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

Mr. E. R. Skinnarland  
200 Area Section Manager  
Nuclear Waste Program  
State of Washington  
Department of Ecology  
1315 W. 4th Avenue  
Kennewick, Washington 99336-6018



Dear Messrs. Sherwood and Skinnarland:

200 AREAS REMEDIAL INVESTIGATION/ FEASIBILITY STUDY IMPLEMENTATION  
PLAN – ENVIRONMENTAL RESTORATION PROGRAM, DOE/RL-98-28, DRAFT B

49972

Please find attached the subject document for use during the public review. Six copies are provided for the State of Washington Department of Ecology (Ecology), and three copies are for the U.S. Environmental Protection Agency (EPA).

All EPA and Ecology comments have been appropriately dispositioned and incorporated. Copies of the final comment dispositions are provided as Attachments 2 and 3, respectively. Discussions with Ecology, with respect to the content of Appendix A (Quality Assurance Project Plan), were concluded on October 20, 1998, and comments have been incorporated into Draft B of the document.

Draft B will be issued by the Tri-Party agencies for initiation of the public review process. The public review period has been tentatively scheduled to occur between November 30, 1998 and January 14, 1999. Comments received from the public review will be dispositioned and incorporated into Rev. 0, which will be issued in January 1999.

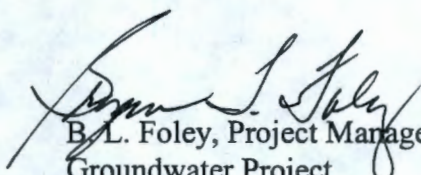
Messrs. Sherwood and Skinnarland

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If you have any questions, please contact me at 376-7087.

064005

Sincerely,

  
B. L. Foley, Project Manager  
Groundwater Project

GWP:BLF

Attachments

cc w/o attaches:

J. W. Donnelly, Ecology

T. C. Post, EPA

cc w/attach 1 only:

R. Jim, YIN

D. L. Powaukee, NPT

L. Seelatsee, Wanapum

J. R. Wilkinson, CTUIR

cc w/attaches:

L. C. Treichel, EM-442

# **ATTACHMENT #1**

Proposed Response to Comments on the 200 Area Implementation Plan Quality Assurance Project Plan (1 of 3)

| EPA Guidance  | Summary of Joan Bartz Comments  | Proposed Actions   |
|---|---|--|
| <b>Project Management</b>   |   |  |
| 1. Project/Task Organization  |   | Adequate detail as presented. A short discussion of how this QAPjPs will be used (e.g., in lieu of waste group-specific QAPjPs) will be included.  |
| 2. Problem Definition/Background  | <p>Much more detail regarding the reasons for sampling and analysis. Present rationale for the use of field sampling followed by verification sampling after remediation.</p> <p>Characterization data should be sufficient to perform a quantitative risk assessment. Validation data requires "definitive analyses" to obtain high quality data.</p> <p>"This Quality Assurance Plan needs to BE the plan for the work done for each waste grouping; not a template for how to write a plan."</p> | <p>We will provide more background and a more comprehensive but generic discussion of the reasons for sampling and analysis, including field analysis. For example, we will describe and explain the reasons for the several types of characterization called for in the IP, which are:</p> <ul style="list-style-type: none"> <li>▪ initial characterization for remedy selection</li> <li>▪ characterization for remedy design</li> <li>▪ characterization for verification</li> </ul> <p>The OU-specific reasons for characterization will be established following the OU-specific DQO, and documented in the SAP.</p> |
| 3. Project/Task Description   | Discuss the various tasks associated with this plan, including characterization of waste groupings, field analytical screening during remediation, characterization/designation of waste for disposal, and verification of the cleanup. Include sampling in support of an engineered barrier.   | We will establish a generic, broad list of potential tasks that may be performed at the OUs (i.e., lists of all possible tasks). Details will be developed in the OU-specific DQO/SAP, but a tabulated "shopping list" of tasks will be included in the QAPjP. This list will include such tasks as verification of waste site location, remote sensing, field analysis, and sample collection.  |
| <p>4. Data Quality Objectives</p> <p>4.1 Project Quality Objectives</p> <p>4.2 Measurement Performance Criteria</p> | Specify the items that will need to be addressed during the DQO for each waste grouping at each step of the work, including specific sampling locations, sampling intervals, what sampling techniques will be used at each location.  | These items are mandated for discussion and resolution in the DQO procedure, and will be definitively addressed during an OU-specific DQO. In this QAPjP we will reference the DQO procedure and include a generic list of items that would normally be addressed during an OU-specific DQO, including selection of COPCs, analytical methods, etc., for different types of samples to be considered during the OU-specific DQO. This list would likely be modified during the DQO process for OU-specific conditions.   |

Attachment 1 for Comment # 67

Proposed Response to Comments on the 200 Area Implementation Plan Quality Assurance Project Plan (2 of 3)

|  |  |  |
|--|--|--|
| <p>5. Documentation and Records<br/>Itemize information and records that will be included in the data package; specify or reference all applicable requirements for disposition of records</p> | <p>-</p>   | <p>The referenced procedures will be briefly described, including final disposition of the data records. This discussion will include a short discussion of the legal requirements for record keeping (i.e., traceability, defensibility).</p>   |
| <p><b>Measurement Data Acquisition</b></p>   | <p>Specify how the appropriate methodologies (field methods for characterization, laboratory for verification) are chosen and implemented.</p> <p>Characterization data should be sufficient to perform a quantitative risk assessment. Validation data requires "definitive analyses" to obtain high quality data</p> | <p>We will present a generic strategy for selecting COPCs, analytical methods, etc., for different types of samples to be considered during the OU-specific DQO. The various types of samples (characterization, validation) will also be discussed in the context of QA requirements. Specifying methodologies is not recommended without a DQO.</p> <p>Note that these methods will likely change with time and developing/new technologies.</p>   |
| <p>6. Sampling Process Design<br/>- most of this information should be available as outputs from the final steps of the DQO process</p>  | <p>All possible sampling techniques need to be discussed including the advantages and disadvantages to each technique, limitations to use, and special considerations, and the appropriate quality control for each technique. Explain rationale for design (e.g., assume rad and chemicals are co-contaminants).</p>  | <p>We will tabulate details on the different types of sampling that are likely to be used in the 200 Areas, and rely less on references to sampling procedures. There is no DQO available to guide sampling design. It is necessary to caveat that these procedures may change with time, and note that any deviations will be documented in the group-specific sampling document.</p>   |
| <p>7. Analytical Methods Requirements<br/>7.1 Organics<br/>7.2 Inorganics</p>  | <p>Discuss the recommended analytical methods for characterization, waste designation, and verification.</p> <p>Define methods and quantitation limits for characterization and verification samples. The latter should be below cleanup levels.</p>   | <p>We will discuss some of the analytical methods that may be used with the different types of samples (characterization, waste designation, verification). The target detection limits will be MTCA B levels for chemicals. A discussion of matrix effects and their influence on detection limits may also be included, where applicable. Note that these methods will probably change with time, as will specific clean-up levels (dependent on revised health-effect values, land use/exposure scenarios).</p> |

Proposed Response to Comments on the 200 Area Implementation Plan Quality Assurance Project Plan (3 of 3)

|   |  |   |
|---|--|---|
| 8. Quality Control Requirements                 | -  | We will present and discuss different QC requirements for different types of samples (e.g., characterization, verification), probably in a table.   |
| 8.1 Field QC Requirements                       | All aspects of field data are important.   | Sample and laboratory QC will be discussed separately. QC samples that are not commonly used will not be listed and onsite measurements will be added, including subjects such as calibration and holding times.                |
| 8.2 Laboratory QC Requirements                  | Explain how the duplicate samples will be chosen and specified.  | Currently, different types of laboratory control samples are described. Implies that the DQO will guide selection of the different QA requirements for the different types of data.<br>Unclear what is lacking in this section. |
| 9. Instrument Calibration and Frequency         | As field data will be driving remediation, all QC aspects of field instrumentation need to be discussed. | Current plan references procedures; we could summarize the procedures to avoid full reliance on citations. Methods will likely change with time.  |
| 10. Data Management                             | -  | Current plan references procedures; we could summarize the procedures to avoid full reliance on citations. New procedures may be developed.   |
| <b>Assessment/Oversight</b>                     |  | Current plan references procedures for surveillances and Self Assessments.  |
| <b>Data Validation and Usability</b>            |  | Current plan references procedures; the different levels of validation will be presented and discussed.   |
| 11. Reconciliation with Data Quality Objectives | -  | This is the last step of the DQO. A short description of the Data Quality Assessment will be added and the procedure referenced.  |

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# **ATTACHMENT #2**

WASHINGTON STATE DEPARTMENT OF ECOLOGY COMMENTS ON  
DOE/RL-98-28 TITLED *200 AREA REMEDIAL INVESTIGATION  
FEASIBILITY STUDY IMPLEMENTATION PLAN FOR THE  
ENVIRONMENTAL RESTORATION PROGRAM*

SPECIFIC COMMENTS/ISSUES

1. Page ES-1, last sentence: Modify the sentence to delete the word "permitting" and insert the words corrective action, and insert the words "RCRA closure of" before the word "treatment."

**RESPONSE:** Accept as stated.

2. Page ES-2, 1<sup>st</sup> full paragraph, 6<sup>th</sup> sentence: Modify the sentence to indicate that sampling of individual waste sites shall occur either before the remedial design or after. The text as written contradicts statements made in latter parts of the document that clearly state that sampling shall occur at the other non-representative sites to verify the proper group placement.

**RESPONSE:** Accept. As a new 7<sup>th</sup> sentence the following will be added: "Sampling may also be performed during or after remedial design at non-representative waste sites to verify the proper group placement."

3. Page ES-3, 1<sup>st</sup> paragraph, 3<sup>rd</sup> sentence: Delete the sentence.

**RESPONSE:** Accept as stated.

4. Page ES-3, 2<sup>nd</sup> paragraph, last sentence: Delete the sentence or delete the words "mutually agreed."

**RESPONSE:** Accept. "Mutually agreed upon" will be deleted.

5. Page 1-1, 2<sup>nd</sup> paragraph, 1<sup>st</sup> sentence: Modify the sentence to clearly articulate that the Implementation Plan (IP) is not addressing remediation, but the IP establishes the framework for eventual remediation, discusses concepts, and discusses potential strategies. As written, it is implied that this document is making remediation decisions.

**RESPONSE:** Accept. The terms "and remediation" will be deleted from the 1<sup>st</sup> sentence and the following added at the end of the 1<sup>st</sup> sentence: "...and discusses concepts and potential strategies for the eventual remediation of those waste sites."

6. Page 1-1, 2<sup>nd</sup> paragraph, 5<sup>th</sup> sentence: Delete the sentence. However, it is appropriate to coordinate any activities required with the operable unit work.

**RESPONSE:** Accept as stated.

7. Page 1-2, Section 1.1, 3<sup>rd</sup> paragraph: Ecology disagrees that land-use will ultimately effect or influence characterization requirements. Ecology shall characterize representative sites for the purpose of characterizing the nature and extent of contamination for use in making remedial decisions for the entire group. The other factors listed are appropriate and may influence characterization. Delete the land use reference and clearly state that it "may" influence characterization requirements.

**RESPONSE:** Accept as stated. The term "land use" will be deleted and "may" inserted before "influence".

8. Page 1-3, 1<sup>st</sup> paragraph, line 5: Replace the word "sampling" with the word "analytical." The data discussed here are the result of analysis of samples, not of the sampling. (Note that in line 5 the text should read "these data" not "this data." "Data" is a plural.)

**RESPONSE:** Accept as stated.

9. Page 1-6, Section 1.2.5, 5<sup>th</sup> bullet: See comment number 7 above.

**RESPONSE:** Accept. The bullet will be reworded as follows: "Recognizing that ARARs, RAOs, and remedial alternatives may influence characterization needs (addressed in Sections 4.0 and 5.0)"

10. Page 1-10, Figure 1.2: a) Modify Step 3 text; the meaning of "design data" is not clear. b) After Step 6 (or in step 6), the analysis of samples needs to be included. c) After Step 13 (or in step 13) analysis of samples needs to be included. d) Revise Step 15 text to include analysis. e) Revise Step 17 text to include the RCRA permit modification that is needed if a post closure plan or an engineer's closure certification is submitted.

**RESPONSE:** Accept as follows. a) rewritten as "Perform DQO to define data collection requirements"; b) add "and perform sample analysis"; c) and d) add "and analysis"; e) delete "or" and add ", and RCRA permit modification."

11. Page 2-2, Section 2.1.2, 2<sup>nd</sup> group of bullets: The text describing the differences in the programs needs more work to more clearly state the difference, such as level of information available for public review under the two regulations, additional RCRA administrative requirements, timelines for cleanup, enforceable schedules, permit conditions, and RCRA cleanup include ancillary equipment to include piping, etc. This section needs to be much stronger.

**RESPONSE:** Accept. A general statement will be added as a last bullet in the second group of bullets as follows: "RCRA TSD closure regulations contain specific requirements for cleanup such as permit conditions, enforceable schedules, certifications of closure and postclosure, survey plats, and notices in deed. RCRA TSD units are also specifically defined in regulation and require that the operating unit, spill areas, and ancillary piping be included in the cleanup actions."

12. Page 2-2, Section 2.1.2, 2<sup>nd</sup> group of bullets: The fact that RCRA requires permits is misleading. RCRA provisions do exist to state permit conditions to meet the requirements of permitting if necessary without drafting a permit. The same is true for CERCLA; while permits are not administratively required, the ARAR's must be complied with that would meet the requirements contained in a permit. Ecology suggests deleting this bullet, and explain this item further in later section of the document.

**RESPONSE:** Accept. The third bullet in the second group of bullets will be revised as follows: "No permits are required under CERCLA, but RCRA corrective action sites and TSD unit cleanup actions are required to be included in the Hanford Facility RCRA Permit."

13. Page 2-5, 2<sup>nd</sup> bullet listing TSD closure requirements: "Standard practice for 200 Area TSD units closed under the 200 Area Strategy will be to address all hazardous substances." Please modify the sentence as follows, "200 Area TSD units in this Plan will be closed with the intention of addressing all hazardous substances."

**RESPONSE:** Accept. The 3<sup>rd</sup> sentence of the bullet will be modified to read: "200 Area TSD units addressed in this Plan will be closed with the intention of addressing all hazardous substances."

14. Page 2-6, Section 2.2.2, 1<sup>st</sup> sentence: Clarify that RPP waste site fall under state corrective action, and spell out SWMU.

**RESPONSE:** Accept in part. Footnote #2, page 2-3, already spells out SWMU and states that RPP units at Hanford fall under the definition of SWMU. For additional clarity, the sentence will be modified to read: "State corrective action requirements apply to all SWMUs, which includes the RPP waste sites addressed in this Plan, irrespective of the date waste was received."

15. Page 2-7, Section 2.2.2, 3<sup>rd</sup> paragraph: Modify the 1<sup>st</sup> sentence to clearly state that corrective action as well as remedial actions will address waste sites and associated contamination. Also, clarify the reason for using the words "corrective measures," this is confusing.

**RESPONSE:** Accept. The term "corrective measures" is used in the TPA and EPA corrective action guidance to mean the actual elements of a remedy for a site. "Corrective action" tends to refer to the whole program, from characterization through implementation of the corrective measures. To avoid confusion, the sentence will be modified to read: "The corrective

action/remedial action program in this Implementation Plan will address waste sites and associated contamination within the 200 Areas.”

16. Page 2-9, Section 2.4.1, 1<sup>st</sup> paragraph: Add a 9<sup>th</sup> item (9) to include a Quality Assurance/Quality Control Plan that is contained within the Sampling and Analysis Plan (SAP).

**RESPONSE:** Accept. The last sentence of the paragraph will be modified to read: “...equipment; (8) procedures for analysis and reporting results; and (9) a Quality Assurance/Quality Control Plan that is included as part of the SAP.”

17. Page 2-9, Section 2.4.1, 3<sup>rd</sup> paragraph: Delete the reference to 1989. The reference needs to be to the methods as promulgated under the RCRA regulations.

**RESPONSE:** Accept. After each date in each parenthetical, the words “as amended” will be added.

18. Page 2-11, bullet “RCRA Post-Closure Plan”: Revise the parenthetical phrase in lines 1-2 as follows: “(e.g., a modified closure or a landfill)” and sub-bullet 3 needs to read as follows: “any area that cannot be cleaned up to meet clean closure standards, ...” *This information is no longer in a bulleted list, but now appears on page 2-14 in the paragraph at the top of the page, line 7. The inclusion of the word “clean” still needs to be done.*

**RESPONSE:** Accept. The sentence will be modified to read: “Post-closure requirements are applicable to land-based TSD units, tank systems that must be closed as land-based units, and any area that cannot be cleaned up to meet clean closure standards.”

19. Page 2-12, 1<sup>st</sup> paragraph: Include WAC 173-303 as a reference to developing the list of chemical constituents to be considered.

**RESPONSE:** Accept. The sentence will be modified to read: “In identifying chemical constituents to be considered, the universe of constituents will include CERCLA hazardous substances (including radionuclides), MTCA hazardous substances (including dangerous and extremely hazardous waste, petroleum and petroleum products, and secondary drinking water contaminants), and dangerous waste constituents as identified in WAC 173-303.”

20. Page 2-12, 1<sup>st</sup> paragraph: Modify the paragraph to state that the SAP must be approved by the lead regulatory agency and is available for public review and comment during the RCRA permitting activities.

**RESPONSE:** Accept. The following will be added at the end of the second paragraph: “The work plan must be approved by the lead regulatory agency. In addition, the work plan, including the SAP, will be available to the public during the review of the proposed plan and RCRA permitting activities.”

21. Page 2-12, 1<sup>st</sup> bullet: Ecology does not recognize a pre-closure SAP, although this term is used within USDOE's Facility Transition Program. Modify the bullet to state a SAP. This may need a global search throughout the document.

**RESPONSE:** Accept in part. The goal was to differentiate between what are likely to be two separate SAPs, the SAP prepared to characterize the nature and extent of contamination and the SAP to verify that cleanup requirements have been met. Because of the length of time between the two, a single SAP is likely not feasible. The specific bullet will be modified to read: "A characterization SAP." Throughout the document, the two SAPs will be differentiated by saying "characterization SAP" versus "verification SAP" where the distinction is required.

22. Page 2-12, last paragraph: There is a later version of the Tri-Party Agreement Handbook Guideline. Reference the latest version.

**RESPONSE:** Accept as stated.

23. Page 2-13, Section 2.4.2, 1<sup>st</sup> paragraph: The term "pre closure and post-closure verification" is unclear and the terminology needs to be changed and clarified. Verification is not a post closure activity. Verification is required to verify closure performance standards are achieved.

**RESPONSE:** Accept. The 5<sup>th</sup> sentence will be modified to read: "It also includes a SAP that addresses sampling to characterize the TSD unit prior to implementing closure activities and sampling at the completion of field activities to verify that closure performance standards have been met."

24. Page 2-13, 2<sup>nd</sup> paragraph: Modify the text to reflect that because components of the closure plan will be included in the documents, all documents that are for work-groups which include a TSD unit must be subject to public review and comment. The public comment must be considered in revising the TSD unit portions of the document. A responsiveness summary also will be needed.

**RESPONSE:** Accept. Language will be added to the end of the paragraph as follows: "For the remaining waste group-specific work plans that include TSD units, public comment will be requested on those portions of the work plan that are referenced in the closure plan or that are incorporated into the closure plan. Responsiveness summaries to closure plan comments will be provided to the public in the RCRA Permit modification administrative record."

25. Page 2-13, Section 2.4.2, 2<sup>nd</sup> paragraph, lines 1 & 2: Modify the text to reflect that the closure plan only needs to identify a single closure option if it has already been decided that the option will be the one used. If the decision has not been made then all contingent closure activities/paths must be included. A closure activity is not to be performed unless it has been included in the plan.

**RESPONSE:** Accept. The sentence will be modified to read: "A closure plan only needs to identify a single closure option, if one has been identified that meets the performance standards and requirements; there is no requirement to discuss other closure alternatives. However, if a decision on the closure option has not been made, then all contingent closure activities/pathways must be included in the closure plan." The word "however" will be deleted from the beginning of the next sentence.

26. Page 2-13, Section 2.4.2, bullets: This list is not comprehensive and needs to include additional information. Refer to Ecology's "Guidance for Clean Closure of Dangerous Waste Facilities, Publication 94-11).

**RESPONSE:** Accept. Because of the level of detail regarding closure plan content in this guidance, it will be identified as a guide to closure plan development in the added sentence as follows (located in the first paragraph, second to last sentence): "Ecology's *Guidance for Clean Closure of Dangerous Waste Facilities*, (Publication 94-11), will be used as guidance in the development of RCRA closure plans." In addition, a bullet will be added after the third bullet as follows: "Procedures for sampling and analysis" and the second bullet will be modified as follows: "How closure requirements will be carried out including compliance with closure performance standards and procedures for removal of wastes."

27. Page 2-14, 1<sup>st</sup> paragraph: Modify the text to read as follows, "any area that cannot be cleaned up to meet **clean** closure standards, ..." Note that a post-closure plan and permit are required in every situation other than a clean closure.

**RESPONSE:** Accept. The sentence will be modified to read: "...any area that cannot be cleaned up to meet clean closure standards..."

28. Page 2-14, 2<sup>nd</sup> paragraph: Modify the text to describe that the closure plan and/or the post-closure plan and any modifications follow this path.

**RESPONSE:** Accept. The 1<sup>st</sup> and 2<sup>nd</sup> sentences will be modified as follows: "The closure plan (and post-closure plan, if required) is provided to Ecology for review and approval. They are then made available for..." A third sentence will be added as follows: "Any modifications of the closure plan/post-closure plan are subject to Ecology review and approval and public review and comment in accordance with the permit modification process specified in WAC 173-303."

29. Page 2-15, 3<sup>rd</sup> paragraph through entire Section 2.4.2: The text describing the integrated approach needs to be revised to be more specific. a) When incorporating information from the group-specific work plan by reference, the closure plan must be able to give specific reference to the text that is applicable to the TSD unit, i.e., by page and line number. (That need should be added to the section on writing the group-specific work plan, the feasibility study, etc.) b) Also include if additional groundwater monitoring data have been obtained since the group-specific work plan was written, the additional data need to be presented and evaluated in the closure plan. c) The closure performance standards for the TSD unit need to be specified in the closure plan, not referenced to the

feasibility study (replace item 3 in the list in the text). **d)** The closure strategy and closure activities need to be specific. If detail is deferred to the remedial design, then the closure plan (appendix) needs to be specific about what will appear in the remedial design and where it will appear. **e)** The remedial design will need to be subject to public comment and all permitting activities because it will represent a modification to the permit. **f)** Delete the phrase "pre-closure" from item 1 in the list and replace it with the word "characterization". **g)** Delete the phrase "post-closure" from item 6 because verification must occur before closure.

**RESPONSE:** Responses to each comment are provided below:

- a) Accept. Language will be added to each of the first two items from "Incorporate by reference the waste group-specific work plan" to "Incorporate by referencing the specific page and line number of the waste group-specific work plan or reproduce work plan text or modified text into the closure plan"
- b) Accept. At the end of the first two items, the following will be added: "Should information from waste group-specific work plans be outdated or require modification, new text will be added to the closure plan."
- c) Accept. Item 3 will be modified to read: "Include Closure Performance Standards"
- d) Deferral to remedial design will not be included. The second sentence in Item 4 will be deleted and the following added: "Sufficient detail will be included in these discussions to comply with closure plan content requirements. Should remedial design activities require changes to this information that constitute a Class 1, 2, or 3 change to the Permit, a Permit modification will be requested."
- e) See d) for response.
- f) Accept as stated.
- g) Accept as stated.

30. Page 2-15, 4<sup>th</sup> closure plan line item: Add specific detail of closure activities/requirements that may or have been deferred to remedial design.

**RESPONSE:** See response to 29(d).

31. Page 2-16, Section 2.4.3, line 4: Delete the word "typically." Modify the text to reflect that the TSD closure schedule is required to be submitted as part of the closure plan or the TSD unit must complete closure within the 180 days.

**RESPONSE:** Accept. The 4<sup>th</sup> sentence of the 2<sup>nd</sup> paragraph of that section will be modified to read as follows: "The TSD closure schedule must be submitted as part of the closure plan or the TSD unit must complete closure within 180 days."

32. Page 2-17, 1<sup>st</sup> paragraph, line 5: Delete the phrase "decision is made" and replace with "...the permit is issued."

**RESPONSE:** Accept. The sentence will be modified to read as follows: "Approved modification requests are incorporated into the Hanford Facility RCRA Permit and become effective 30 days after the permit modification is issued."

33. Page 2-18, 3<sup>rd</sup> paragraph, lines 8 through 12: Modify the text to distinguish that ARAR waivers do not apply to TSD units in the group.

**RESPONSE:** Accept. The parenthetical language will be modified as follows: "(and ARAR waivers for any non-TSD sites in the group)."

34. Page 2-19, Section 2.3.3, 2<sup>nd</sup> bullet: Modify the last sentence to describe that TSD units already clean closed will not require additional characterization for the dangerous wastes managed; however, they will require characterization for radionuclides and hazardous constituents that were not managed by the TSD units. Describe that in some cases, samples taken for characterization of the TSD units or verification of the clean closure, were analyzed for radionuclides and other parameters to provide information to the CERCLA program. These data are available in the Administrative Record or in summary form in data evaluation reports that were prepared to present data for the TSD unit closure.

**RESPONSE: Note: the bullet referred to now appears on page 2-8 in Section 2.4 as the 1<sup>st</sup> bullet.** Accept. The last sentence of the bullet will be modified to read: "TSD units already closed will not require additional characterization for the dangerous waste managed; however, they will require characterization for radionuclides, hazardous substances, and dangerous waste constituents that were not managed by the TSD unit. In some cases, samples taken for characterization of the TSD units or verification of the clean closure were analyzed for radionuclides and other parameters to provide information for the CERCLA program. These data are available in the Administrative Record or in summary form in data evaluation reports that were prepared to present data for the TSD unit closure."

35. Page 2-20, 3<sup>rd</sup> paragraph: RPP sites will also require verification SAP and this needs to be included.

**RESPONSE:** Accept. The sentence "It will also satisfy the TSD closure plan requirement for a verification SAP" will be removed to de-emphasize any distinction between TSD, RPP, or CPP SAP requirements.

36. Page 2-20, Section 2.4.5, 3<sup>rd</sup> paragraph: Modify the text to include that the post-closure plan will need to be reviewed in light of any new information to ensure that it is still protective of the TSD unit and groundwater. If any modification to the post-closure plan is necessary, a permit modification needs to be completed prior to implementation.

**RESPONSE:** Accept. The following sentences will be added after the 1<sup>st</sup> sentence of the paragraph as follows: "The post-closure plan will be reviewed in light of any new information generated during remediation to ensure that it is still protective of the TSD unit and groundwater."

If any modification of the post-closure plan is necessary, a permit modification will be completed prior to implementation.”

**RESPONSE TO COMMENT SUBMITTED DURING 10/14/98 MEETING WITH J. DONNELLY, ECOLOGY:** Page 2-23, Section 2.5, first sentence. The words “in accordance with CERCLA and RCRA” will be removed from text.

37. Page 2-24, Section 2.5.1, last sentence: Delete the sentence or clarify the intent.

**RESPONSE:** Accept. The last sentence will be modified to read: “If a contingent ROD is prepared that clearly defines criteria for removing a waste site from the original waste group, modification of the contingent ROD may not be required. If the group to which the site would be moved already has a ROD, modification of that ROD or development of a new ROD may be required.”

38. Page 2-25, Section 2.5.3, 2<sup>nd</sup> paragraph: Confirmation sampling of sites for plug-in must be approved by the lead agency in the ROD and remedial design. This clarification needs to be added.

**RESPONSE:** Accept. The following sentence will be added after the sentence that ends “...to determine whether it fits the criteria for plug-in.”: “Confirmation sampling of sites for plug-in must be approved by the lead agency in the ROD and remedial design.”

39. Page 2-26, Section 2.5.4: Ecology does not support the focus package concept, although the detail contained in a focus package would be the information used for the Explanation of Significant Difference (ESD) under the CERCLA process. Either delete the section or modify the paragraph to reflect the CERCLA requirements for moving a waste site from one group to another.

**RESPONSE:** Accept. Language will be added to the end of the second paragraph as follows: “Focus packages will not be used exclusively to make decisions regarding cleanup actions at 200 Area waste groups. The information may be used to support the development of more streamlined documentation required under the CERCLA process, such as feasibility studies, proposed plans, RODs, or modifications to RODs, such as ESDs.”

40. Section 2.5.6: This entire section is confusing and the benefit is unclear. Delete the paragraph or modify.

**RESPONSE:** Accept. The purpose of the LFI/FFS/Interim Action ROD is more a tool of practicality rather than a streamlining tool since eventually all “non-focused” information will require decisionmaking through the CERCLA process. Limiting a range of alternatives is somewhat of a streamlining tool, although historically it has not streamlined decisionmaking to any great degree at Hanford. Therefore, this section would be better discussed in Section 2.4.2, subsection “CERCLA,” to reflect its benefits under the FS process. Section 2.5.6 will be deleted and the text of Section 2.5.6 will be moved into the subsection entitled “CERCLA” in Section

2.4.2. The last sentence in the first paragraph of this current section will become the first sentence of this moved text, which will now appear as a new second paragraph.

41. Page 2-33, Table 2-1, attachments section: A new attachment (Number 40) has been added into the Hanford Federal Facility RCRA Permit. Modify the text to reflect there are 40 attachments, and attachment 40 relates to acceptable laboratory methods.

**RESPONSE:** Accept. The 1st sentence will be modified to read: "There are currently 40 attachments..." The 3<sup>rd</sup> sentence will be modified to read: "Other pertinent attachments include such things as the Facility Contingency Plan, Purgewater Management Plan, the Hanford Legal Description, and acceptable laboratory methods."

42. Page 3-10 (top of page) and 3-11 (top of page), conflicting sentences: page 3-10 states that liquid waste with small quantities of radionuclides were discharged to cribs and reverse wells, while page 3-11 states the opposite by saying "generally higher concentrations of radionuclides...was disposed to...cribs, reverse wells." Modify the sentences to indicate that page 3-10 has the correct statement.

**RESPONSE:** Accept. Replace the first sentence beginning on p. 3-11 with: "Due to the small quantities of radionuclides, this waste was disposed to underground sites such as cribs, reverse wells, and trenches."

43. Page 3-11, bullets: Terms are used such as lower bounds, cutoff quantities, and minimum cutoff of inventory. Define the terms and explain the effect on characterization.

**RESPONSE:** Accept. The sentences using these terms have been modified to avoid them while yet clarifying their meaning as shown in the following:

Bullet 2 (Uranium-Rich...): Replace the last sentence with: "The uranium inventory may range up to 38,500 kg, but a minimum inventory of 150 kg qualified a site for inclusion in this group."

Bullet 3 (Organic-Rich...): Replace the last sentence with: "A minimum organic inventory of 2,900 kg qualified a site for inclusion in this group."

Bullet 4 (General Process...): Replace the sentence with: "This group includes the remaining sites that received process condensates and wastes with lesser quantities of chemical and radiological constituents than the minimum values used for inclusion of sites in other groups in this category."

Bullet 6 (Plutonium Process...): Replace the last sentence with: "A minimum plutonium inventory was not used to qualify sites for inclusion in this group."

44. Page 3-16, last paragraph, last sentence: Modify the sentence to state that Ecology, USDOE, and EPA will annually review group prioritization. Also, any modification requires approval of the lead regulatory agency.

**RESPONSE:** Accept. The last sentence is modified as follows: "On an annual basis the DOE, EPA, and Ecology will review the waste group prioritization process to consider the additional knowledge gained, and groundwater and vadose zone integration needs across the site. Any changes in group priority requires approval of the lead regulatory agency."

45. Page 3-20 and 3-21, bullets: Include the caliche layer within the existing bullets.

**RESPONSE:** Accept. Modify Bullet 5, Lithology as: "Variations of the soil stratigraphy with depth, such as the presence of low-permeability layers (e.g., the Plio-Pleistocene "caliche" unit in 200 West Area), may increase the length of the flowpath for contaminant migration and thereby slow the rate of descent."

46. Page 4-4 through 4-20, Table 4-1: Delete the column Applicable, Relevant and Appropriate, or To Be Considered. The determination of whether a regulation is Applicable or Relevant and Appropriate occurs during the Proposed Plan.

**RESPONSE:** Accept. As concurred with during 10/14/98 meeting with Ecology, contents in this column will not specify whether a requirement is "applicable" or "relevant and appropriate." Instead, this column will only specify whether a requirement is an ARAR or a TBC.

47. Page 5-1, Section 5.1, 1<sup>st</sup> sentence: Characterization needs are not based on land use. See comment number 7.

**RESPONSE:** Accept. The first sentence will be restructured as follows: "Anticipated future land use helps define a conceptual exposure model and associated exposure scenario. These may in turn influence characterization needs and remedial action decisions."

48. Page 5-1, Section 5.1, 3<sup>rd</sup> sentence: Land use HAS NOT been designated for the 200 Areas by the Tri-Parties. Delete this sentence. It is fair to say that opinions have been expressed that industrial land use is likely in the exclusion zone and outside the exclusion it is expected that the rural residential scenario will likely be the land use. This has also been discussed in the Hanford ER committee.

**RESPONSE:** Accept. The sentence will be deleted and the second paragraph moved up to join with the first. In the current second paragraph just before the sentence beginning with "MTCA" the following sentences will be added: "EPA and Ecology believe that there are certain portions of the 200 Areas that may be potentially considered as a rural residential scenario. A rural residential scenario is defined as one in which an individual resident consumes crops raised in a backyard garden, consumes animal products from locally-raised livestock or game animals (including fish), lives in a residence with a basement 3.7 m (12 ft) below grade, and obtains water for drinking and irrigation purposes from an uncontaminated source (the Columbia River).

49. Page 5-2, 1<sup>st</sup> paragraph, 1<sup>st</sup> sentence: Delete the state agencies reference or clarify which state agencies. The Department of Ecology has not proposed future land use alternatives for Hanford, and it should be stated as such.

**RESPONSE:** Accept. The first sentence will be re-written as follows: "Alternatives for potential future use of Hanford Site lands were developed through a cooperative effort with the DOE, and Natural Resource Damage Assessment stakeholders (the Confederated Tribes of the Umatilla Indian Reservation, the Nez Perce Tribe Department of Environmental Restoration and Waste Management, the U.S. Department of Interior, the Washington Department of Fish and Wildlife, the City of Richland, and Benton, Franklin, and Grant counties). These alternatives are included in the *Hanford Remedial Action Environmental Impact Statement and Comprehensive Land Use Plan* (DOE 1996a) and are the basis for the DOE proposal for land use at this time."

50. Page 5-2, 3<sup>rd</sup> paragraph, last sentence: This statement is contrary to Ecology's goal of using a rural residential scenario for waste site outside the exclusion zone. Delete the sentence.

**RESPONSE:** Accept in Part. Rather than delete the sentence the following will be added to the end of the sentence: "... under the DOE-preferred land-use alternative."

51. Page 5-4, 3<sup>rd</sup> bullet: Modify this preliminary remedial action objective (RAO) to state "Prevent or mitigate the migration of contaminants to groundwater that exceed ARAR's." Since this plan will not address groundwater cleanup actions, stating that our RAO's will also protect against groundwater from migrating to the Columbia River not to exceed ARAR's or a risk range of 10<sup>-4</sup> to 10<sup>-6</sup> is inappropriate.

**RESPONSE:** Accept. Revise the lead-in to the bullets to read: "The preliminary RAOs for the cleanup of the 200 Areas soil waste sites addressed in this Plan are:" Add at the end of the second bullet the following: "...and insure the protection of the Columbia River." Modify the third bullet to read: "Prevent or mitigate the migration of contaminants to groundwater so that contaminants do not reach levels in groundwater that exceed ARARs or a risk of 10<sup>-4</sup> to 10<sup>-6</sup>."

52. Page 5-5, 2<sup>nd</sup> paragraph: The purpose of this paragraph is unclear. These types of elements would be discussed as part of the future Proposed Plans. Delete the paragraph. Furthermore, the 200-CW-3 Operable Unit is currently proposed to meet the 15 mrem/year standard as stated in the Proposed Plan for the 100 Area Remaining Sites.

**RESPONSE:** Accept in Part. The intent of this paragraph is to retain the opportunity to have further discussions on a cleanup standard that may be appropriate for inside the 200 Areas' land-use boundary. The 15 mrem/yr cleanup standard for 200-CW-3 was agreed upon to facilitate inclusion of this OU with the 100 Area, but does not set a precedent for the rest of the 200 Areas. The entire paragraph will be rewritten as shown below.

The above PRGs are initial goals based on standards derived from existing ARARs. In subsequent FSs for each of the waste site groups, PRGs will be reevaluated to reflect ARARs

that are current when the FSs are written. Future characterization data may indicate that the initial PRGs are inappropriate. For example, the Tri-Parties-supported 15 mrem/yr standard, which has been applied in other areas of the Hanford Site, may not be practicable or achievable within the confines of the 200 Areas' land-use boundary [DOE's industrial (exclusive) preferred land use option] through the reduction of contaminant concentrations (i.e., waste removal), or the elimination of exposure pathways (e.g., surface barriers). As site- and group-specific data becomes available, these initial PRGs will be evaluated in the FSs and will ultimately be approved by the lead regulatory agency in a ROD.

53. Page 5-5, 4<sup>th</sup> paragraph, 1<sup>st</sup> sentence: The reference to the Columbia River is unclear. Delete the words (and the Columbia River) and see comment number 51.

**RESPONSE:** Accept in Part. See the response to #51. To be responsive to the concerns of stakeholders we need to have soil cleanup standards that are protective of the Columbia River as well as groundwater. The parentheses will be removed.

54. Page 5-5, 4<sup>th</sup> paragraph: **The Implementation Plan DOES NOT SET THE POINT OF COMPLIANCE for any waste site or waste group.** Examples of points of compliance used on Hanford to date would be appropriate for this section. Modify the discussion to reflect this point or delete the points of compliance from the section. The lead regulatory agency establishes the points of compliance in the ROD, remedial design, and verification SAP's.

**RESPONSE:** Accept, will clarify. The third sentence in the preceding paragraph will be rewritten as follows: "The following are examples of points of compliance and restoration time frames that have been used for other Hanford Site projects."

55. Page 5-8, Section 5.5.1.2, 3<sup>rd</sup> paragraph: This section needs to be modified that achieving a MTCA risk range applies to non-radioactive contaminants, and Ecology is using the EPA 15 mrem/year above background as the radionuclide cleanup standard.

**RESPONSE:** Accept. Add the following after the word "verification" in the first sentence: "for non-radioactive contaminants"

56. Page 5-9, last paragraph: This paragraph should be moved to Section 1.3 and/or Section 7.3.

**RESPONSE:** Accept in part. The following will be added after the last sentence in this bullet: "Coordination and integration of this activity through the Groundwater/Vadose Zone Integration Project is discussed further in Section 7.3.1."

57. Page 6-1, 4<sup>th</sup> bullet: A post-closure monitoring plan for closure of a RCRA TSD is misleading. A post-closure plan is a separate plan included as part of a complete closure plan. Modify for clarification. Also include this applies for RPP sites.

**RESPONSE:** Accept. The 4<sup>th</sup> bullet will be revised as follows: "Data collection defined as part of the post-closure monitoring section in a closure plan for a RCRA TSD unit or RPP site."

58. Page 6-3, Section 6.2, 1<sup>st</sup> bullet: Add TSD's to the bullet.

**RESPONSE:** Accept as stated.

59. Page 6-3, Section 6.2.1, Number 1 line item: Add TSD's to the line item.

**RESPONSE:** Accept as stated.

60. Page 6-4, 3<sup>rd</sup> paragraph, lines 4 & 5: Delete the last sentence and modify to state that in the 200 Area, RCRA TSD units that were clean closed generally were not evaluated for radionuclides, because USDOE committed that radionuclides would be addressed by CERCLA. Additionally, hazardous substances/constituents that were attributed to the operable unit rather than to waste management conducted by the TSD unit were also left in place for CERCLA.

**RESPONSE:** Accept. The sentence will be replaced with the following: "In the 200 Areas, RCRA TSD units that were clean closed generally were not evaluated for radionuclides, because radionuclides are to be addressed by the CERCLA program. Additionally, hazardous substances and dangerous waste constituents that were not managed by the TSD unit will also be characterized."

61. Page 6-6 and 6-7, Section 6.2.4: Modify the text to include a discussion of verification sampling for RCRA closure.

**RESPONSE:** Accept. The following will be added after the second sentence. "RCRA closure actions will require verification sampling to determine to what level removal and decontamination of dangerous waste or waste residues at a site has been achieved pursuant to WAC 173-303-610 (2)(b). Verification sampling will form the basis for the closure option that must be implemented at the site, i.e., clean closure, modified closure, or landfill closure as described in Section 2.2.1."

62. Page 7-1, Section 7.1: This section must be modified to state that the Detailed Work Plan (DWP) is not a driver, but only a tool. The TPA milestones are the driver and the DWP must reflect the TPA schedule and commitment.

**RESPONSE:** Accept. As the fourth sentence the following will be added: "The DWP is based on milestones defined in the TPA and must reflect the TPA schedule and commitments made therein."

63. Page 7-5, Section 7.2.6: Modify this section stating that there are other quality assurance documents and guidelines that can be consulted and referred to. This would capture the fact that Ecology has quality assurance requirements that also must be met.

**RESPONSE:** Accept. As the third sentence the following will be added: "In addition, there are other QA documents and guidelines that can be consulted and referred to that outline requirements defined by Ecology that must also be considered."

64. Page 7-9, Section 7.4, 1<sup>st</sup> paragraph, 1<sup>st</sup> sentence: Delete the word "conceptual."

**RESPONSE:** Accept as stated.

65. Page 7-9, Section 7.4, 4<sup>th</sup> paragraph: a) Modify the last two sentences to indicate that reducing the number of workplans, consolidating Proposed Plans, and consolidating ROD's requires regulator approval. b) Also delete the focus package reference, see comment number 21 (now #39).

**RESPONSE:** Accept. a) The following will be added as the last sentence: "Any modifications that occur, such as the reduction of the number of work plans or consolidation of documents, requires regulator approval." b) No change required per the resolution of comment #39.

66. Page 7-13, Figure 7-3: Add a footnote to indicate the TPA milestone symbol.

**RESPONSE:** Accept as stated.

67. Appendix A is not sufficient as a QA Project Plan. At the most, it might be entitled as a QA program plan. The idea was to provide a complete, adequate plan as an appendix to the Implementation Plan so that the Work Plans would address the very specific information. I recommend deleting this text and mark App. A as "Reserved" for a QA Project Plan that will be prepared and reviewed during the response period.

**RESPONSE:** Accept in Part. A meeting was held on October 20 with Ecology to discuss the QAPjP. A summary table of comments that had been received, in addition to proposed actions that would be taken, was discussed (See Attachment 1). As a result of the meeting there were some clarifications to the proposed actions that have since been incorporated into Attachment 1. The QAPjP will be revised to incorporate the "Proposed Actions" in Attachment 1. Incorporation of these comments will constitute resolution of this comment. Any further comments will be incorporated as part of the public review cycle.

68. Appendix D: This appendix is being presented as a Phase I and II Feasibility Study (FS). This section must be qualified because an FS is typically performed in parallel with a Phase I and II Remedial Investigation (RI). Add text to describe the intent of this section to minimize stakeholders from viewing this as narrowing remedial decisions.

**RESPONSE:** Accept. As the second sentence in the first paragraph the following will be added: "This appendix serves as an initial screening level effort to identify potentially viable remedial alternatives and is not intended to constrain future remedial action decisions."

## GRAMMAR OR MINOR EDIT COMMENTS

**Response:** All were accepted as stated.

1. Page 1-7, last paragraph, 2<sup>nd</sup> sentence: Change it's to its.
2. Acronym list: PCB – This should be the singular, polychlorinated biphenyl. *The document uses "PCBs" for the plural.* Add QAPP – Define it as Quality Assurance Program Plan. *The acronym for quality assurance project plan was changed to QAPP, which is inappropriate; it should be QAPjP. Both of these acronyms are in common use with the definitions stated in these comments.* Additionally, DOE and RL are used throughout the document and modify to be consistent.
3. Page 1-2, Section 1.1, 1<sup>st</sup> paragraph, line 2: Add the word 'analysis' after "sampling."
4. Page 2-4, 2<sup>nd</sup> paragraph, lines 5/6: Delete the work "either" and add 'and/.'
5. Page 2-4, 2<sup>nd</sup> paragraph, line 14: Add the phrase 'as of fall, 1998' to the sentence.
6. Page 6-1, 1<sup>st</sup> bullet, line 1: Delete the word "either" and revise the sentence as necessary for clarity.
7. Page 6-5, Section 6.2.2, bullet, line 4/5: Replace the word "facility" with the word 'site' or 'structure.'

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# **ATTACHMENT #3**

## Final Responses 10/20/98

**EPA Comments on Draft A of the 200 Area Implementation Plan**  
(received as a faxed letter dated September 18, 1998)General

1. It appears that Cliff Clark's concerns on the use of the phrase "hazardous constituents" has been resolved. The phrase is pertinent to the 23 waste site groups and it's cited in statutory language for RARA corrective action under 3004(u) and 3008(h).

**Response:** Accept.

Specific

## 2. Section 2.5.2 Contingent Remedy and 2.5.3 Plug-In Approach

EPA does not disagree with having the option of using the contingent remedy or plug-in approach. However, EPA needs to keep the option of whether these approaches would require a new ROD, a ROD amendment, and an Explanation of Significant Difference. EPA doesn't want the implementation plan's language to be perceived as limiting EPA's ROD options. Therefore, in each of the above two sections there should be a standard sentence qualifying that "use of these approaches may require a new ROD, amended ROD, and/or an Explanation of Significant Difference".

**Response:** Accept. At the end of each section, the following sentences will be added: "The application of the [Contingent ROD approach][Plug-in Approach] to a waste group will be determined by the regulating agencies on a case-by-case basis for the waste group to which it will be applied. The determination of whether its use will require the development of a new ROD, amended ROD, and/or an Explanation of Significant Difference for implementation or whether it can be applied without a new or modified ROD will also be made by the regulating agencies."

## 3. Section 5.5.1 Risk Assessment Approach, First paragraph, last sentence

"a confirmatory sampling will be performed" – please add immediately following this phrase "as part of the remedial action".

**Response:** Accept as stated.

## 4. Section 5.5.3 Sequence of Risk Assessment Activities, Second Bullet

Is there a typo in "FY01"? If not, should this be the first bullet. The current first bullet has FY03 as a date.

**Response:** Accept. The last sentence in the first bullet will be deleted, as will the phrase "in the late FY01 timeframe" in the last sentence of the second bullet.