



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

August 22, 1995

alan j.  
10162

Reply To  
Attn Of: HW-124

RECEIVED IN

AUG 25 1995

Ms. Lisa Green, Manager  
Environmental Restoration Program  
U. S. Department of Energy  
Idaho Operations Office  
850 Energy Drive  
Idaho Falls, Idaho 83401-1563

Program Management

Re: EPA Comments on Final Draft ROD for OU 5-05 and 6-01  
(SL-1 and Borax Burial Grounds)

Dear Ms. Green:

The U.S. Environmental Protection Agency (EPA) has reviewed the Draft Record of Decision (ROD) for Operable Units (OUs) 5-05 and 6-01; Stationary Low-Power Reactor 1 (SL-1) and Boiling Water Reactor Experiment I (Borax) Burial Grounds at the Idaho National Engineering Laboratory (INEL).

Overall, the ROD is very good and conforms with current guidance. EPA's primary concerns have to do with documentation of costs, limiting monitoring and maintenance to 30-years, and the inconsistently presented in the Documentation of Significant Differences section with respect to consolidation of soil at Borax. Specific comments are attached.

If you have any questions please contact me at (206) 553-6903.

Sincerely,

Howard Orlean  
WAG 5, Remedial Project Manager

cc: w/attachment  
Alan Jines, DOE-ID  
Jean Underwood, IDHW-DEQ (Boise)  
Dean Nygard, IDHW-DEQ (Boise)  
Wayne Pierre, HW-124

### **General Comments**

1. Based upon previous conversations with U.S. Department of Energy (DOE) and Idaho Department of Environmental Quality (DEQ), EPA understands that efforts are being made to minimize costs of the selected remedy. While it has been generally agreed that it may not be practicable to include design specifications in the ROD, the refined cost estimates to the extent they are known should be included in final ROD.

2. Since risks from the SL-1 and Borax burial grounds will be unacceptable for an estimated 400 and 320 years, respectively, monitoring and maintenance will need to continue throughout the duration of this period. Monitoring and maintenance should remain in place for as long as risks remain unacceptable. However, it is permissible for cost estimating purposes to state that monitoring and maintenance will be performed for a minimum of 30 years.

3. The ROD is unclear as to whether there has been ground-water contamination found as a result of the SL-1 and Borax burial grounds serving as a source. Since current estimates of ground-water contamination are solely based on modeling it should so be stated.

4. All references to the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended should be limited to the acronym "CERCLA". The text uses CERCLA and Superfund interchangeably. Superfund is more of a popular term that is not as descriptive as CERCLA. To avoid any confusion, all references should be to CERCLA.

### **Specific Comments**

1. Page i, "Assessment of the Site", First Paragraph --

a. The portion of this paragraph beginning with the second sentence ("Implementation of the selected remedy..") is descriptive and is more appropriate for the following section which is entitled "Description of the Selected Remedy".

b. The third sentence of this paragraph specifies that institutional controls will be in place for 30 years, but land use restrictions will be in place for 100 years. How is it possible to have land use restrictions without having institutional controls for 100 years?

**2. Page ii, "Description of the Selected Remedy", Third through Sixth Bullets --**

See General Comment 2 and Specific Comment 1b. It should be noted that risks at the SL-1 and Borax burial grounds will remain unacceptable for hundreds of years and monitoring, maintenance, and institutional controls will need to remain in effect until the site no longer poses a risk.

**3. Pages vii and viii, Table of Contents --**

Please edit this to ensure that the accurate page numbers are given for the sections, tables, and figures listed.

**4. Page 14, First Full Paragraph & Table 1 --**

The screening criteria and limitations used to determine the contaminants of concern should be described.

**5. Page 14, Section 5.1.2.2, Second Paragraph --**

The last portion of the second sentence and the entire third sentence appear to be duplicative. Please edit.

**6. Page 16, Section 5.1.3, Fate and Transport, Last Paragraph -**

The discussion refers to groundwater modeling without any reference to actual groundwater data. Some mention should be made of available data and what the data shows.

**7. Page 17, Section 5.2.2.1, Second Paragraph --**

See General Comment 4.

**8. Page 18, Section 5.2.2.2, Second Paragraph, Third and Fourth Sentences --**

These sentences appear to be duplicative. Please edit.

**9. Page 20, Section 5.2.3, Second Paragraph --**

Please include a discussion of the results of the ground-water modeling exercise and include a table of any available ground-water data.

**10. Page 22, Section 6.1.2.2, First Paragraph --**

Please include a discussion of the exposure point concentrations that were used including the reasonable maximum exposure numbers.

**11. Page 24, Section 6.1.3, Second Paragraph, Fourth Sentence --**

This sentence is incorrect. Slope factors are not used to determine reasonable maximum exposure (RME). RME is determined by using upper confidence limit exposure, high exposure parameters, and/or default values.

**12. Pages 24 and 28, Section 6.1.4 --**

These sections are duplicative of each other. Please edit.

**13. Pages 25, 26, 27, and 28; Tables 5 and 6 --**

a. If the Health Effects Assessment Summary Tables (HEAST) were used (as is stated in footnote 'a' of these tables) then it is not necessary to include these 4 pages of tables in the ROD. It is only necessary to include a sentence stating that the HEAST values were used.

b. How do the new HEAST (1995) slope factors affect the conclusions of the risk assessment? A paragraph outlining the effect of the new values should be added to the uncertainty section (Section 6.1.5).

**14. Page 39, Top of Page --**

The paragraph regarding radiological field data does not make sense as written. Is the point being made that field measurements are less precise than laboratory data?

**15. Page 40, Section 6.2.1, Species of Concern --**

a. The bald eagle has been removed from the endangered species list and is now listed as threatened.

b. This section only includes a list of species (threatened or otherwise) in which other studies have been conducted. For the purposes of this ROD and decision, what species did the ecological risk characterization focus on? Usually only very common species are used.

**16. Page 41, Bottom of Page; Page 42, Top of Page --**

These sentences (beginning with "Adequate shielding..") are out of place here and should be included in the description of the selected remedy.

**17. Page 42, Section 7.1, Remedial Action Objectives --**

The discussion on the RAOs is too conclusory. It explains the function of RAOs but does not identify the particular objectives. The ARAR discussion that is included in this section only confuses the issue by suggesting that the ARARs are the RAOs.

The RAOs need to explain in general terms how the preferred remedy will "mitigate the potential adverse effects associated with the burial grounds." For example, potential RAOs may include a) preventing direct contact with the buried materials, b) limit potential for erosion and infiltration, and c) implement institutional controls to protect present and future users.

**18. Page 43, Section 7.1, ARARs --**

The NESHAP regulations, 40 CFR 61.92, include provisions regulating radionuclide emissions from DOE facilities. These regulations appear to be chemical specific ARARs as they establish acceptable amounts or concentrations. Additional NESHAP regulations, 40 CFR 61.93, relate to emission monitoring and test procedures and would be action specific ARARs.

In addition, the IDAPA regulations referenced as action specific ARARs appear to be chemical specific. The recently completed ROD for the TSF Injection Well included the same regulations as a chemical specific ARAR. These RODs should be consistent unless there is a good reason to make a distinction.

**19. Page 44, Section 7.2, Fourth Sentence of Paragraph --**

It is too late in the process at this point to use the term "preliminary remedial goals". A more proper term would be "action levels".

**20. Page 45, Section 7.2.2, Containment --**

The discussion in the third paragraph relating to institutional controls needs to be revised. First, the only institutional controls in the first sentence of the third paragraph are access restrictions and land use restrictions. The remaining activities all relate to monitoring. Second, the

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discussion on institutional controls must include more than merely a reference to access and land use restrictions. The discussion should describe the actual controls selected, the parties to the controls and their respective responsibilities, and how the controls will be implemented.

**21. Page 46, Section 7.2.2, Top of Page --**

Please include a discussion of which ARARs would be met during consolidation.

**22. Page 46, Section 7.2.2, Second Paragraph --**

Include capital costs, annual operation and maintenance costs, and present worth costs (including number of years and discount rate used) in this discussion.

**23. Page 46, Section 7.2.3, Last Paragraph --**

a. See Specific Comment 22.

b. The second sentence of this paragraph makes it sound like the disposal costs for the Radioactive Waste Management Complex are not included. Please clarify.

**24. Page 47, Section 8, First Sentence --**

See General Comment 4.

**25. Page 49, Section 8.2.2, Reduction of Toxicity, etc. --**

The criterion pertains to reducing toxicity, mobility or volume through treatment only. The fact that mobility is reduced through containment is not relevant in this discussion.

**26. Page 49, Section 8.2.3, Second Paragraph --**

Add a sentence or two describing the short-term effectiveness during the construction and implementation period.

**27. Page 50, Section 8.2.4 --**

Are the "overall performance requirements of the cap" (second paragraph) established in this ROD? Add a sentence to this section stating that the cover materials are readily available at INEL. In addition, add a sentence or two describing the implementation issues that are associated with consolidation.

**28. Page 50, Section 8.2.5 --**

Add a sentence stating that for purposes of cost estimating, maintenance and monitoring costs were calculated for 30 years, but that actual maintenance and monitoring may be greater than 30 years.

**29. Page 51, Tables 11 and 12 --**

Delete "30 years" under the line item entitled "Post-closure maintenance..." See General Comment 2 and Specific Comment 28.

**30. Page 53, Section 9, First Sentence --**

See General Comment 4.

**31. Page 53, Section 9, First Paragraph, Last Sentence --**

Delete this sentence (beginning with "Design is flexible...") as it is irrelevant to the discussion.

**32. Page 53, Section 9.1 --**

This section should contain more detail. Some minimum design standards should be included in this discussion. In addition measures taken to meet air ARARs, worker safety issues, source material mitigation should be discussed.

**33. Page 54, Section 9.1, Top of Page --**

See General Comment 2. The institutional controls, including land use restrictions should continue until the risk is within the acceptable range.

**34. Page 55, Table 13 --**

Replace "containment alternative" with "remedy" in the title of this table.

**35. Page 57, Section 10, First Sentence --**

a. See General Comment 4.

b. The word "meets" in the last sentence of the first paragraph on this page should be replaced with "addresses" as not all of the statutory requirements can be met, ie: treatment.

**36. Page 58, Section 10.1, First Paragraph, Next To Last Sentence**

Delete this sentence as slope factors are not based on RME to sensitive populations.

**37. Page 58, Section 10.1, Second Paragraph --**

Please revise as per Specific Comment 2.

**38. Page 59, Section 10.2.2, To-Be-Considered Guidance --**

EPA was unable to find any reference to the 100 year time period for institutional controls in DOE Order 5280.2A. It doesn't appear that the last sentence in this section is accurate. Please clarify

**39. Page 60, Section 11, First Paragraph --**

a. Please add "the Description of the Selected Remedy section" to the first sentence after "The costs presented in..."

b. The last sentence states that "consolidation" of the entire BORAX-I area will occur. There is no description of this "consolidation" in the selected remedy nor in the evaluation of alternatives.

c. The costs numbers as presented in the ROD are difficult to explain and require further detail. SL-1 has less work listed in Table 13 than in Table 11 but the costs listed in Table 13 are more. Borax has the same amount of work listed in both Tables 12 and 14, but the costs listed in Table 14 are about one-half that of those listed in Table 12.

**40. Page A-11, Response to Comment 8 --**

There is an apparent typo in the last sentence of this response. Shouldn't the sentence read, "...these concerns would not be incorporated in the engineered covers"?

**41. Page A-12, Response to Comment 9 --**

The Response to Comment 9 does not really respond to the question. Was there contaminated soil and debris from the Special Power Excursion Reactor Test I facility? If so, what if anything was done with the contaminated materials?

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**42. Page A-15, Response to Comment 18 --**

Consolidation of BORAX-I soils was not incorporated into the selected remedy.

**43. Pages A-17 and A-18 --**

Please delete the names of the commenters from this table.