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United States
Environmental Protection
Agency

Region 10
Hanford Project Office
212 Swift Boulevard, Suite 5
Richland WA 99352

9200558



February 3, 1992



Eric D. Goller
Operable Unit Manager
U.S. Department of Energy
P.O. Box 550, A5-19
Richland, Washington 99352

Re: Remedial Investigation/Feasibility Study Work Plan for the
100-KR-4 Operable Unit, Hanford Site, Richland, Washington,
Draft D, dated September, 1991.

Dear Mr. Goller:

Enclosed are the comments from the U.S. Environmental
Protection Agency (EPA) on the above referenced document.

The work plan and has been revised significantly to reflect
the rescoping effort. In addition to the enclosed technical
comments, EPA has concerns with the 100-KR-4 schedule. In
particular, we believe that well drilling activities should begin
upon approval of this work plan. The anticipated approval date
for this work plan is May 1992. Given this, the remaining
schedule should be adjusted to reflect the accelerated schedule
for well installation.

EPA requires three interim milestones be added to milestone
M-15-00. The first interim milestone for the 100-KR-4 Operable
Unit will require submittal of all validated data from sampling
activities associated with groundwater and vadose zone
investigations to us by February 15, 1993.

The second interim milestone will require the U.S.
Department of Energy (DOE) to submit a draft 100-KR-4 Remedial
Investigation report to EPA and Ecology by November 15, 1993.

The third interim milestone will require DOE to submit a
draft 100-KR-4 Feasibility Study Report and Interim Remedial
Measures Plan to EPA and Ecology by July 15, 1994.

A review of the schedule shows that there is no commitment
to any remedial activity beyond the Interim Record of Decision
(ROD). The schedule must be changed to reflect that additional
remediation may need to occur to reach a final ROD. In addition,
EPA does not agree that the proposed plan produced as a result of
the 100-KR-4 RI/FS Work Plan will necessarily result in an
interim ROD. This plan may address clean up of the entire
operable unit and therefore result in a final ROD.

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February 3, 1992

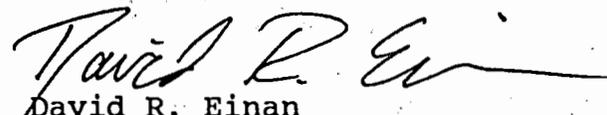
The schedule for the Interim Record of Decision is incorrect. The EPA is responsible for writing the Record of Decision based on the proposed plan submitted by DOE. The schedule must be changed to correct this error.

Another major area of concern focuses on the lack of detail in the Quality Assurance Project Plan (QAPjP) and field sampling activities listed in Section 5. These sections must be strengthened to support implementation of field sampling activities. Discussions held during comment resolution on the work plans for 100-BC-1 and 100-BC-5 resolved the issues concerning the QAPjP. It was agreed to at that time that the QAPjP for all future work plans would be revised based on those discussions.

The final concern pertains to the Data Management Plan. As you are aware, the EPA and Ecology are concerned with the current site-wide Data Management Plan and its ability to track and make available the large volumes of data that will be generated during the life of these projects. Since the Data Management Plan is applicable to all operable unit work plans it is suggested that the Site Wide Data Management Plan be addressed as part of appendix F to the Hanford Federal Facility Agreement and Consent Order. By doing this it will allow for more time to address the Data Management Plan issue while not impacting the approval of this work plan.

The comments enclosed have previously been transmitted to you electronically via cc:mail. If you have any questions or concerns, feel free to contact me at (509) 376-3883.

Sincerely,


David R. Einan
Unit Manager

Enclosure

cc: C. Cline, Ecology
D. Lacombe, PRC
W. Staubitz, USGS
D. Teel, Ecology
T. Veneziano, WHC
Administrative Record (100-KR-4 Operable Unit)

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TECHNICAL REVIEW OF RI/FS WORK PLAN (DRAFT D)
FOR HANFORD SITE 100-KR-4 OPERABLE UNIT

1. Deficiency/Recommendation: Section 2.0, page WP2-1, first paragraph

The text incorrectly refers to the 100-KR-1 Operable Unit instead of the 100-KR-4 Operable Unit. This error should be corrected.

2. Deficiency/Recommendation: Section 2.1.4, page WP2-3, first paragraph

The text incorrectly refers to the 100-KR-1 Operable Unit instead of the 100-KR-4 operable unit. This error should be corrected.

3. Deficiency: Section 2.1.4.1, page WP2-5, last paragraph

Radioiodine monitoring devices are described as housed in the 1908-K building. However, Figure 2-2 shows building 1904-K housing radioiodine monitoring equipment. Table 2-2 lists both facilities housing radioiodine monitoring equipment.

Recommendation:

The discrepancies between the text, Figure 2-2, and Table 2-2 should be resolved.

4. Deficiency/Recommendation: Section 2.2.1, page WP2-9, first paragraph

The text incorrectly refers to the 100-KR-1 Operable Unit instead of the 100-KR-4 Operable Unit. This error should be corrected.

5. Deficiency/Recommendation: Section 2.2.6, page WP2-21

This section lists a number of plant and animal species in and around the 100-K Area. A complete list of flora and fauna (with their scientific names) should be included in the document. A list of non-game aquatic species, which are an important part of the food chain, should also be provided.

6. Deficiency: Figure 2-6

Ringold facies are shown in the geologic log of well DH-19 as fully darkened units, yet the nature of these units are not described in the figure legend.

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Recommendation:

Include the description of the darkened units in the legend of Figure 2-6.

7. **Deficiency:** Figure 2-7

The designation of Ringold Formation subunits used in Figure 2-7 does not agree with the designation used in Figure 2-13 and in Section 2.2.2.2.1 (WP 2-12).

Recommendation:

Either use the same geologic nomenclature in all figures or insert a key for conversion of the nomenclature in one of the figures.

8. **Deficiency/Recommendation:** Section 3.1.1.1, page WP3-2, first paragraph

A discussion of the cooling water circuit appears in Section 2.1.4.1, not in Section 2.1.4.1.1 as stated in the text. This error should be corrected.

9. **Deficiency/Recommendation:** Section 3.1.1.1.3, page WP3-4

The dimensions given for the 116-K-2 trench differ from those given in the rescoped work plan for the 100-KR-1 Operable Unit for the 116-K-2 trench. The dimensions should be verified and corrected where appropriate.

10. **Deficiency/Recommendation:** Section 3.1.1.2.11, page WP3-7

The text states that the thimble caves are not considered to pose a substantial threat to human health or the environment. The rationale for that conclusion should be provided.

11. **Deficiency:** Section 3.1.1.2.20, page WP3-8

This section refers to fish development experiments in reactor effluent waters conducted by the Pacific Northwest Laboratory. However, there are no details or results of these studies provided or referenced.

Recommendation:

The document should include some basic information on the methods used and results achieved in these studies.

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12. Deficiency/Recommendation: Section 3.1.3.2, page WP3-12

The first paragraph indicates that concentrations of select groundwater contaminants are summarized in Table 3-19. However, Table 3-19 presents groundwater temperatures instead of contaminant concentrations. Table 3-20 lists contaminant concentrations. The text should be corrected accordingly.

13. Deficiency: Section 3.1.3.2.1, WP 3-13

Figure 3-7 does not support the statement that "The temperature in the upgradient well 699-66-64 has apparently increased..." from about 14.5-15.5 °C in 1986 to about 17-17.5 °C in 1986. According to Figure 3-7, the water temperature in well 699-66-64 was about 18.5 °C in 1977 and fell below 17 °C only once and that was a 14.5 °C measurement in 1988.

Recommendation:

Review the water temperature data for well 699-66-64 and correct the text or Figure 3-7 as appropriate.

14. Deficiency/Recommendation: Section 3.1.3.2.1, page WP3-14

The unit for nitrate concentrations is incorrectly reported as micrograms/liter (μ /L). The unit should be in milligrams/liter (mg/L).

15. Deficiency: Section 3.3.2.2, page WP3-29

This section is incomplete and inappropriate in regard to the criteria identified by EPA (1989a) for toxicity as a contaminant characteristic. Hazardous substance designation pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) (as implemented in 40 CFR 302.4) is based on frequency of detection as well as toxicity.

Recommendation:

This section should discuss the method of selection of the most toxic contaminants. EPA (1991) provides an example of a risk-based screening method.

16. Deficiency: Section 3.3.2.5, page WP3-30

This section discusses bioconcentration factors for certain 100-KR-4 contaminants, and an informational list is provided in Table 3-38. However, it is not clear why these specific bioconcentration factors are presented. That is, it is not clear if these contaminants are of

special concern with respect to their ability to bioaccumulate or bioconcentrate.

Recommendation:

The rationale for providing the bioconcentration factors for the set of contaminants listed in Table 3-38 should be given.

17. **Deficiency:** Section 3.3.3, page WP3-31

This section refers to the list of general contamination screening parameters applicable to the 100-KR-4 Operable Unit (Table 3-37, page WP3T-37). However, there is no rationale given for the selection of these parameters or discussion of how they will be used for screening purposes.

Recommendation:

This section should explain the need for these screening parameters and the criteria for their selection, such as the effects that physico-chemical properties might have on the behavior of the contaminants in the affected media. In addition, the section should explain how these parameters will be used.

18. **Deficiency:** Section 3.3.3, page WP3-31

The fourth sentence discusses the fact that radioactive daughter products must be considered when evaluating human and environmental impacts of radionuclides but does not discuss how daughter products will be addressed.

Recommendation:

The work plan should discuss how impacts from daughter products will be considered during the investigation process.

19. **Deficiency/Recommendation:** Section 3.3.4, page WP3-31

The conclusions in this section should be supported by quantitative information such as comparison with ARARs or risk-based screening values. If such information is not available and a comparison cannot be made, then a statement to that effect should be included.

20. **Deficiency:** Section 3.4.3, pages WP3-35 through 3-37

The text does not clearly identify the alternative treatment technologies for interim response actions for extracted groundwater and excavated aquifer soil.

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Recommendation:

The process options for treatment of extracted groundwater should be clearly identified on the basis of the contaminants of interest listed in Table 3-25. Also, a brief discussion should be included explaining the selection of each process option in terms of contaminant removal.

In a similar fashion, the process options for treatment of aquifer soils should be clearly identified and presented under a separate title, Alternative Treatment Technologies for Aquifer Soils. The technology screening should be based on the contaminants of interest in the aquifer soil.

21. **Deficiency:** Section 3.4.3, page WP3-36

The types of chemicals planned for use as lixiviants and fixatives are not specified.

Recommendation:

In order to evaluate the effects of lixiviants and fixatives in the aquifer, the types of chemicals planned for use in the leaching and fixation process should be specified.

22. **Deficiency/Recommendation:** Figure 3-7, page WP3F-7

The data points for well 699-72-73 do not match the data listed in Table 3-19. The discrepancy between Figure 3-7 and Table 3-19 should be corrected.

23. **Deficiency/Recommendation:** Figure 3-14, page WP3F-14

The concentrations for the three wells in this figure should be listed in Table 3-21.

24. **Deficiency/Recommendation:** Table 3-17, page WP3T-17

The table refers to Figure 3-6 for sample locations. Figure 3-6 represents groundwater temperature versus time data, not sample locations. The table should refer to the appropriate figure.

25. **Deficiency:** Figure 3-18, page WP3F-18

There are several deficiencies in the contaminant exposure pathway model, as follows:

- y The figure legend shows a hexagonal symbol for primary contaminant sources and known contaminated media; however, primary sources (process effluents) and contaminated media (soil) are identified with a circle in the figure
- y The biota receptor component does not differentiate between terrestrial, riparian, and aquatic biota and fails to establish ingestion relationships among them
- y The arrow between biota and ingestion is pointed both ways

Recommendation:

The symbols given in the legend should be used for identification of all the appropriate components in the figure. Major ingestion relationships among the three biota components should be addressed. The arrow between biota and ingestion should point to ingestion only.

26. **Deficiency:** Table 3-37, page WP3T-37

This table presents a preliminary list of contaminants of interest for the 100-KR-4 Operable Unit. It does not list all of the chemicals that are identified as waste constituents in Table 3-35, page WP3T-35. There are no details given to describe the elimination process used to arrive at the preliminary list of contaminants of interest.

Recommendation:

The document should provide detailed information on the process by which several of the substances shown in Table 3-35 were eliminated from the preliminary list of contaminants of interest.

27. **Deficiency/Recommendation:** Section 4.1, page WP4-1

This section refers to threshold concentrations without discussing their selection, calculation, or threshold concentration values chosen. The method for determining threshold concentrations as well as their values should be provided.

28. **Deficiency:** Section 4.1.2.3, page WP4-7, first bullet

The nature and vertical extent of contamination are identified as the data needed for developing and evaluating interim remedial measures (IRMs) and developing the IRM record of decision. Until an IRM is selected and agreed to by all parties involved, the lateral or areal extent of contamination should also be included as a data need.

Recommendation:

The word "vertical" should be removed from the first bullet.

29. **Deficiency:** Section 4.1.2.3, page WP4-7

This section indicates that treatability study information relevant to the limited range of interim actions may be considered for source operable units within the 100-KR-4 and the 100 aggregate area feasibility study. The text does not specify clearly whether treatability study information will be considered for groundwater and aquifer soils within the source areas for the 100-KR-4 and the 100 aggregate area feasibility study.

Recommendation:

This section should clearly specify that treatability study information will be gathered for remediation of contaminated aquifer soils and groundwater applicable to the limited range of interim actions.

30. **Comment:** Section 4.2.2, p. WP 4-12

The reference to the USGS in regard to the plan for analyzing selected physical properties of soils should be removed. The plan was submitted by EPA.

31. **Comment:** Section 4.2.2, p. WP 4-12

It is stated that the soil sampling strategy will result in a biased or censored data set because cobbly soils cannot be effectively sampled by core barrel methods. Since the soil sampling plan was written, we have experienced significant success in the 300-FF-5 operable unit in obtaining representative samples using a backhoe. The possible use of a backhoe for obtaining usable samples for physical property analysis should be investigated.

32. **Deficiency/Recommendation:** Table 4-1, page WP4T-1c

The list of ecological data needs should include the need for biocontamination background data. Existing data on contamination in aquatic biota sampled upstream (background) and downstream of the 100-K Area should be compared only when data on species with very similar feeding habits exposure times are provided. Also, the list of data needs should include sensitive habitats in addition to critical habitats.

33. Deficiency/Recommendation: Section 5.1.5.2, page WP5-7

Soil samples collected during well installation is discussed in the second paragraph. Figure 5-1, which shows the locations of those wells, should be referenced.

34. Comment: Section 5.1.5.2, p. WP 5-7

See comment on Section 4.2.2 regarding reference to USGS.

35. Comment: Section 5.1.5.2, p. WP 5-7

See comment on Section 4.2.2 regarding use of backhoe for sampling.

36. Deficiency: Section 5.1.5.4, p. WP 5-8

It is stated that gross-gamma logging will be conducted in "selected wells."

Recommendation:

Gross-gamma logging should be conducted in all new wells. Where gross-gamma logging indicates significant contamination, spectral-gamma logging should be conducted.

37. Comment: Section 5.1.6.1, WP 5-11

In reviewing the suitability of existing wells for inclusion in the ground-water monitoring network, it should be noted that the existence of a surface pad and an annular seal will be investigated and that appropriate surface pads and annular seals will be installed if necessary.

38. Comment: Section 5.1.6.2.1, p. WP 5-12

In the third paragraph of the section it is stated that the "deep well" will be completed near the bottom of what is nominally considered to be the unconfined aquifer system. However, in Section 5.1.6.2.2 (p. WP 5-13) it is stated that the "deep well" will be completed in the (upper) confined aquifer. The bottom of the unconfined aquifer (see Figure 2-13, p. WP 2F-13) is at the top of the "Upper Aquitard", well above the "Upper Confined Aquifer." The deep well should be completed in the upper confined aquifer.

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39. Deficiency: Section 5.1.6.2.1, p. WP 5-12

In the second paragraph it is noted that "stratigraphy is suspected of having an influence on the ground-water mound that existed during the operation of the 116-K-2 trench." However, we find no discussion of this influence in either Chapter 2 or 3.

Recommendation:

The influence of stratigraphy on the ground-water flow system and contaminant transport is an important component of the conceptual model of a ground-water operable unit such as 100-KR-4. The influences noted in Section 5.1.6.2.1 should be described in detail in Sections 2.2.3 and/or 3.1.3.

40. Comment: Section 5.1.6.2.2, p. WP 5-12

It is stated that the uppermost aquifer will be cased and sealed before drilling into the deeper zones. However, no mention is made of testing the seal integrity. In the 300-FF-5 Operable Unit, a seal test plan (EMO-1029, AD-940) was written and used to test the integrity of seals before drilling into underlying aquifers.

41. Comment: Section 5.1.6.2.5, p. WP 5-13

It is stated that slug tests will be performed on all new monitoring wells. It should be stated here that all slug tests will be conducted with temporary casings and screens in place (prior to installation of sand packs).

42. Deficiency: Section 5.1.6.2.7, p. WP 5-14

Quarterly water-quality sampling of monitoring wells will not be sufficient unless the effects of changing river stage can be identified.

Recommendation:

Selected wells should be monitored on a continuous basis (sensors and recorders) for several basic parameters (e.g., temperature and specific conductance) in order to identify the effects of changing river stage on the water quality in the aquifer. This activity should be coordinated with River Impact Milestone M-30-05 described in appendix D.

43. Comment: Section 5.1.6.2.7, p. WP 5-14

The use of existing wells for ground-water monitoring purposes should be noted in this section including a preliminary list of existing wells that will be included in the monitoring network. It is recognized that

the fitness for use survey has not been completed so the monitoring network cannot be finalized. However, a preliminary ground-water monitoring network should be included in the work plan.

44. Deficiency/Recommendation: Section 5.1.11, page WP5-17

The second paragraph states, "Both the qualitative and baseline risk assessments will be developed in accordance with EPA (1989a)" This reference is for human risk assessment guidance from EPA headquarters. Ecological risk assessment guidance from EPA headquarters, which is already listed in Section 8, References, as EPA 1989b, should also be referenced. In addition, EPA Region 10 risk assessment guidance should be referenced (EPA 1989b, 1991) and included in Section 8.

45. Deficiency/Recommendation: Section 5.1.11.1, page WP5-17

The text states that contaminants selected for the risk assessments are those that are, among other criteria, most mobile and apt to bioaccumulate. However, according to Sections 3.3.2.4 and 3.3.2.5, page WP3-30, both mobility and tendency to bioaccumulate have been eliminated as criteria for establishing a preliminary list of contaminants of interest. This inconsistency should be addressed and the text changed where appropriate.

46. Deficiency: Section 5.1.11.3, page WP5-18

Toxicity assessment criteria catalogued under this subtask are specific to human health and do not take into account the potential for alteration in ecological toxicity when contaminants are exposed to site-specific environmental conditions in the transport media.

Recommendation:

The toxicity assessment discussion for this subtask requires additional specific information, such as that provided by EPA (1989b,c).

47. Deficiency/Recommendation: Section 5.1.11.4, page WP5-19

The text states that "ecological receptors are evaluated based on assessment of appropriate endpoints." The text should include a reference for endpoint identification.

The initial criteria for selecting ecological assessment endpoints and measurement indicators for the risk assessment as addressed by EPA (1989c) are not provided. The text does not adequately establish criteria and fails to select ecological endpoints as well as indicators that could be used to characterize these endpoints.

48. Deficiency: Section 5.2.2, page WP5-20

In item 1, it is not clear whether the primary task is to identify contaminants of concern for the vadose zone soils or the aquifer soils. Item 2 applies to the 100 Area soil aggregate feasibility study but does not apply to the 100 Area groundwater aggregate feasibility study.

Recommendation:

Since this section addresses the scope of work for the 100 Area groundwater aggregate feasibility study, the primary task in item 1 should be identification of contaminants of concern for the aquifer soils and groundwater, as proposed in Section 3.4.3.

Item 2 should include identification of ARARs pertinent to the removal of aquifer soils as well as contaminated groundwater extraction and reinjection, treatment, and disposal.

49. Comment: Figure 5-1

The location of well #1 is missing from the figure. Please indicate where well #1 will be installed.

50. Comment: Figure 6-1, Items 6.2.3 and 6.2.5

Water-level measurements and groundwater sampling are scheduled to be done monthly and quarterly, respectively, for the first year after well installation and quarterly and semiannually, respectively, thereafter. However, the schedule as shown in Figure 6-1 indicates water-level measuring and groundwater sampling ending at the same time as the last well is scheduled for completion.

51. Deficiency/Recommendation: Figure 7-1, page WP7F-1, lower left

The figure incorrectly refers to 100-BC-5 instead of 100-KR-4. This should be corrected.

52. Deficiency/Recommendation: Section 8.0, page WP8-1

The reference section should include EPA Region 10 risk assessment guidance (EPA 1989a, 1991).

(The comments that follow on the QAPJP, numbers 53 through 62, are included for completeness. It is expected that they will have already been addressed in accordance with agreements reached on other 100-Area work plans)

53. Deficiency/Recommendation: Appendix A, Section 2.0, page A-2
A brief description of the procedures used to screen environmental samples for total radioactivity and alpha activity should be given, including calibration techniques, calibration frequency, and calibration standards and their sources.
54. Deficiency/Recommendation: Appendix A, Section 3.0, pages A-4 to A-7
Table QAPjP-1 refers to Test Methods for Evaluating Solid Waste (EPA 1986) when presenting target quantitation limits. Distinctions between target quantitation limits and the estimated quantitation limits specified by EPA (1986) should be addressed.
55. Deficiency/Recommendation: Appendix A, Section 3.0, pages A-4 to A-7
Table QAPjP-1 should provide a column for experimental conditions.
56. Deficiency/Recommendation: Appendix A, Section 6.0, page A-12
Calibration procedures for each measurement system, calibration frequency, and calibration standards and their sources should be identified.
57. Deficiency/Recommendation: Appendix A, Section 7.0, page A-13
For each analytical procedure to be used, a brief description of the procedure and measurement objectives should be included.
58. Comment: Appendix A, Table QAPjP-3, p. A-14
Footnote B states that methods for bulk density, moisture retention, and unsaturated hydraulic conductivity shall be developed and submitted to Westinghouse Hanford for review and approval prior to use. It should also be noted that these methods will require regulatory review and approval as well.
59. Deficiency/Recommendation: Appendix A, Section 8.2, page A-15
Provisions should be made for the review of matrix spike duplicate data during validation of radionuclide analyses.

60. Deficiency/Recommendation: Appendix A, Section 8.2, page A-15
Provisions should be made for receipt of analytical results in hard copy format.

61. Deficiency/Recommendation: Appendix A, Section 12.0, page A-19
The frequency of routine evaluation of precision and accuracy should be provided.

62. Deficiency/Recommendation: Appendix A, Section 13.0, page A-19
This section should identify predetermined limits for data acceptability beyond which corrective action is required, procedures for corrective action, and individuals responsible for initiating and approving corrective action.

63. Deficiency/Recommendation: Appendix B, Section 5.0, page B-11
General occupational health standards for Washington (DLI 1990) should also be listed.

64. Comment: Appendix D1, Section 3.3, p. D1-3
There is no mention of mapping the geology in the "geologic mapping" section.

65. Deficiency: Appendix D1, Section 3.4, p. D1-3
The one-hour period for measuring trends in conductivity, pH, and temperature is insufficient.

Recommendation:

The period of trend watching has to be increased. The needed length of the period could be determined by investigating the nature of trends in water-quality at springs, water levels in near-shore wells, and river stages at a few locations for a period of several days. The observed relationships should allow us to determine the needed period of trend monitoring for all seeps/springs.

66. Deficiency: Appendix D1, Section 3.6, p. D1-5
Only three wells are scheduled for water-level recorders in the vicinity of each of the river-stage recorders. Three are not sufficient for analysis of the river-aquifer connection.

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Recommendation:

In the vicinity of each river-stage recorder, we should have three wells in a line parallel to the river and three wells in a line perpendicular to the river. These two lines can (and should) intersect, resulting in five wells needed to construct the two lines. If a "reference" well is needed (i.e., a well which will be used to eliminate the effects of partial penetration of the river and "skin effects" of the river bed), then a sixth well may be necessary. All of these wells should be continuously measured for selected water-quality parameters (e.g., temperature and specific conductance) as well as for water levels.

67. Deficiency/Recommendation: Appendix D2, Section 3.2, page D2-3

The fifth paragraph refers to surveys that have been conducted to document species lists. References for those surveys should be included.

REFERENCES

- DLI 1990. General Occupational Health Standards, Chapter 296-62, Part H, Air Contaminants. Division of Industrial Safety and Health, Washington Department of Labor and Industries. December 1990.
- DOE 1991. Letter Report for Rescoped Work Plans for the 100-KR-1 and 100-KR-4 Operable Units. U.S. Department of Energy.
- EPA 1988. Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA. Interim Final. EPA/540/G-89/004. U.S. Environmental Protection Agency. October 1988.
- EPA 1989a. Risk Assessment Guidance for Superfund, Volume I, Human Health Evaluation Manual Interim Final. EPA/540/1-89/002. U.S. Environmental Protection Agency. December 1989.
- EPA 1989b. Statement of Work for the RI/FS Environmental Evaluation for Superfund Sites. U.S. Environmental Protection Agency, Region 10. November 1989.
- EPA 1989c. Risk Assessment Guidance for Superfund, Volume II, Environmental Evaluation Manual Interim Final. EPA/540/1-89/001. U.S. Environmental Protection Agency. March 1989.
- EPA 1991. EPA Region 10 Supplemental Risk Assessment Guidance for Superfund. U.S. Environmental Protection Agency. August 16, 1991.

CORRESPONDENCE DISTRIBUTION COVERSHEET

Author: D. R. Einan, EPA Addressee: E. D. Goller, RL Correspondence No.: Incoming 9200558

Subject: RI/FS WORK PLAN FOR THE 100-KR-4 OPERABLE UNIT, HANFORD SITE,
RICHLAND, WA, DRAFT D, DATED SEPTEMBER 1991

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		EDMC	H4-22	X

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The Work Plan was submitted to RL via 9158062D, 10/29/91. RL submitted the Work Plan to EPA and Ecology via 9105649, 10/30/91. ldp, 6-7049

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