UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10 HANFORD PROJECT OFFICE
712 Swift Boulevard, Suite 5
Richland, Washington 99352

0060245

July 15, 2003

Mr. Bryan Foley
U.S. Department of Energy
PO Box 550, A6-38
Richland, WA 99352

Dear Mr. Foley:

The U.S. Environmental Protection Agency (EPA) has reviewed the Remedial Investigation Report for the 200-CW-5/2/4/SC-1 operable unit group (DOE/RL-2003-11, Draft A). EPA comments on this document are enclosed.

If you have any questions, please call me at 509 376-8665.

Sincerely,

Craig Cameron

Craig Cameron
200 Area Project Manager

Enclosure

cc: Bruce Ford, BHI
John Price, Ecology
Administrative Record: 200-CW-5 OU

EPA Comments on Remedial Investigation Report for the 200-CW-5/2/4/SC-1 Operable Unit Group (DOE/RL-2003-11 Draft A)

General

1. Need to provide total excess cancer risk from all pathways including groundwater, as a baseline risk assessment does not allow the assessor to take credit for institutional controls (i.e. preventing use of groundwater). The figures that show radiation dose and risk from the groundwater pathway are fine in addition to ones that would show the totals.

2. It is not apparent how risk was estimated for sites outside of the core zone. See also specific comments #2, 5, 11 and 20.

3. There is very little discussion of the results of the pipeline sampling. Risk assessment work needs to be conducted on the pipeline sampling data to decide whether or not an action is warranted and what type of remedy, or remedies, may be necessary.

Specific

1. Executive Summary, page iv, last paragraph. The RESRAD code is mentioned so the use of the STOMP code should also be referred to.

2. Section 1.3.2, page 1-7, first paragraph. Are the risk assessment values for these sites determined through individual modeling runs using land use-related parameter values that differ than those of the representative sites within the industrial-exclusive core area? Again there should be no institutional control differences. However, there may be different durations of stay times and other changes in parameter values based on which land use scheme applies.

3. Section 1.3.2, page 1-8, item number six. This is not an accurate statement, even if you are trying to paraphrase the outcomes of Risk Framework. An industrial land use scenario doesn't set the cleanup levels.

4. Section 1.3.2, page 1-8, paragraph following numbered section. Wouldn't the risks to Native American users and intruders be more than an academic exercise for the sites outside of the core zone? In that case, why wait to seriously consider them until the FS?

5. Section 1.3.2, page 1-9, paragraph after bulleted section, last sentence. Need to explain what "exclusive" means in this context.

6. Section 1.3.2, page 1-9, last paragraph, second sentence. Zero value in parentheses needs to have a unit (i.e. "m").

7. Section 1.3.2, page 1-9, last paragraph. Outside the core zone, the 10-6 risk range needs to be applied. How has the risk from sites outside the core zone been estimated? Considering this risk range and less restrictive land uses the risk from these sites needs to be estimated.

8. Section 1.3.2, page 1-9, last paragraph, second to the last sentence. Should add that the "1.0" referred to in the sentence is for non-radiological contaminants.

9. Section 1.3.4, page 1-10, second paragraph, last sentence. Replace "work plan" with "RI report."

10. Section 1.3.4, page 1-12, second paragraph, last sentence. The language about how each OU quantifies their risk is vague. Please be more specific.

11. Section 1.3.5, first sentence. Please refer to the title of this document if it hasn't been mentioned for a while in the text.

12. Section 1.3.5. May want to discuss in more detail (not necessarily here) that "analogous" means less information, rather than no information. Could discuss the types of historical and process knowledge used to help decide the alignment of these sites with the more fully characterized sites. The verification of conceptual model applicability and cleanup verification are important features of the approach you are describing and will be reviewed closely by EPA and by Ecology for other OUs.

13. Section 1.3.5, page 1-14, paragraph after bulleted section. Please explain "WIDS" for those readers not indoctrinated in the terminology of Hanford.

14. Section 1.3.5, page 1-15, last paragraph in section. There is a better explanation of the rationale for using representative sites from other OUs than on page 1-13.

15. Figure 1-5. The logic path for performing a site-specific risk assessment on an analogous site should have been used for sites outside the industrial-exclusive zone where modeling would have varied from representative sites. Could use representative site data modeled with less restrictive land-use parameter values.

16. Section 3.2.1.3, second paragraph. Regardless of which ditch the higher concentrations come from, they are there and the area will need to be remediated. Why not use the higher readings for modeling?

17. Section 3.2.2, page 3-8. Risk assessment work needs to be done on the pipeline data to be able to determine if action is necessary and by what remedies.

18. Figure 3-3. Please make this graphic larger and clearer. Maybe the color version is better?

19. Section 4.5.2, page 4-5, first paragraph, last full sentence on page. Need to provide more information and sources when making a statement like this. Please explain why the Kd may be higher.

20. Section 4.5.2, page 4-6, last portion of second paragraph on page. The deflection of contaminants from a downward path through interaction with the caliche layer may just as well be exaggerated (i.e. providing for less conservatism than claimed).

21. Section 4.5.2, page 4-7, first full sentence on page. Please provide more explanation on the distribution and the two samples?

22. Section 4.5.2, page 4-7, second paragraph. When did this peak for sulfate occur?

23. Section 4.5.3, page 4-7, second paragraph, third sentence. Where did this Kd data for uranium in the vadose zone come from? Please provide the source of the information. As with any new reference information, please add to the references section.

24. Section 4.5.3, page 4-7, last sentence. What soil constituents or processes would oxidize the sulfide to sulfate?

25. Section 4.6, page 4-8. Need to reiterate that the uranium levels keep rising past 1000 years.

26. Figure 4-1, page 4-9. Are there surrogates that could be used for Se-79 that have established standards? They would have to be chemically and radiologically very similar.

27. Figure 4-2b, page 4-11. The title doesn't match the subject. Is the secondary standard spoken of an MCL Goal for sulfate?

28. Table 4-3. Need an explanation as to why values were chosen. Also, a column with the reference document for each choice would be helpful.

29. Section 5.3, page 5-28, third bullet on page. What is meant by this first sentence in the bullet? Why will boron require more further evaluation in the FS?

30. Figure 5-1. Wouldn't there be a likely exposure pathway of biota ingestion from Tribal or recreational users outside of the core zone? This pathway should be considered, at least for sites outside of the core zone.

31. Figures 5-2 to 5-9. Where are the "All radionuclides summed, Drinking water" figures for 216-Z-11? Why not provide the 216-U-10 excess cancer risk figures before the

216-U-14's instead of jumping around? See note in General section of comments.

32. Table 5-38, Uncertainty in Fate and Transport section, comment for Source concentrations assumed constant over time. How far might materials have traveled since some of the earliest sampling in 1979? Maybe this question of should be more than rhetorical.

33. Section 6.2, page 6-1, last paragraph, last sentence. EPA doesn't agree with the statement that the data is sufficient to support an ecological risk assessment. We do not know this for sure. The data quality objectives process for ecological risk assessment in the 200 Area NPL site will assist the Tri-Parties in determining what is necessary area-wide and on the OU scale. It is possible that some site-specific, limited ecological sampling may be necessary.

34. Section 6.2.2. Please add a discussion of how the conceptual models have changed.

35. Section 6.2.4. May need language indicating more ecorisk work could be necessary for final ROD and that it could be done in the FS. This would benefit from the ecological risk assessment and possible sampling work upcoming for the 200 Area NPL site.

36. Section 6.3.1, pages 6-3/4, first paragraph. EPA does not agree that the Implementation Plan satisfies the requirements of the screening phase steps 1-6 of the FS process.

37. Section 6.3.1, page 6-4, paragraph after bulleted section. Might briefly explain for the public about TRU levels.

38. Section 6.3.1, page 6-4, last paragraph in section, third sentence beginning, "Sites that are determined not to..." Add "or further characterized as necessary" to the end of this sentence on analogous sites.

39. Section 6.3.2, page 6-5, third paragraph on page. Please correct, and make consistent with the rest of the document, the way the units are presented for concentration.

40. Section 6.3.2, page 6-5, third paragraph on page. Realigning sites could be perceived as a stalling tactic; remedies for transuranic waste-containing sites need to be provided under these OUs.

41. Section 6.3.2, page 6-5 last paragraph, and page 6-6 first paragraph. There is no need to include this discussion as Ecology has no lead duties on these OUs.

42. Table 6-1, "Total Maximum Dose Rate for groundwater @ years" column, rows 4 and 6. Are these maximums from simulations with covers in place?

43. Table A-2b. What does the "B" stand for in the "Mercury" column and why isn't it explained somewhere in the footnotes or other text?

44. Table A-4a. Is the Americium data from 1979 for 216-Z-11 actual analytical sampling data or a conversion from radiation survey information and known isotopic ratios?

45. Table A-4a, page A-26. Will need to clean up pages like this when final revision issued so that there aren't table headings without rows of data.

46. Table A-4b. Same question as in #45, except for Cesium.

47. Table A-9c, page A-87. What does "UJWN" mean in the "Thallium" column?

48. Table A-15, page A-143, "Sulfide" column. What does the "LB" stand for? Please explain in footnotes or appendix acronym table.

49. Appendix B. It would be good to have a page explaining the contents of this section for lay people.

50. Appendix D. There should be some explanatory text to go along with these inputs and the calculations or programs that apply them.

51. Appendix E. Should update to add the other OUs in the title and text if the work applies to more than just 200-CW-5.

52. Appendix E, page E-1. Are the methods from Statistical Methods for Environmental Pollution Monitoring approved by EPA? Is this a widely cited, standard text in the environmental cleanup industry?

Typos

1. Executive Summary, page iii, first paragraph, last sentence. Need to add an "O" in front of the "U" for "OU."

2. Section 1.3.2, page 1-7, item number four. Please resolve the problem with the words "for in."

3. Section 1.3.4, page 1-11, second paragraph. It's really big. For readability, you could break it before the sentence that starts, "Recent surveys of..."

4. Section 1.3.4, page 1-11, second paragraph, last sentence. Please remove the "a" in front of "distant."

5. Section 2.1.7, page 2-5, second paragraph, second to last sentence. It appears that the "D" was left off of "216-Z-1D."

6. Section 4.5.3, page 4-7, second to last sentence. Should add an "n" onto "given."

7. Table 5-38, Exposure Assessment section, comment for Population Characteristics. Too many occurrences of the word "potentially."

8. Section 6.0, page 6-1, first paragraph, last sentence. Should be an "a" in front of "ROD" rather than an "an."