0048612

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
1315 W. 4th Avenue • Kennewick, Washington 99336-6018 • (509) 735-7581

February 9, 1998

Mr. Owen C. Robertson
U. S. Department of Energy
P. O. Box 550, MSIN: H0-12
Richland, WA 99352

Dear Mr. Robertson:

Re: Review of the *Remedial Design Report/Remedial Action Work Plan for the 100 Area* (DOR/RL96-17 Rev. 1, Draft C) and *100 Area Remedial Action Sampling and Analysis Plan* (DOE/RL-96-22 Rev. 1, Draft A) 48585 48586

The Washington State Department of Ecology (Ecology) and the Environmental Protection Agency (EPA) have completed the review of the *Remedial Design Report/Remedial Action Work Plan for the 100 Area* (DOR/RL96-17 Rev. 1, Draft C) and *100 Area Remedial Action Sampling and Analysis Plan* (DOE/RL-96-22 Rev. 1, Draft A). Enclosed, for your review and response, are the agencies' comments and questions concerning both documents. EPA and Ecology request formal response to these comments and the opportunity to review the revised documents prior to final approval. The reason for requesting formal response and approval is the number of draft documents, and the inconsistent use of redline/strikeout text, has made a relatively simple review very complicated.

If you have any questions or need clarification on any comments or questions, please feel free to call Keith at (509) 736-3036 or Dennis at (509) 376-8631.

Sincerely,

Keith K. Holliday

Keith K. Holliday
100-D Area Project Manager
Washington State Department of Ecology

Sincerely,

Dennis Faulk
100-B/C Project Manger
Environmental Protection Agency

KH:

cc: Jeff R. James, BIH
Dick Jaquish, DOH
Doug Sherwood, EPA
Nancy Werdel, USDOE

Administrative Record:
100-BC-1 Operable Unit
100-BC-2 Operable Unit
100-DR-1 Operable Unit
100-DR-2 Operable Unit
100-KR-1 Operable Unit
100-HR-1 Operable Unit
100-HR-2 Operable Unit
100-FR-1 Operable Unit
100-FR-2 Operable Unit
100-KR-2 Operable Unit

General Comments

1. Document must acknowledge ARARs have been frozen in time with the approval of the ROD and ROD amendment.

2. The work done and previously recorded in Rev. 0 of this document on soil washing must be retained. This is very important history. This history is needed to explain the remedy implemented versus the remedy selected in the ROD.

3. This document must acknowledge the LDR issues encountered in the field to date. No longer can the approach be that LDR wastes will not be encountered.

4. The 100 times rule is to be applied to concentrations in the groundwater, not the dilution attenuation factor.

5. The values in the tables need to be verified against one another and against the tables in the *100 Area Remedial Action Sampling and Analysis Plan* (DOE/RL-96-22 Rev. 1, Draft A). Please use whole numbers for the radionuclide concentrations in the tables. Indicate for all tables, look up values are based on the 50/50 conceptual model.

Specific Comments

1. Page 1-1, Section 1.2, first paragraph, delete last sentence. It is not our intent to set a standard for N area or Spent Nuclear Fuels.

2. Page 2-5, Section 2.1.2.2, first paragraph, fourth sentence, both EPA and Ecology have accepted the RESRAD model for performing dose assessments to support the 15 mrem/yr standard required by the ROD and ROD amendment.

3. Page 2-7, Section 2.1.2.5, Groundwater Protection - Nonradioactive Contaminants, explain why site-specific modeling will be performed. It reads now as if the100 times rule doesn't provide the right answer, then modeling will be used. The intent of modeling was to determine if contaminant transport to groundwater was truly expected, then to calculate what soil concentration would be compliant with ARARs.

4. Page 2-7, Section 2.1.2.5, Groundwater Protection – Radionuclide Contaminants, second sentence, replace "for which RESRAD is valid" with "of the ROD and ROD amendment."

5. Page 2-8, Section 2.1.2.5, Columbia River Protection - Nonradioactive and Radionuclide Contaminants, first paragraph, last sentence explain why site-specific modeling will be performed. It reads now as if the100 times rule doesn't provide the

right answer, then modeling will be used. Again, the intent of modeling was to determine the viability of contaminant transport to ground water then to the Columbia River. Only then are soil concentrations calculated that would be compliant with ARARs.

6. Page 2-13, Section 2.1.6.2, "Designation of Dangerous Waste" (WAC 173-303-070), fourth sentence, after "sludges" add "and debris."

7. Page 2-13, Section 2.1.6.2, "Designation of Dangerous Waste" (WAC 173-303-070), after the fourth sentence delete the remainder of the paragraph. The text does not reflect what has been observed in the field.

8. Page 2-13, Section 2.1.6.2, "Land Disposal Restrictions" (WAC 173-303-140), delete "As also indicated above, TCLP testing to date indicates that LDR wastes will not be encountered in significant quantities (see Appendix C of the SAP [DOE-RL 1996b])." Again the text does not reflect what has been observed in the field.

9. Page 2-14, Section 2.1.6.2, "Miscellaneous Units" (WAC 173-303-680), delete "neither" and "nor treatment to address LDR wastes", then add "not" between "is" and "anticipated".

10. Page 2-15, Section 2.1.7, reinstate "soil washing or."

11. Page 2-15, Section 2.1.7, delete the last sentence. The fifth sentence should read as follows, "However, as described in the following paragraphs, evaluations of existing historical and analytical data and technology demonstrations have resulted in the conclusion that soil treatment for volume reduction will not be appropriate at this time."

12. Page 2-16, Section 2.1.7, Soil Washing, reinstate all of the deleted language.

13. Page 2-16, Section 2.1.7, Required Treatment, delete the third and fourth sentences of this bullet.

14. Page 2-23, Table 2-1, suggest using the IEUBK model to calculate the cleanup concentration for lead. If interested please contact Ecology, default values for this area maybe available from work done for the Ecology Regional Offices.

15. Page 2-24, Table 2-2, correct or explain the discrepancies between the values in this table and values in the table calculated for the N Area proposed plan. Please use whole numbers.

16. Page 2-30, Table 2-6, explain footnote c. Explain the factor of 1000. EPA and Ecology are not aware of ever discussing this issue.

17. Page 3-11, Section 3.6, last bullet, the 100 times rule must be applied to the ground water concentration not the dilution attenuation factor.

18. Page 3-12, Section 3.6.4, second bullet from the last, the 100 times rule must be applied to the ground water concentration not the dilution attenuation factor.

19. Page 3-14, Section 3.6.8, second paragraph, source sites must still attain ground water protection remedial action goals.

General Comments

1. The values in the tables need to be consistent within this document and with the *Remedial Design Report/Remedial Action Workplan for the 100 Area* (DOE/RL-96-17 Rev. 1, Draft C).

2. PCBs appear to have been forgotten throughout the document.

3. The use of composite samples instead of grab samples for verification is a departure from Ecology guidance. Ecology needs more data when appropriate on metals (chromium) to reinforce having accepted the confirmatory sampling approach. The specific comments identify when and where Ecology would want grab sample analysis of metals

Specific Comments

1. Page I-22, Table I-6, add PCBs. There appears to be a discrepancy between the D&D and ER programs with regard to ^{14}C. D&D identified ^{14}C as a contaminant of concern, while ER has not. Please provide an explanation of the different approaches.

2. Page I-26, Table I-7, the table is incorrectly titled. Please change the title to "Excluded Contaminants of Potential Concern." Also, ^{3}H should not be excluded. One site has been remediated because of ^{3}H (116-B-5), and another will be (116-H-3). The justification for ^{99}Tc needs to be simplified. Please delete the text following the second sentence.

3. Page I-41, Section I.4.1, third paragraph, second sentence, delete "in Marinelli," then after "(HPGe)" add "and Hach." Replace "analysis" with "analyses." Ecology needs this grab sample data to reinforce the verification sampling approach for Cr^{+6}.

4. Page I-41, Section I.4.1, fourth paragraph, first sentence, delete "the Marinelli."

5. Page I-41, Section I.4.1, fourth paragraph, second sentence, delete "Marinelli," then after "HPGe" add "and Hach." Replace "analysis" with "analyses." Ecology needs this grab sample data to reinforce the verification sampling approach for Cr^{+6}.

6. Page II-4, Section II.2.4, second paragraph, fourth sentence, replace "one per sampling site" with "5% of the samples per sampling event."

7. Page II-5, Table II-2, add PCBs and delete "(Recovery)" in the "Accuracy" column.

8. Page II-7, Section II.3.1.1, add "Hach Kit" after "XRF."

9. Pages II-9 and II-10, Tables II-3 and II-4, either correct the remedial action goal concentration or footnote why this concentration is different than Table II-1 and the lookup tables in the *Remedial Design Report/Remedial Action Workplan for the 100 Area* (DOE/RL-96-17).

10. Page II-12, Table II-5, either correct the remedial action goal concentration or footnote why this concentration is different than the lookup tables in the *Remedial Design Report/Remedial Action Workplan for the 100 Area* (DOE/RL-96-17).

11. Page II-13, Section II.3.4.1.1, first paragraph, fourth sentence, how is it initially determined that more than 2% of the total radioactive inventory is alpha emitters?

12. Page III-6, Section III.4, first paragraph, second sentence, why, when, and who agreed to group quality control sampling?

13. Page III-6, Section III.3, how does BHI-EE-01 address particle size of samples?

14. Page A-5, Section A.5, which model is this based on? Do the related tables represent this work?

15. Page E-1, Section E.1, this section should provide a detailed explanation of when and how representative sampling occurs, and document the agreements made to date on this subject. Suggest titling this section "Debris Identification, Characterization, Handling, and Disposal," then revise accordingly.