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Mr. Steve M. Alexander
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Nuclear Waste Program
State of Washington
Department of Ecology
1315 W. 4th Avenue
Kennewick, Washington 99336

Mr. Douglas R. Sherwood
Hanford Project Manager
U.S. Environmental Protection Agency
712 Swift Boulevard, Suite 5
Richland, Washington 99352



Dear Messrs. Alexander and Sherwood:

100 AREA REMAINING SITES

Attached for the public review process are copies of DOE/RL-97-83, Rev. 0, "Proposed Plan for Interim Remedial Actions at the 100 Area Remaining Sites" (Attachment 1). This revision incorporates all comments received from the U.S. Environmental Protection Agency (EPA) and the State of Washington Department of Ecology (Ecology).

Copies of a companion document DOE/RL-94-61, Rev. 0, Appendix N, "Remedy Selection Process for Remaining Source Operable Unit Waste Sites" (Attachment 2), are also attached for transmittal with the Proposed Plan.

Attachment 3 contains responses to comments on both documents that were submitted jointly by EPA and Ecology on April 13, 1998.

If you have any questions, please call me on (509) 376-9552.

Sincerely,

Glenn I. Goldberg, Project Manager
Remedial Actions Project

RAP:GIG

Attachments: as stated

cc: See page 2

Messrs. Alexander and Sherwood

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cc w/attachs:

D. A. Faulk, EPA

L. E. Gadbois, EPA

P. S. Innis, EPA

W. W. Soper, Ecology

cc w/o attachs:

J. W. Badden, BHI

S. W. Clark, BHI

E. T. Coenenberg, BHI

R. L. Donahoe, BHI

V. R. Dronen, BHI

J. R. Wilkinson, CTUIR

Donna L. Powaukee, NPT

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Russell Jim, YIN

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ATTACHMENT #3

Responses to Regulatory Comments on the Proposed Plan for Interim Remedial Actions at the 100 Area Remaining Sites (DOE/RL-97-83 Draft A) and the Remedy Selection Process for Remaining 100 Area Source Operable Unit Waste Sites (DOE/RL-94-61, Appendix N, Draft A)

Responses to Regulatory Comments on the Proposed Plan for Interim Remedial Actions at the 100 Area Remaining Sites (DOE/RL-97-83 Draft A)

General Comments

1. Public Meeting needs to be changed to Public Meeting/Hearing throughout the document, and the review period needs to be 45-days.

Response: Accepted. Text revised.

2. Change "preferred standard remedy" and "standard remedy" to "preferred remedy" throughout the document.

Response: Accepted. Text revised.

Specific Comments

1. Page 1, Second paragraph, delete "lead" and "support." Change sentence to state both agencies has regulatory responsibility.

Response: Accepted. Text revised as follows:

"The Tri-Parties consist of the U.S. Environmental Protection Agency (EPA) and the Washington State Department of Ecology (Ecology), who share joint responsibility as the regulating agencies, and the U.S. Department of Energy (DOE), who is the responsible agency. "

2. Page 3, replace this figure with Figure 2 of Appendix N (DOE/RL-94-61 Draft A).

Response: It was agreed to in the April 2, 1998 meeting with Ecology that the Appendix N flowchart would be replaced by the revised Proposed Plan flowchart.

3. Page 4, RCRA/CERCLA Box, express here that this opportunity to comment in the RCRA process, the permit modification will be administrative. Identify where the permit conditions can be found.

Response: Accepted. The Permit modification process will be defined as "administrative." Keith Holliday, Ecology, agreed to research how Ecology intends for the permit conditions to be entered into public review. Text added as follows until Ecology resolution:

“This modification will incorporate by reference the CERCLA remedy selection ROD into the RCRA permit for the purpose of satisfying RCRA requirements and will add Permit Conditions specific to a remaining site or group of remaining sites.”

4. Page 4, first column, first paragraph, delete, “These characteristics must fall within a set of characteristics that the Tri-Parties has determined to be appropriate for remediation using the standard remedy.”

Response: Accepted. Text deleted.

5. Page 4, first column, second paragraph, add “1995” between “September” and “ROD.”

Response: Accepted. Text added.

6. Page 4, first column, second paragraph, delete, “The ROD included 37 waste sites in the 100-BC-1, 100-DR-1, and 100-HR-1 Operable Units and the ROD Amendment included 34 waste sites in the 100-BC-2, 100-DR-1, 100-DR-2, 100-FR-1, 100-HR-1, 100-KR-1, and 100-KR-2 Operable Units (collectively called the 100 Area ROD sites for the purposes of this Proposed Plan).”

Response: Accepted. Text deleted.

7. Page 4, second column, first paragraph, delete last three bullets.

Response: Accepted. Text deleted. Text added in a footnote after the first use of the term “100 Area Remaining Sites” in the first paragraph of the Proposed Plan to define site/areas not covered as 100 Area Remaining Sites as follows:

“100 Area burial grounds, waste sites in the 100-N Reactor Area, and structures and buildings associated with continuing decontamination and decommissioning actions are not included in the 100 Area Remaining Sites and are planned to be addressed in separate decision documents.”

Text also added after the site profile bullets that clarifies the Tri-Parties intentions toward Burial Grounds and as reflected in Appendix N:

“Burial grounds are not included in this site profile. The Tri-Parties have agreed to disposition the 100 Area Burial Grounds in a separate Proposed Plan and ROD because they are significantly different from other 100 Area waste sites. Burial

grounds are typically larger and contain heterogeneous solid wastes generated principally from the removal of irradiated reactor equipment.

8. Page 4, second column, third paragraph, delete "Use of the Plug-in Approach using the standard remedy of Remove/Treat/Dispose is the initial recommendation of the Tri-Parties."

Response: Accepted. Text deleted.

9. Page 5, first column, first paragraph under Current Remedial Actions in the 100-BC, 100-D, 100-H, 100-F, and 100-K Areas; delete the entire paragraph.

Response: Partially accepted. After discussions with EPA in a meeting held on April 7, the second and last two sentences of this paragraph were deleted.

10. Page 5, first column, Second paragraph under Current Remedial Actions in the 100-BC, 100-D, 100-H, 100-F, and 100-K Areas; insert "lab" between "and" and "analysis."

Response: Accepted. Text added.

11. Page 5, second column, second paragraph under 100 Area Remaining Sites, delete entire paragraph.

Response: Accepted. Text deleted.

12. Page 5, second column, third paragraph under 100 Area Remaining Sites, delete "To determine whether contaminants pose a threat to human health, the type of future land use (and therefore the amount of time an individual may be exposed to contaminants) must be defined. However, the final land use for the 100 Areas has not been determined."

Response: Accepted. Text deleted.

13. Page 6, first column, delete "Petroleum Sites Section."

Response: Accepted. Text deleted.

14. Page 6, second column, third paragraph, delete "requirements" after "(TBC)", and "and for all potential land uses at the 100 Areas."

Response: Accepted. Text deleted.

15. Page 6, second column, 2nd bullet, delete "Method B Standards", and 5th bullet delete "Draft DOE standards for terrestrial animals."

Response: Accepted. Text deleted.

16. Page 6, second column, last paragraph, delete entire paragraph that starts with "An assumption made in earlier 100..."

Response: Accepted. Text deleted. New text added that mirrors balancing factor language in the 100 Area Source Site Remedial Design Report/Remedial Action Plan (DOE/RL-96-17, Rev.0) (Text changes provided under Comment 17).

17. Page 7, first column, first paragraph, delete "4.6m below the ground surface" and "below 4.6m."

Response: Accepted. Text deleted. New text added that provides balancing factor language in the 100 Area Source Site Remedial Design Report/Remedial Action Plan (DOE/RL-96-17, Rev.0) as follows:

The September 1995 ROD specifies that the Tri-Parties may use balancing factors for the determination of the extent of remediation at certain 100 Area sites. Balancing factors include reduction of risk by decay of radionuclides, protection of human health and the environment, costs, sizing of ERDF, worker safety, presence of ecological and cultural resources, the use of institutional controls, and long-term monitoring costs. The use of these balancing factors to determine the extent of remediation is proposed to be applied on a selective, site-specific basis for the 100 Area Remaining Sites. The criteria for the balancing factors, and the process for determining the extent of remediation will be specified during remedial design for the 100 Area Remaining Sites. Remedial design occurs after the public and the Tri-Parties have selected the remedy and the 100 Area Remaining Sites ROD is issued. In the event that the consideration of balancing factors results in a recommendation to leave contaminated soils or debris in place at a waste site at levels that exceed remedial action objectives, the Tri-Parties will initiate a public involvement process prior to a final decision being made.

18. Page 7, first column, change section title from "Preferred Standard Remedy" to "Preferred Remedy."

Response: Accepted. Text changed.

19. Page 7, first column, first paragraph under Preferred Standard Remedy, change fifth sentence to read, "Should it be impracticable to treat waste to meet ERDF waste acceptance criteria, it will be stored until a disposal decision."

Response: Accepted. Text changed as suggested.

20. Page 7, second column, second paragraph, change second sentence to read, "If sampling determines that the site does not fit the site profile, it will be evaluated and appropriate documentation produced.

Response: Accepted. Text changed as suggested.

21. Page 7, second column, delete third paragraph that starts with "It is the intent..."

Response: Accepted. Text deleted.

22. Page 8, first column, add to footnote 3 "technically feasible or " between "be" and "cost-effective."

Response: Accepted. Text changed as suggested.

23. Page 9, second column, where is state acceptance?

Response: Accepted. State and community acceptance were added as separate entries after "Cost" discussion as follows:

"State Acceptance. State Acceptance of the Plug-in Approach and preferred remedy has been achieved through the publication of this Proposed Plan.

Community Acceptance. The Community Acceptance modifying criterion will be considered after all public comments on this Proposed Plan have been received."

24. Page A-10, add Cr⁶ to sites 100-H-22 and 116-H-5.

Response: Accepted. Table revised as suggested.

25. Table A-1 and A-2, remove "Media" column; add cost and volume columns and note RPP and CPP by asterisk.

Response: Accepted as follows: Media was retained (due to its delineation as a site profile characteristic) and cost/ volume and RPP/ CPP designation were added. These changes will make the Appendix N document equivalent to the Proposed Plan , providing consistency between the two documents.

General Comments

1. Identify RCRA TSDs, give the status of the unit and future plan.

Response: Discussion of the RCRA TSD units has been provided in Section 2.1 stating their current status and planned future disposition.

2. RCRA Past Practice needs to also be identified when CERCLA is used throughout this document.

Response: A global search has been done to include RCRA Past Practice when CERCLA is used throughout the document

3. Replace "Standard Remedy" with "Preferred Remedy" throughout the document.

Response: A global search has been done to replace "standard remedy" with "preferred remedy".

4. The preferred remedy is remove, treat as appropriate or required, and dispose. Please make this consistent throughout the document.

Response: The following (discussed in the Proposed Plan in a footnote at the bottom of page 8) will be added to Section 1.0, the Introduction, as a third paragraph:

"The 1995 ROD presented two separate remedial alternatives: Remove/Dispose and Remove/Treat/Dispose, the latter requiring soil washing for volume reduction, as appropriate. Both alternatives required treatment in order to meet disposal unit acceptance criteria. The 1997 ROD Amendment excluded soil washing because it was proven to not be cost-effective for 100 Area waste sites. This determination made both of the original alternatives the same for the purpose of comparison. The Remove/Treat/Dispose Alternative presented in the remedy selection process thus corresponds to both of these original alternatives."

Responses to Regulatory Comments on the Remedy Selection Process for Remaining 100 Area Source Operable Unit Waste Sites (DOE/RL-94-61, Appendix N, Draft A)

Specific Comments

1. Page N-1, second paragraph, need to exclude burial grounds.

Response: The last sentence of the second paragraph on page N-1 (in Section N1.0) will be changed to read: "Burial grounds and waste sites in the 100-N Reactor Area are not included in the Remaining Sites and are planned to be addressed in separate decision documents."

2. Page N-3, section N2.1.1, third paragraph, delete "for long term radioactive decay."

Response: The phrase will be deleted.

3. Page N-3, section N2.1.2, add 100-D Ponds.

Response: The following sentences will be added at the end of Section 2.1.2: "The 100-D Ponds TSD unit was constructed as a surface impoundment for liquid effluent and operated between 1977 and 1994. It received primarily nonradioactive, nondangerous liquid effluent from the 183-D Water Treatment Facility. Contaminated sediment was removed from the ponds in August 1996. The 100-D Ponds are being clean closed with approval and incorporation of a Closure Plan in the Hanford Facility RCRA Sitewide Permit, Modification D."

4. Page N-5, section N2.1.4, 183-H underwent a modified closure not D&D.

Response: The last sentence of Section N2.1.4 will be modified to read as follows: "The solar evaporation basins received wastes from 1973 through 1985 and were regulated under RCRA as treatment, storage, and disposal (TSD) facilities until they underwent a modified closure, with removal of contaminated materials and debris, that was completed in 1996."

5. Page N-7, section N2.2.4, add Total Petroleum Hydrocarbons (TPH).

Response: The second sentence of Section N2.2.4 will be modified to read as follows: "These areas, primarily in the 100-IU-2 and 100-IU-6 OUs, contain significant numbers of waste sites with various solid wastes, sanitary wastes, petroleum hydrocarbons, and chemical residues from pre-1950's household, farming, or light industrial disposal practices."

6. Page N-8, section N3.1.2, last paragraph, make this consistent with page 7 of the proposed plan.

Response: The last paragraph of Section N3.1.2 will be modified to read as follows: "Newly discovered 100 Area waste sites may be identified after a Remaining Sites ROD or subsequent decision documentation is signed and after the Hanford RCRA Permit is modified to include the sites that are presented in Tables NA-1 and NA-2. It is the expectation of the Tri-Parties that they will undergo the same categorization process consistent with Guideline MP-14 to determine their disposition."

7. Page N-9, Figure N-2, use WAC citations not site types in Non-CERCLA/RCRA box.

Response: The box for "Non-CERCLA/RCRA action via other regulatory authorities" will be modified to include the WAC citations consistent with Tri-Party Agreement Handbook Management Guideline MP-14. The waste types will be retained because they are necessary information for the public.

8. Page N-10, Table N-1, add "RCRA Past Practice" column, bullet "Other Regulatory Authorities" column, delete "ROD and ROD Amendment" column.

Response: Table N-1 has been updated extensively for clarity in its presentation.

9. Page N-11, section N3.1.3, replace "MG-08" with "MP-14."

Response: This is a global change because the TPA procedure proposed as MG-08 was approved as MP-14.

10. Page N-11, section N3.1.3, third sentence should read "This category indicated that candidate waste sites had been determined by the Tri-Parties to not contain hazardous substances, therefore, were not waste management units and not within the scope of the Tri-Party Agreement."

Response: Per discussion during comment resolution meetings the third sentence of Section N3.1.3 will be revised to read: "This category indicated that candidate waste sites had been determined by the Tri-Parties to not contain hazardous substances to pose a potential environmental impact and, therefore, were not waste management units and not within the scope of the Tri-Party Agreement."

11. Page N-11, section N3.1.3, there does not appear to be a difference between step 1 and step 2. Suggest combining these steps.

Response: These paragraphs have been rewritten to provide clarification of the waste site categorization process. The "stepwise process" described in the text of Section N3.1.3 and shown in Figure N-2 is based on Tri-Party Agreement Handbook Management Guideline MP-14 Figure 2-1. Step 1 describes the process for entry and disposition of "Discovery Sites" in WIDS. Sites which are "Accepted" in WIDS in Step 1 may be later determined in Step 2 to have received no hazardous substances or dangerous waste and move to Step 3 to be addressed.

12. Page N-11, section N3.1.3, Step 3, replace the site type descriptions with WAC citations and make rejected consistent with Figure N-2.

Response: The text of Section N3.1.3, step 3 will be modified to include the WAC citations. The waste types will be retained because they are necessary information for the public. The text will be changed to state that waste sites are reclassified as rejected.

13. Page N-11, section N3.1.3, Step 4, add "RCRA Past Practice" after "CERCLA."

Response: See response to General Comment number 2.

14. Page N-11, section N3.1.3, Step 5, third sentence should read "The Tri-Parties have agreed to disposition 100 Area burial grounds in a separate Proposed Plan and ROD."

Response: The sentence will be rewritten as follows: "The Tri-Parties have agreed to disposition 100 Area burial grounds in a separate Proposed Plan and ROD."

15. Page N-11, section N3.1.3, Step 5, delete "Also, the burial grounds did not receive contaminated liquids, soil, or chemicals that could be mobilized to contaminate environmental media."

Response: The sentence will be deleted.

16. Page N-13, section N4.0, first paragraph, last sentence should read "For sites that cannot be "plugged-in" to the preferred remedy due to differing characteristics, remedial actions will be determined through the appropriate process."

Response: Per discussion during comment review with representatives of EPA, Ecology, and RL the sentence will be rewritten as follows: "For sites that cannot be "plugged-in" to the preferred remedy due to differing characteristics, remedial actions will be determined an appropriate regulatory process. Note: It is believed that all 100 Area waste sites can be "plugged-in" to the preferred remedy."

17. Page N-14, Figure N-3, include newly discovered to this figure.

Response: The figure will be revised as requested.

18. Page N-15, section N4.1.2, last bullet, delete "and exposure."

Response: The suggested deletion has been made.

19. Page N-16, section N4.1.2, bullets, delete "Method B cleanup standards" and "Draft DOE standards for terrestrial animals."

Response: The suggested deletions have been made.

20. Page N-17, section N4.2.1, delete last three bullets.

Response: The suggested deletions have been made.

21. Page N-17, section N4.2.2, second paragraph, last sentence, replace "a separate CERCLA process (e.g., ROD ESD, ROD Amendment, EE/CA)" with "the appropriate process."

Response: Per discussion during comment review with representatives of EPA, Ecology, and RL the sentence will be rewritten as follows: "Although it is considered to be unlikely, should information be obtained during remedial design or actual remediation for any of the Remaining Sites that fall outside the site profile characteristics, the remediation of that site will be reevaluated under an appropriate regulatory process."

22. Page N-18, section N4.2.4, fourth sentence should read "Should the additional data show that the site contains contaminants, contaminated media, or other physical characteristic that fall outside the site characteristic profile, and will not plug-in to the standard remedy, the Tri-Parties will reevaluate the site."

Response: Per discussion during comment review with representatives of EPA, Ecology, and RL the sentence will be rewritten as follows: "Should the additional data show that the site contains contaminants, contaminated media, or other physical characteristics that fall outside the site characteristic profile, and will not plug-in to the preferred remedy, the Tri-Parties will reevaluate the site through a separate regulatory process."

23. Page N-18, section N4.2.5, revise this section with the new cost estimates.

Response: Revised cost estimates are included in the revision to the document.

24. Page NA-1, Table NA-1, footnote Estimated Cost of Site Remediation and explain the difference in cost per LCY between sites. Are there cost breaks for multiple sites? Please add the K basin site(s) and RPP/PPP somewhere.

Response: The major discriminator of the differences in cost per LCY between sites is the cost of mobilization to clean up individual sites. Explanations for the difference in cost per LCY between sites would have to be made on a site-by-site basis.

There are potential cost breaks for packaging remediation of multiple sites in the same area but these can generally not be determined until remedial design.

The K-Basin sites, 100-K-42 and 100-K-43 have been included in Table NA-1 for Remove/Treat/Dispose.