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STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

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April 6, 1994

Mr. Paul Pak
U.S. Department of Energy
P.O. Box 550
Richland, WA 99352

Dear Mr. Pak:

Re: Comments on the Pilot-Scale Treatability Test Plan for the 200-UP-1
Groundwater Operable Unit (DOE/RL-93-105, Draft A)

35072

The Washington State Department of Ecology, as the lead agency, and the Environmental Protection Agency, as the support agency, have completed their review of the Pilot-Scale Treatability Test Plan for the 200-UP-1 Groundwater Operable Unit.

Although the report is well organized, there are several areas of concern that need to be addressed to fulfil the scope of this report. Our comments are formally attached.

If you have any questions or comments, please call me at (509) 736-3015.

Sincerely,

Dib Goswami, Unit Manager
Nuclear Waste Program



DG:mf
Enclosure

cc: Dave Einan, EPA
Administrative Record (200-UP-1 Operable Unit)

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EXHIBIT

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in the vadose zone above the unconfined aquifer in the 200 area. Also, the text does not give any information on the natural and artificial discharges of the area. This information must be provided in the "regional" as well as site (ERDF) specific description of the hydrogeology of the area.

30. Comment: page 5-10, Section 5.3.5.2, line 15

The title of the section should be "ERDF CAMU Area Hydrogeology." A specific subsection discussing the possible presence of perched water conditions must be presented to complete the section.

31. Comment: page 5-14, Section 5.3.5.2.2

The flow of water through the vadose zone is very complex and depends on several factors, including most significantly, the moisture content of the soils and its hydraulic properties. The text does not give any insight of this problem except for a reference to the AAMS reports. Information about the vadose zone is important for the ERDF and should be provided briefly. If we do not have any site (ERDF) specific information, then discuss the plan to gather this information. A brief summary of the information presented in the 200 AAMS report will also be helpful.

32. Comment: page 5-15, Section 5.3.5.2.3

This section needs to be expanded to include the historical behavior of the groundwater flow direction over the observed time (e.g., from 1944 to the present), the future flow path, based on the artificial and natural recharge information, the relationships of the Uppermost Ringold aquifer system with the underlying aquifer systems including the Rattle Snake Ridge aquifer, aquifer inter-communication/the hydraulic connections (if there is any), and vertical hydraulic gradients.

33. Comment: page 5-21, Section 5.5.2

Provide a complete list of analytes in the form of a table or appendix that will be carried out at the site. Since the waste will be comprised of low-level radioactive soil, mixed wastes, organics, and inorganics, a more detail analyte list must be developed and be monitored to see any difference from the upgradient wells.

34. Comment: page 5-24, Section 5.5.5.4.2, lines 24-25, 30-31

Chromium contribution from the wells completed with carbon steel is a common phenomenon. Instead, the use of stainless steel should be investigated.

35. Comment: page 5-25, Section 5.5.4.3, lines 20-23

A detailed description of the handling of contaminated purge water should be provided.

- 36 Comment: page 5-41 thru 5-43 , Figures 5-11, 5-12, and 5-13

Connect the water levels detected in each well to show the water table in each section.

Section 11: Closure and Post-Closure

37. Comment: page 11-1, Section 11

The structure of section 11 is not appropriate for a CAMU application. Evaluating the proposed CAMU against standards for closure and post-closure care of as-generated waste in conventional land based units is not appropriate as CAMUs are a different type of unit, subject to a different set of CAMU-specific standards. Discussion of closure and post-closure care for the proposed CAMU should be presented as suggested standards for the regulatory agency to specify as required by 40 CFR § 264.552(e)(2) and should be discussed in the context of the CAMU designation criteria at 40 CFR § 264.552(c).

Since detailed information on closure and post-closure care is not provided (e.g., detailed final cover design, final cover installation plan) regulatory agency approval of the closure and post-closure care described in the CAMU application would be contingent on their review and approval of such detailed information.

38. Comment: page 11-1; lines 16-24

The discussion of the proposed CAMU as a landfill and the application of closure and post-closure requirements for hazardous waste landfills to the proposed CAMU are inappropriate. If the requirements of 40 CFR 264 Subpart G are used, please emphasize that they were chosen because they represent conservative approaches for closure and post-closure care, not because the proposed CAMU resembles a hazardous waste landfill.

39. Comment: page 11-2; line 4

Specify that the closure plan will be submitted to the regulatory agencies for review and approval at least 180 days prior to construction of the final cover.

40. Comment: page 11-7; lines 2-13

The status of materials generated during closure/remediation of ERDF support units depends on the regulatory status of the units. If the units are considered regulated units under RCRA, then wastes generated by their closure are excluded from the definition of remediation waste and will not be eligible for management in the proposed CAMU.

41. Comment: page 11-8, line 15

The discussion of incremental placement of the final cover as "partial closure" is confusing. We suggest that the discussion be revised to emphasize that incremental placement of the final cover is necessary to ensure protection of human health and the environment during operation of the proposed CAMU and will be conducted in a manner consistent with the requirements for CAMU closure.

42. Comment: page 11-9; line 19

Provide a schedule for submittal of the final cover installation plan and the cover CQA plan.

43. Comment: page 11-27; line 35

If a certification of final closure is to be provided, the discussion should clarify that the final closure will be certified as in accordance with the approved CAMU closure plan.

44. Comment: page 11-28, line 47

Specify the anticipated frequency of inspections.

45. Comment: page 11-31; line 40

Clarify that any proposed changes to the approved post-closure monitoring program will be submitted to the regulatory agencies for review and approval.

Section 13: Other Relevant Laws

46. Comment: page 13-1; line 9

Add the State Environment Policy Act to the list of applicable regulations and add a discussion of SEPA in the following sections.

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47. Comment: page 13-6; line 21

Clarify that the regulatory package will not "meet the requirements" of NEPA. Instead it will incorporate NEPA values.

Section 15: Decision Criteria for CAMU Designation

48. Comment: page 15-1, Section 15.2.1, Criteria 1

Discussion of CAMU criteria 1 should also address the relationship of the proposed CAMU to site-wide remediation (e.g., the proposed CAMU is necessary to facilitate reliable, effective and cost-effective site-wide remedies.

49. Comment: page 15-3; line 3

The reference to regulations for RCRA disposal units is inappropriate and should be removed.

50. Comment: page 15-3, line 12

The Operations Plan is not included in the Final CDR. Attach Operations Plan cited as an appendix to the application.

51. Comment: page 15-4, line 45

The final trench and cap design must be submitted before the regulatory agencies can make a determination regarding CAMU designation for the ERDF. If the regulatory agencies base their CAMU designation on the design articulated in the current application and the design changes substantially, the agencies will have to re-evaluate the ERDF against the CAMU criteria.

52. Comment: page 15-11, Section 15.2.3, Criteria 3

The discussion of CAMU criteria 3 should focus on the proposed CAMU location as more protective than other, more contaminated locations. Discussions of the proposed location as more administratively feasible should be minimized, since administrative feasibility is not part of the CAMU criteria. Will an assessment of the fourth potential site be added to the CAMU application?

53. Comment: page 15-19, Section 15.2.5, Criteria 5

The discussion of CAMU criteria 5 should focus on the relationship of the proposed CAMU to timing of site-wide remedial efforts and to the timing of

alternative (e.g., off-site) management of remediation wastes. The rationale that the CAMU is necessary because TPA milestones require its construction is not helpful in terms of the CAMU criteria.

54. Comment: page 15-21, lines 6-8

Is the treatment referred to in this paragraph treatment which would be performed in order to bring the remediation waste within the proposed CAMU waste acceptance criteria? We suggest the CAMU waste acceptance criteria include a requirement that the operable unit manager evaluate treatment and waste minimization options for each remediation waste stream proposed for management in the CAMU. Usually these evaluations are performed as part of a feasibility study. Since the proposed CAMU is designed to accept a variety of remediation waste streams from a variety of sources, treatment decisions at the operable unit level are appropriate; however, CAMU's bias towards treatment should not be lost. We want to avoid a situation where the cost of treatment compared to the cost of management in the proposed CAMU effectively precludes treatment at the operable unit level except in circumstances when the remediation waste stream does not meet the constituent specific CAMU waste acceptance criteria.

55. Comment: page 15-21, lines 44-49

The discussion of LDR treatment standards is redundant and confusing and should be removed. The relationship of the proposed CAMU to LDR standards has been adequately discussed elsewhere.

ADMINISTRATIVE COMMENTS:

56. Comment: page 2-17, figure 2-1; page 2-18, figure 2-2

For the unknowing reader, the ERDF and the Hanford Facility would be difficult to locate on this diagram. If purpose is to locate Hanford, then show boundary of site with respect to some landmark - Richland. Use large bold print to show Richland, Hanford Site, and ERDF. Use hatchmarks or shading. Do something to make the figure effective.

The Washington State caption used here should be used on Fig. 2-1. The ERDF is not clearly shown. The Title is a location map for 200 area, Central Plateau, and ERDF. None of these areas are easily seen without knowing where to look. Use large, bold print to show areas of interest.

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57. **Comment: page 2-19, figure 2-3**

Site map is too busy. Remove or lighten background topographic features. Identify significant site features in bold print.

58. **Comment: page 2-20, figure 2-4; page 2-21, figure 2-5; page 2-22, figure 2-6**

Identify ERDF location in BOLD print.

59. **Comment: page 2-23, figure 2-7**

Identify WA State Leased Land as US Ecology.

60. **Comment: page 5-3, line 15**

The word "materials" should be replaced by the word "formations."

61. **Comment: page 5-17, line 41-42**

Express the concentrations in pCi/l.

62. **Comment: page 5-39, Figure 5-9**

Change "ERDSF" to ERDF.

63. **Comment: page 5-44 through 5-56, all figures**

Figures incorrectly show WA State Lease Land. Remove "State Lease" and identify US Ecology.

64. **Comment: Entire Document**

Remove all sections not directly applicable or supportable of a CAMU designation. These sections include 3.1.4-3.1.8; 3.2.5-3.2.9; 4.1-4.11; 4.12.12; 6.2.2.1-6.2.2.7; 11.1-11.9; 11.10.5.1; 11.10.7-11.10.8.