



STATE OF IDAHO  
DEPARTMENT OF  
ENVIRONMENTAL QUALITY

1410 North Hilton • Boise, Idaho 83706-1255 • (208) 373-0502

December 3, 2001

Dirk Kempthorne, Governor  
C. Stephen Allred, Director

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

RE: Remedial Action Report for WAG 5 OU 5-12 Phase I Remedial Action; Sites  
ARA-02, ARA-16, ARA-25, and Inactive Waste System Sites ARA-07, ARA-08,  
ARA-13, and ARA-21 (Draft)

Dear Ms. Hain:

The Idaho Department of Environmental Quality (DEQ) has completed its review of the above-referenced document, and provides the attached general and specific comments. DEQ received the document on November 2, 2001.

Overall the document is well written, and the photographic record is invaluable in assisting the reviewers who were physically not at the site. The photographs allow the regulatory agencies to observe site conditions before, during, and after the remedial activities.

We look forward to working with your staff to address these comments. If you have any questions regarding these comments, please contact me at (208) 373-0217.

Sincerely,

A handwritten signature in black ink, appearing to read "Ted Livieratos".

Ted Livieratos  
WAG 5 Project Manager  
IDEQ Technical Services Group

TL:LS \Wag 5\2001\Ph1RAreport

cc: Carol Hathaway, DOE  
Daryl Koch, IDEQ-WM&RD  
COF

Rick Pocton, EPA Region 10  
CERCLA Source File

## **GENERAL COMMENTS**

1. A list or table would be useful to indicate the sites that are subject to Institutional Controls (ICs). For example, if the contamination from the Auxiliary Reactor Area (ARA)-25 was "chased" all the way to the basalt interface, but could not be removed from the basalt, this fact would be helpful if noted in a table or list. This information is also valuable as part of the IC. A sign could be placed in the area stating that radioactive contamination is located 15 feet below ground surface. Additionally, from this table, personnel enacting future deed restrictions and other users would easily be able to obtain information about the site.
  2. Data regarding the radionuclide analysis of the liquids from the ARA-16 sludge removal activity should also be in the RA report. This information will be necessary to ensure that the waste acceptance criteria (WAC) for the Idaho National Engineering and Environmental Laboratory (INEEL) Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Disposal Facility (ICDF) is met.
  3. There is only one picture for the ARA-08 and the ARA-21 remedial activities. The other sites have many pictures that show the progress of the events from practically the beginning to the end. If it is possible, please include any additional photographs that may exist for these two sites as well.
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## **SPECIFIC COMMENTS**

1. Section 1.1, Page 1-2, General

From The Remedial Action Report (OSWER Directive 9355.0-39FS):

"The Performance Standards and Construction Quality Control is probably the most important section of the Remedial Action Report. Performance Standards are the criteria or requirements that the remedial action contractor met in completing the project. Performance Standards include cleanup levels, quality criteria, and other substantive requirements, or limitations found in the Record of Decision. Each Performance Standard should be addressed by providing the standard, the maximum level permissible, the results of field sampling, the basis for the determination that the standard was met (except for Long Term Remedial Actions), and the location and frequency of the tests.

This section of the Remedial Action Report should also provide a summary of the implementation of the construction quality control plan and provide an assurance that the remedial action is complete. A table should be included that lists the types of samples taken and provides a comparison of test results with the specified standards to be achieved by the remedial action.”

Almost all of these requirements have been addressed in different sections throughout the document, without having a specific section that addresses Performance Standards and Construction Quality Control. The inclusion of a table that lists the samples taken and provides a comparison of test results with the specified standards that were achieved by the remedial activities would enhance the document, and allow the reviewer to easily see if remediation goals and objectives have been met.

2. Section 1.3.4.1, Page 1-10, Last Paragraph

An underground waste detection tank (ARA-719) is mentioned. Please provide a brief explanation of this tank and the current status (active site, removed tank, investigated but not a site, etc.)

3. Section 2.3.2.1, Page 2-5, Third and Fourth Paragraphs

In the Third Paragraph, please provide an explanation as to why the surface soil ARA-23 Phase II remediation goal of 23 pCi/g for Cs-137 was used. The Record of Decision (ROD) states that the remediation goal of 8.5 pCi/g for Cs-137 is for the ARA-02 seepage pit sludge because all contaminants of concern (COCs) at the site are contained within the sludge. It further states that remediation goals can be satisfied by either cleaning up the identified contaminant concentration (Table 22 – 8.5 pCi/g for CS-137) or by removing all contaminated media down to the basalt interface. The ROD does not differentiate between ARA-02 soils and seepage pit sludge. The Fourth Paragraph states that soils underlying the ARA-02 seepage pit were field-screened to verify that the concentration of Cs-137 was less than the 8.5 pCi/g remediation goal. A reason should be provided to justify what was performed at the site.

4. Section 2.3.2.2, Page 2-5, First Paragraph, Last Sentence

To a reader that is not familiar with INEEL procedures regarding radiological control, it would be helpful to provide further explanation of this event. Please provide information on how the “hot particle” was disposed of. This could be accomplished by briefly stating the INEEL procedure that was used.

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5. Section 2.3.2.3, Page 2-6, First Paragraph, Fourth Sentence

Please state the Idaho Administrative Procedure Act (IDAPA) standard that was used. For example, IDAPA 58.01.03.007 governs the abandonment of septic tanks. The abandonment of seepage pits, septic tanks, and leach pits/fields are mentioned throughout the report as being accomplished in accordance with IDAPA standards and Resource Conservation and Recovery Act (RCRA) regulations. It would improve the document to list the specific regulation or provide it in the Reference section.

6. Section 2.3.2.4, Page 2-9, Second To The Last Sentence

Please state how the components that were left in the ground were surveyed for radiological contamination and note the results, or provide them in Appendix C.

7. Section 2.3.2.4, Page 2-9, Last Two Sentences

See comment Number 5 regarding IDAPA and RCRA regulations.

8. Section 2.3.2.5, Page 2-15, Eighth Paragraph

The current status of the Allied Technology Group, Inc. should be incorporated into this section. It now appears that an alternative treatment for the waste will have to be identified.

9. Section 2.3.2.6, Page 2-16, Last Sentence

See comment Number 5 regarding IDAPA and RCRA regulations.

10. Section 2.4.2, Page 2-17, First Paragraph

See comment Number 5 regarding IDAPA and RCRA regulations.

11. Section 2.4.3, Page 2-18, Third Bullet

Please provide a brief synopsis of the results from the radiological and volatile organic compound (VOC) field screening of all excavations and excavated and layback soils.

12. Section 2.4.3, Page 2-18, Seventh Bullet

Please provide a brief synopsis of the results from the sampling of the decontamination fluid storage container (or place in Appendix C).

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13. Section 2.4.4, Page 2-19, First Paragraph

See comment Number 5 regarding IDAPA and RCRA regulations.

14. Section 3, Page 3-1, First Paragraph

Please state if there is additional funding to cover the other waste currently in storage (Carbon filter, ARA-02 polychlorinated biphenyl (PCB) waste, etc.). Indicate if the \$25,000 is included in the total cost table.

15. Section 4, Page 4-1, First Paragraph, First Sentence

Please replace the June 2000 Work Plan, listed in the reference, with the June 2001 Revision 1. The work that was accomplished is reflected better in the later version.

16. Section 4, Page 4-1, Fourth Bullet

Please reword sentence to state that dewatered sludge is being temporarily stored in the CERCLA storage unit, located at the ARA-I facility, until appropriate treatment can be established.

17. Section 4, Page 4-1, Third Paragraph, Fifth Sentence

Please add "applicable federal and state regulations" to the statement that says waste currently in storage will be managed in accordance with INEEL resident procedures.

18. Section 5.2, Page 5-1, Second Paragraph, Second Sentence

Please mention the other waste streams that were stored in the CERCLA storage area besides the ARA-16 tank sludge.

19. Table 5-1, General Comment

Please list the disposal dates for the wastes in the table. This would be helpful to the reviewer because there were several items from different waste streams that were remaining in the CERCLA storage unit at the time of the pre-final inspection.

20. Table 5-1, Page 5-2, First Item

The ROD states that there were eight (8) drums that could not be accepted by Waste Experimental Reduction Facility (WERF) because of PCB concentrations regulated by the Toxic Substances Control Act (TSCA). If these are part of seven listed in the table, please state the disposition path of the eighth drum.

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21. Section 5.3.1, Page 5-4

Please include the septic tank and manholes as part of the waste generated.

22. Section 5.3.1, Page 5-4

The date in Table 5-1 is November for the box of debris. Please provide an update for all the timelines in the final submittal of the RA Report.

23. Section 5.3.4, Page 5-4

Please add the text “(tops of the septic system)” following concrete debris.

24. Section 5.3.5, Page 5-4

Please include an explanation of what happened to the HEPA filters that were used during the remedial actions at ARA-16.

25. Section 5.3.7, Page 5-5

Please include the disposition of the temporary hot cell roof.

26. Section 6, Page 6-1, First Bullet

Please add the carbon filter tank to this bullet.

27. Section 6, Page 6-1, Fourth Bullet

Please add TSCA regulated PCBs to the distribution box sludge.

28. Section 6, Page 6-1, Fifth Bullet

Please add ARA-02 debris to the lead rings.

29. Section 6, Page 6-1, Between Seventh And Eighth Bullet

Please add a bullet for task site demobilization.

30. Section 6, Page 6-1, Additional Bullet

Please provide a bullet for annual inspection of ICs.

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31. Section 6, Page 6-1, Additional Bullet

Please add a bullet for the sampling and analysis of the carbon filter unit.

32. Section 6, Page 6-1, Second Paragraph, Fifth Sentence

This sentence states that the ARA-02 sludge is still in storage at the CERCLA waste storage unit. The table states that it was disposed of at Envirocare. There may be a discrepancy between seepage pit sludge and the septic tank sludge. Please provide clarification.

33. Section 7.1, Page 7-1

See comment Number 5 regarding IDAPA and RCRA regulations.

34. Section 7.1, Page 7-2, Fifth Bullet

Please indicate if the results from contaminated soil that were sampled are the same as those on Page C-12 of Appendix C. Specify if they were disposed of at the Radioactive Waste Management Complex (RWMC).

35. Section 7.2, Page 7-2

Please change the reference to the 2000 Work Plan to the 2001 Work Plan.

36. Section 8, Page 8-1

There was a discussion during the pre-final inspection that mentioned the fact that although remedial action objectives (RAOs) and remedial action goals were met, if contamination was left in place, there would still be some residual risk (although less than what was stated in the ROD). This risk, in the case of CS-137, would be further reduced in the 100-year timeframe. In the Operations and Maintenance Plan (December 2000), it is stated that "ICs will not be required after remediation if all contaminated media are removed or if contaminant concentrations are comparable to local background values." For example, if the radiological survey of the ARA-13 system components that are left in place met RAOs and remediation goals, but were above local background values, then ARA-13 should be added to the Operation and Maintenance Plan for ICs. Please provide a discussion to this effect for the sites that are not listed for ICs.

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37. Appendix A, Page A-3

There is a pipe to an evaporation pond listed on the drawing of ARA-02. Please provide information as to the status of this pipe in the notes section. State if it was investigated as part of the RI and is part of another site, or if it is abandoned in place and not a site, etc.

38. Appendix C, Page C-3

It would be useful to identify the sample numbers provided in the table with the site. For example, 5RA00101 Tank #1 Concrete is from ARA-02.

39. Appendix D, Page D-7, Item 10

The sentence should state: "No soils contaminated since no leaks from the tank were identified." Please remove chain of custody forms from Item 10 and Item 13, since they are not applicable.

40. Appendix F, General

Please provide information that links wastes from the sites with the manifest numbers.