 30, 1993. (Comments considered to be most significant are marked with \*)

1. This document is based on several meetings and conference calls between the WAG managers from the three agencies. It generally reflects the agreements reached, and supports the consensus position that the RI/FS process at these sites can be streamlined due to the amount of data already available and the limited remedial response alternatives available. As these two sites are somewhat analogous to municipal landfills, the concept of a "presumptive remedy" for these sites needs to be further evaluated. However, a focused FS may in fact be a better approach.
2. A number of minor inconsistencies are noted at various places in the document; these need to be corrected before submission of a draft final document.

**SPECIFIC COMMENTS**

1. **Page 1:** The first sentence is too vague. This SOW is the only primary document that will be produced before the RI/FS. It is intended to serve as both a scoping document and an outline work plan, allowing the three agencies to clearly define and agree upon both the process and the end product to be provided.  
The paragraph describing the SL-1 burial ground needs several revisions: The reference to 90,000 cf of contaminated debris should be 95,000 cf, consistent with other references on page 7 and in Attachment E. To add perspective, recommend stating that the vast majority of the material in this burial ground consists of soil and gravel with relatively little radioactive material; including a reference to Attachment E would also be helpful. The last sentence should include the specific OU in which the remaining surface soils will be investigated.
2. **Page 4 (Figure 2-1):** Suggest adding the current ARA-II and ARA-I identities to the areas shown as "SL-1 Area" and "A.R.E.A. Support Facilities". Also need to provide an area map showing the site location within the INEL.

3. **Page 5 (Figure 2-2):** The lined area identified as "BORAX-I Abandoned Area" appears to be the contaminated zone identified immediately after the explosion, rather than the currently identified (fenced) radiation exclusion area. This should be clarified. Need an area map as noted in comment 2.

4. **Page 6:** The last sentence in the last full paragraph is unclear as written, and should include the fact that this burial ground was constructed to permit disposal of the contaminated debris without hauling it from the reactor area north of U.S. 20 to the RWMC, south of U.S. 20.

\*5. **Pages 6 & 7:** Usage of the terms "pit" and "trench" should be kept consistent with the identification shown in Figure 2-1, as this is how disposal locations were recorded.

6. **Page 7:** The description of the waste disposed in the SL-1 burial ground includes "...the SL-1 reactor building and the concrete pad it sat on..."; this may be the case, but the concrete slab which was disposed intact was the operating room floor. This is of more significance, as it was dragged from the reactor site to the pit, which is a likely cause of some of the surface soil contamination.

Need to ensure the correlation between the "activity inventory" that was done at the time the debris was disposed and the isotropic inventories modeled using ORIGEN2 is clearly presented. The activity levels recorded as the debris was disposed would seem to provide an understandable baseline amount of radioactive contamination and helps validate the model results.

7. **Page 8, Table 3-1:** It is unclear why in each case a range of values is presented for Cs-137, but specific values are provided for Sr-90.

8. **Page 8:** It is unclear why the last full paragraph on this page does not include some discussion of the distribution of radioactive fallout. Without such a discussion, it is unclear what significance this information has in the scope of this RI.

9. **Page 9:** The use of the term "dosimeters" is not consistent with the terms used in existing reports on the BORAX cleanup; these refer to "gold foils". Recommend retaining some reference to foils, and including an explanation of their function.

Stating that the unrecovered U-235 from the reactor fuel rods is "potentially buried at the BORAX-I burial site" could be of some concern. From the reports provided, a positive statement cannot be made, but the unrecovered fuel is certainly assumed to be buried at the site.

\* The last paragraph makes some open-ended statements about the contamination surveys that have been conducted and the probable need for "some confirmatory surveys". This appears to be inconsistent with the statement on page 2, that "This SOW is based on the assumption that additional data collection will not be necessary to characterize the sites, define risks and develop remedial alternatives...". (The suggested surveys may in fact be needed to reduce uncertainty, but the document needs to be consistent when discussing data needs/gaps.)

The location of the identified 3,600 pCi/g reading is apparently outside of the limits of this OU, (defined earlier in the document as being only the area within the chain-link fence), so it is unclear what significance it has in this SOW.

10. Page 10: Define "soils that are considered to be radioactively contaminated", and make clear what levels will remain after the ongoing action is completed.

Add a statement that a report from the field screening will be completed, and available for use in RI development.

Clarify that the historical data that will be used to characterize and assess the risks associated with these sites will include all data collected up to the time the risk assessment is completed.

\*11. Page 11: The technical memoranda on land use and risk assessment will be critical to the success of the final report. Although neither primary nor secondary documents, it is recommended that the schedule in Chapter 16 include projected dates for submittal of these memoranda.

Recommend adding a statement to the effect that this SOW includes more detail than is normally required, to ensure that there is a clear understanding of the process, products, and schedule by each of the parties, without developing a RI/FS work plan.

12. Page 12: In the last paragraph, delete "(Appendix G)" from the end of the first sentence, as this information is also provided in the last sentence.

The reference to "alternatives design" is confusing, and should be revised. "Design" does not take place during the RI/FS process.

It should be acknowledged that while ARARs identification must be performed as early as possible in the process, it is not "completed" until the remedy is selected and a Record of Decision has been issued.

13. **Page 13:** The discussion of modeling needs to be expanded. It should be made clear that the agencies will rely on models for both current and future exposures via the air pathway, since direct measurements are not available. (i.e. air monitoring has not been performed at either site) Groundwater modeling will address contaminant transport and fate, and will allow evaluation of potential future exposures. It may also be necessary to address how radioactive decay will be addressed during the proposed modelling, as a wide variety of radionuclides with significantly different half-lives are the contaminants of concern at both OUs.

In the last paragraph, please confirm the reference to "transient times" should be "transit times".

\*14. **Page 14:** The discussion of "presumptive remedy" is confusing, and needs to be revised/expanded. The concept of presumptive remedy has been developed because CERCLA sites with similar contamination problems frequently require the same solution. Developing standardized solutions, consistent with the requirements of the NCP, for these recurring problems is encouraged. Note that Section 300.430(e)(1) of the NCP states that the alternatives screening step of the FS is used "when needed".

At this time, the only fully developed presumptive remedy is for a municipal landfill, although others are being developed. There are two main requirements during the RI for a presumptive remedy: Confirmation that the contamination is in fact consistent with that for which the presumptive remedy was developed, and demonstration of an unacceptable risk to human health or the environment. Once these two conditions are met, the remedy evaluation process during the FS consists of an analysis of the various ways the presumptive remedy can be implemented, and a comparison to the "No Action" alternative. For a municipal landfill, the presumed remedy is containment with or without concurrent groundwater cleanup; the alternatives analysis consists of evaluating the various types and levels of containment available, groundwater cleanup alternatives if required, and any monitoring systems necessary for the systems being evaluated.

As noted above, by analogy with the established presumptive remedy for municipal landfills it is reasonable to assume that a containment remedy will be implemented for these sites. A "focused feasibility study" may be necessary to evaluate remedial alternatives. This issue needs to be resolved by the three agencies before the draft final SOW is developed.

15. **Page 15:** See previous comment regarding "presumptive remedy". It may not be possible (or prudent) to limit the alternatives analysis to 2.

Recommend including a reference to "monitoring" as a component of at least one alternative.

The resolution of public comments can include more than just the responsiveness summary; it can possibly cause the selected remedy to be other than the preferred alternative presented in the proposed plan.

\*16. Page 16: A technical memorandum that describes DOE-ID land use guidance should not be presumed to lead directly to agreement by the other agencies. The memoranda identified should be issued as early as possible in the RI process to allow for resolution of any agency concerns without impacting the over-all schedule.

The contaminants of concern at these sites are assumed to consist of various radionuclides, rather than other hazardous wastes, therefore screening of contaminants may not be appropriate.

17. Page 17: Recommend either changing the first sentence in Section 10.1.3 by referring to a "contaminant" rather than a "radionuclide", or emphasizing HEAST as the source for cancer slope factors, since IRIS does not include radionuclides.

18. Page 18: Revise the references to "presumptive remedy" consistent with resolution of comment #14. Although it is unlikely that a treatability study will be necessary at either of these OUs, it would be more prudent to identify the point at which such a decision should be finalized.

19. Page 19: A clear statement this RI report will include a separate RI/BRA/FS for each OU is necessary.

\* It should be made clear that although additional data collection under these RIs is not planned, there are on-going activities, such as the particle picking near the SL-1 burial ground and the RCRA well drilling program, that will provide additional data for the RI/FS. (Note also the need to reflect in this section the resolution of the 3d part of comment #9)

\* The RI/FS format should in accordance with EPA/540/G-89/004, Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA, Interim Final, October 1988, although it may be appropriate to note that streamlining consistent with SACM will be employed. This EPA guidance needs to be added to the list of references in Chapter 17.

Revise the presumptive remedy discussion as needed to be consistent with the resolution of comment #14.

Identifying "subsidence mitigation technology" as a possible component of a containment remedy would be appropriate, but it does not fit within the context of "institutional controls".

20. **Page 22:** While it may be technically correct to state that the INEL has prepared a Community Relations Plan for the ER Division of DOE-ID, the distinction between "INEL" and "DOE-ID" is of no consequence to the public. Recommend a simple statement to the effect that there is such a plan for the site, it is being implemented by this project, and it will be revised/updated as necessary to meet any changing needs identified.

Clarify the reference to "sampling plans" in the last sentence, as no additional sampling is being proposed for this RI/FS.

21. **Page 23:** This is a reasonably aggressive schedule, but it should be achievable with the three agencies working appropriately within their roles under the FFA/CO. As noted earlier, the technical memoranda are critical to maintaining this schedule, and it may be prudent to add projected submittal dates for them.

22. **Attachment A:** Need to revise the statement regarding the depth to the aquifer. (The 580-600 ft may be accurate in the immediate vicinity of the two OUs in question, but is not correct for the entire INEL)

The last statement is not clear, either in the reference to land use or to the "risk calculations for 100-yr timeframes." If the DOE requirement to maintain institutional controls at low-level radioactive burial sites is the basis for the 100-yr timeframe, it should be noted.

The (\*) note at the bottom of Figure A-2 is unclear.

23. **Attachment B:** Revise para. 1.1 to make it clear that this investigation will rely on work currently being performed by other programs, including the particle picking at the SL-1 area and the development of RCRA groundwater monitoring wells.

The Site Background paragraphs will need to be expanded to include more information on the SL-1 accident and the results of the BORAX-I experiment.

In para 1.4, revise the "presumptive remedy" discussion as necessary, and use the more general term "containment" to describe the remedy. Also clarify that "These two reports have been developed as parts of a single document due to the similarities in the conditions at the two sites." (Make it clear that each OU will have a separate assessment and remediation decision)

Discussion of study area investigations will need to include the source of information on the vadose zone for each site. (well logs, other sources if found)

Although the BORAX-I site is somewhat older, and resulted from a planned experiment rather than an accident, the investigation may still benefit from interviews with involved personnel.

Explain/identify the "rule of thumb" mentioned in the last sentence of Section 6.1.3.



In the Screening of Alternatives, recommend a reference to possible monitoring requirements, identifying the possible duration of institutional controls, and use of the more generic term "containment" rather than "capping".

24. **Attachment C:** Recommend a "note" about presentation of the "presumptive remedy", if it is retained in this RI/FS.

25. **Attachment D:** Note that if the containment remedy is implemented, these sites will require 5-year reviews.

Add a note as with Attachment C to identify the need to address presumptive remedy implications.

\*26. **Attachment G:** As a joint effort between the three agencies, this attachment needs to be expanded to include potential Federal ARARs and more specific State ARARs, as well as TBCs that may have a major impact on the remedy selection process.