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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 10 HANFORD PROJECT OFFICE  
712 SWIFT BOULEVARD, SUITE 5  
RICHLAND, WASHINGTON 99352

May 19, 1995

Arlene C. Tortoso  
100-KR-1 Manager  
U.S. Department of Energy  
P.O. Box 550  
Richland, WA 99352

RE: EPA Comments: "Proposed Plan for Interim Remedial Measures  
at the 100-KR-1 Operable Unit", DOE/RL-94-119, Draft A

41094

Dear Mrs. Tortoso:

Enclosed are comments provided by the U.S. Environmental Protection Agency (EPA) on the identified document. We look forward to your written responses to these comments within 30 days, and a revised document in 45 days. We would welcome the opportunity to have a working session at the computer to refine the document prior to its next revision, so that it is ready for final review by our agencies prior to distribution for public comment. If you have any questions, please contact me at (509) 376-9884.

Sincerely,

*Laurence E Gadbois*

Laurence E. Gadbois  
100-KR-1 Unit Manager

Enclosure: Regulatory Comments: "Proposed Plan for Interim Remedial Measures at the 100-KR-1 Operable Unit", DOE/RL-94-119, Draft A

cc: David Holland, Ecology  
Allan Krug, BHI  
Administrative Record, 100-KR-1



Arlene C. Tortoso

Enclosure

May 19, 1995

Regulatory Comments: "Proposed Plan for Interim  
Remedial Measures at the 100-KR-1 Operable Unit",  
DOE/RL-94-119, Draft A

**General Comments:**

1. EPA supports the preferred alternative defined in the section "Preferred Interim Remedial Measures" on page 10. It states that the "preferred alternative is the removal, treatment (where appropriate or required), and disposal alternative for the contaminated soil present at 116-KW-3 and 116-KE-4, the 116-K-2 effluent disposal trench, and the 116-K-1 crib. For the pipelines, the preferred alternative is remove and dispose".
2. In many respects, this document reflects recent format improvements that have resulted from Tri-Party efforts on the 100-HR-1 Proposed Plan. In several respects it does not. The general layout should be revised as per the 100-HR-1 Proposed Plan provided in electronic format by the regulators to DOE on April 7, 1995.

**Specific Comments:**

3. Page 1, 2nd column. Public comments should be sent to Laurence Gadbois as the unit manager, not Kevin Oates who is not affiliated with this operable unit.
4. Page 1, 2nd column. A key document for this operable unit is the "Process Document", DOE/RL-94-61. It should be listed instead of "100 Area Source Operable Unit Focused Feasibility Report" (DOE/RL-92-61).
5. Page 3, 1st column. High-priority designation of waste sites was not done by unit managers during preparation of the work plan. This statement should be removed.
6. Page 3, 1st column. "IRM proposal plan" should be "IRM proposed plan".
7. Page 3, 1st column. An ERA is an "Expedited Response Action", not an "Environmental Restoration Act".
8. Page 3, 1st column. "where both soil exposure" should be "where both surface use that results in exposure to soil".
9. Page 3. The caption "Human Health Risk" should be moved forward one paragraph.
10. Page 3, 2nd column. The following explanation makes something technical even more confusing: "This potential increase is expressed exponentially as  $1 \times 10^{-4}$ ,  $1 \times 10^{-5}$ ,  $1 \times 10^{-6}$  (one in ten thousand, one in one hundred thousand, one in a million, respectively. This means that for a  $1 \times 10^{-4}$  risk, if 10,000

people were exposed to a contaminant of concern for some period of time, 2,501 cancer diagnoses could be expected."

That is very confusing. It would be much better to conclude that "one additional fatal cancer could be expected".

11. Page 3, 2nd column. "In either case, future users could be exposed to contaminants" should be changed to "In either case, future users were evaluated for exposure to contaminants". Note that the site is supposed to be cleaned up so that future users could NOT be exposed to contaminants.
12. Page 3, 2nd column, last paragraph, first line. Note the typographical error: "risk assessment, The".
13. Page 3. The number of errors on page 3 indicates an ineffectual review/routing process, and/or a deficient original writing. Please respond to this comment by providing a copy of the review/routing/concurrence slip for this document (initialed and dated at each step). Please also indicate the sequence of interactions between authors and technical editors.

This request is motivated by the desire to better understand why the most important document that DOE writes for an operable unit does not appear to be reviewed. This is especially quizzical considering that the document is so short and hence would be quickly read. Hopefully the outcome of such an "audit of process" will allow DOE to produce a better product at less cost in a more timely manner.
14. Page 7, 2nd paragraph. The sentence "Should groundwater under the site be used, future users could be exposed to contaminants by drinking the groundwater" should be removed or modified. Future users of the groundwater would be exposed to contaminants due to drinking, inhalation, uptake from garden or agricultural produce irrigated with the water, etc.
15. Page 7, 2nd paragraph. The phrase "the 100-KR-4 Operable Unit, and will be addressed in a future proposed plan for groundwater" should be changed to something like "the 100-KR-4 Operable Unit, and is addressed in a separate proposed plan." There that there is already a 100-KR-4 Proposed Plan in print.
16. Page 7, 3rd paragraph. Remove the word "primary" from the phrase "assuming the food pathway was the primary route of exposure". The calculation method assumed that it was the ONLY SIGNIFICANT route of exposure. (For example: if there were eight actual pathways and their relative contributions were 20:15:15:15:10:10:10:5, then the "20%" pathway is the "primary" pathway, but it is a poor representation of the total risk. It is not the only significant risk.
17. Page 7, 2nd column, 2nd paragraph. Remove the word "land" from the phrase "would support a goal not to limit future uses of the 100 Area land". EPA's plan is to work towards returning future uses of both the land and the water.

18. Page 7, 2nd column, 2nd paragraph. The document currently states: "Remediation would minimize ecological and cultural impacts. The development of mitigation plans to address site-specific ecological and cultural resources will occur during the remedial design phase that follows after the ROD is signed."

We suggest this alternate language:

"The development of detailed mitigation measures to restore natural resource services will be initiated as soon as the remedial alternative is selected, and is a crucial activity during preliminary and final design. The extent of physical disturbance caused by interim remedial measures would be addressed since this will have a direct relationship to the potential for impacting cultural and natural resources. Mitigation plans should be scoped (with costs) and included as an integral part of each remedial alternative. This will help ensure that the remedial/restoration/mitigation package as a whole is cost effective. Implementing mitigation measures would allow any of the alternatives to be selected. The waste sites to be remediated occur within areas previously disturbed by reactor operations and agricultural activities, so restoration and revegetation actions will likely result in improving rather than degrading ecological conditions in the area."

19. Page 7, last paragraph. The 1st and last sentences should be removed because it is redundant to the subject paragraph of the previous comment, as modified. This paragraph includes a some miscellaneous ideas that should be distributed to the previous few paragraphs that address similar topics. Also, only two tribes are mentioned, and one of them is spelled incorrectly. The Nez Perce and CTUIR should be included as well.
20. Page 8, 3rd bullet. Remove the phrase "This applies to waste sites where groundwater has not been affected".
21. Page 8, 4th bullet. Remove the statements "for consumption of fish. This act applies to sites where groundwater has already been affected".
22. Page 8, 2nd column, "No Action" alternative description. The document currently states: "It represents a hypothetical scenario where no additional restrictions, controls, or active remedial measures other than those currently existing are applied to a site." This is half true. Yes it represents no additional restrictions, controls, or active remedial measures. However it does not require the continuation of those restrictions that currently apply to the site. Under the "No Action" alternative, DOE (and site security) could walk away from the site, leaving the gates open and the site accessible. If the current restrictions are mandated to continue, that is not a "No Action" alternative, but rather an "Institutional Control" alternative.
23. Page 9, 1st paragraph, last line. Remove the phrase "such as the Hanford Barrier". As a document written for the public, the

public vision of the Hanford Barrier is the Wye Barricade. That the fences and guard have something to do with water intrusion is confusing.

24. Page 9, 1st column, a third of the way down. The document states: "contaminated media would be excavated, transported, and disposed at an appropriate disposal facility (e.g., the Environmental Restoration Disposal Facility or 218-W-5 Burial Ground, Trench 31 [W025])". That gets pretty technical. Suggest replacing the "e.g." portion with a general reference to "a 200 Area disposal facility". This idea applies to the text box on page 13 too.
25. Page 9, middle of 2nd column. The document states:
  - **thermal desorption**, if required, for soil
  - **soil washing**, as appropriateWhat is the difference between "if required, for soil" and "as appropriate". If no difference, use the same term.
26. Page 10, last paragraph. In-situ treatment is identified as not providing volume reduction. In-site treatment via vitrification does provide volume reduction (the void spaces in the soil is removed). Also, elsewhere in this document "in-situ" was spelled "in situ". This should be consistent.
27. Page 13, text block. "Including the verification of cost models" should be changed to "evaluation of the cost models". Our intent is to show that cleanup can be done for much less cost than detailed in earlier DOE documents.
28. Page 13, text block. The last phrase: "or stored for future disposal at the Environmental Restoration Disposal Facility" should be changed to "or stored at the operable unit for future disposal at the Environmental Restoration Disposal Facility".
29. Page 13, 2nd last paragraph, middle. The document states: "Significant impacts are expected to be limited to...short term indirect impacts to wildlife". The word "indirect" should be removed. There will be both direct and indirect impacts to wildlife.
30. Page 13, last paragraph. This paragraph should be removed. It is redundant to previous sections.
31. Page 14, SUPPORTING DOCUMENTS. "100 Area Source Operable Unit Focused Feasibility Study Report" (DOE/RL-94-61) is an incorrect title. It should be "Process Document".
32. Page 14, SUPPORTING DOCUMENTS. The following document should be added to the list. "100-K Area Technical Baseline Report" (WHC-SD-EN-TI-239).
33. Page 14, POINTS OF CONTACT. The Unit Manager for EPA has never been Kevin Oates. Please list Laurence Gadbois as the P.O.C.

34. Page 14, ADMINISTRATIVE RECORD. The caption "The Administrative Record can be reviewed at the following locations" does not tell the reader what the Administrative Record is, and hence why it may be of value to go to one of these locations. Suggest replacing with something like: "The Administrative Record documents the basis for the cleanup decisions. It can be reviewed at the following locations".
35. Page 14, INFORMATION REPOSITORIES. Supporting documents for the Proposed Plan are in the Administrative Record (by law they have to be). Information repositories are an ad-hoc collection of Hanford documents. Suggest that the caption be removed.
36. Page 15, Hazard Index. Suggest changing the first sentence from "The ratio of exposure to toxicity for human receptors of contaminants" to "The ratio of exposure to toxicity for human or ecological receptors of contaminants".
37. Page 15, Operable Unit. "Superfund" and "CERCLA" are redundant. Suggest using just one term.
38. Page 16, Record of Decision. Suggest changing the first sentence from "The formal document in which the lead regulatory agency sets forth..." to "The formal document in which the three agencies (DOE, EPA, Ecology) set forth...". All three agencies sign the Record of Decision, not just the lead regulatory agency.
39. Page 16, Thermal Desorption. I doubt this explanation will help a reader seeking a definition. For example, what does "indirect" mean in the phrase "indirect low temperatures". Low temperatures conjures images of snow and ice, but "indirect low temperatures"? Also, what about "thermally remove". Is this analogous to a torch used to blister/strip paint, or a dryer for laundry, or a hairdryer, or a hazardous waste incinerator? A reader-friendly definition needs to be provided.
40. Page 15, In Situ Vitriification. Suggest replacing the word "converts" to "melts" as a well understood and clearer descriptor.