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STATE OF WASHINGTON  
DEPARTMENT OF ECOLOGY

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February 20, 1992

Mr. Dennis Faulk, 100-BC-1 Operable Unit Manager  
Environmental Protection Agency  
Hanford Project Office  
712 Swift Blvd., Suite 5  
Richland, WA 99352



Re: 100-BC-1 DOW

Dear Mr. Faulk:

Enclosed are Ecology's comments on the 100-BC-1 Operable Unit Vadose Bore Holes DOW. Ecology believes that this DOW does not follow the February 7, 1992 letter to Julie Erickson. The 100-BC-1 Operable Unit does not have an approved Work Plan, therefore, this DOW must contain enough information to understand what is proposed. Ecology recommends that this DOW be revised and resubmitted for regulatory review.

Thank you for considering these comments. If you would like to discuss them further call me at (206) 493-9367.

Sincerely,

Richard B. Hibbard, P.E.  
100-BC-1 Operable Unit Manager  
Nuclear and Mixed Waste  
Management Program

Enclosure

cc: Darcy Teel  
Larry Goldstein

0001594

100-BC-1 OPERABLE UNIT  
 VADOSE ZONE INVESTIGATIONS  
 DESCRIPTION OF WORK

1. Section 1.0, Page 1, first paragraph:

*addressed  
in WP* Deficiency: This DOW does not describe the rational for selecting vadose zone sampling locations.

Recommendation: Revise the text to describe the process for selecting LFI sampling locations.

2. Section 2.2, Page 4:

Deficiency: The Prerequisites section does not adequately describe the pre-sampling activities that will occur before field activities commence. Also, it does not describe the number of and types of field equipment that are proposed for use. *identify screening equipment.*

*Yes* Recommendation: Revise this section to be consistent with items 17 and 18 in the letter to Julie Erickson on February 7, 1992. For example, Are there any special training that the field personnel need? This DOW should also list the types of field screening equipment proposed for use. *No*

3. Section 3.1, Page 4:

Deficiency: This section does not describe the types of field screening equipment proposed for use, the operating procedures, the detection limits, and calibration requirements.

Recommendation: Revise this section to augment EII 3.2. and 3.4.

4. Section 3.1, Page 4, second paragraph:

Deficiency: The text does not state the rational for selecting the background location.

Recommendation: Revise the text to describe the rational for selecting the background location.

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5. Section 3.2, Page 5:

Deficiency: Page 5 is missing from this DOW. Is this page Figure 3?

Recommendation: Resubmit this DOW including all pages and figures.

6. Section 3.3, Page 6, first paragraph:

Deficiency: The 100-BC-1 Work Plan Section 5.1.5.2, page 5-9, states that a minimum of 5 samples for physical properties analysis will be collected from each borehole.

Recommendation: Revise the text in the DOW to be consistent with the Work Plan.

7. Section 3.3, Page 6, second paragraph:

Deficiency: If there is a concern over adequate collection of sample volume larger samples should be collected.

Recommendation: The text should state the reasons for this concern and present solutions to the sample volume collection problem.

8. Section 4.0, Page 7 and 8:

Deficiency: The text must state what compounds are proposed for analyses. Table 2 is inadequate for this purpose. The DOW does not comply with the letter to Julie Erickson on February 7, 1992.

Recommendation: The DOW's must identify the proposed location for sampling and the criteria for selecting those locations. The DOW must discuss hazardous, radioactive, and mixed waste that may be present in the area being sampled. Sample status check sheets must be submitted within 10 days of the sampling event. Data collection procedures, chain of custody procedures, sample container size and preparation, holding times, type of analysis, number of split samples, number of duplicate samples, number of blank samples, and data reporting requirements must be referenced by EII or described in the DOW. The DOE must include the approved and/or proposed data quality objectives, as specified in the work plan for each type of activity.

9. Section 4.0, Page 8, Table 2:

Deficiency: The text must state the analytical method proposed for use. The reference to CLP is not adequate.

Recommendation: Revise this table to discuss all chemicals sampled for. Also, list the appropriate method of analyses.

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10. All Sections:

**Deficiency:** The DOW must identify the applicable sections in each EII that are proposed. If an EII discusses several ways to perform the same task, then the DOW must state which procedure is proposed.

**Recommendation:** The following EIIs were reviewed. The concerns must be resolved in this DOW:

EII 3.2

What type of OVM (HVU<sup>1</sup>, DVM<sup>2</sup>, OVA<sup>3</sup>, or Colorometric Tubes) are proposed for use?

What are the operating procedures for the proposed equipment?

What are the detection limits for each volatile/semivolatile chemical?

What chemicals/compounds won't the equipment measure?

Section 5.3 What type of calibration gas is proposed for use?

Section 6.5 What type(s) of cleaning solvent are proposed for use?

EII 4.3

What types of radiation detection equipment are proposed for use?

What are the operating procedures for the proposed equipment?

What are the detection limits for each radionuclide?

What are the limitations of the equipment?

What is the check source?

How is the equipment calibrated?

For Cr<sup>6</sup>, how is back ground determined?

What are the operating instructions?

What are the detection limits?

How will other inorganic compounds be measured?

EII 4.2

Section 4.3(1), What are the other governing documents?

Section 4.3(2), What field instruments are referred to here? What are the operating procedures? What are the detection limits?

Section 4.4(5), How will the results of the weekly inspections be transmitted to the regulators?

Section 4.4(6), What routine monitoring will occur?

Section 5.1(1), What type of container(s) will be used?

Section 6.0, How will decontamination fluids be designated?

Section 6.1(2), When will a liner be used?

EII 5.2

Section 2.0, What are "additional sight specific sampling requirements?"

Section 4.2, What are the appropriate forms?

Section 5.2, What records are generated in the field?

Section 6.1, What monitoring equipment is planned for use?

Section 6.2, What protective materials will be used to preserve

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the cleanliness of the equipment?  
Section 6.3, What containers are planned for use?  
Section 6.3(5), Will ice, blue ice, or dry ice be used to store samples?  
Section 6.3(7), When will shield boxes be required?  
Section 6.3, When will sample containers be decontaminated on site?  
Section 6.5, List the various specific sampling packaging, labeling, and shipping requirements that are dependent on content and volume.  
Appendix B, Section 2.0(2), will removal rings or tube liners be required?  
Section 2.0(4), Will stainless steel spatulas or bowels be used?  
Section 3.0, What is the inside diameter of the split spoon sampler?  
Section 3.0, Will the blow counts be recorded?  
Section 3.0, Which method of volatile organic collection is proposed for use?

EII 5.7A

Will geologic samples be stored in the 2101-M building or the 1212 building?

EII 6.7

Section 4.2(4), How will the contaminated or potentially contaminated drill cutting fluids be managed?  
Section 6.5, Will holes be abandoned with bentonite or grout?