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STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

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August 4, 1994

Ms. Nancy Werdel
United States Department Of Energy
P.O. BOX 550
Richland, WA 99352

Dear Ms. Werdel:

The Washington State Department Of Ecology (Ecology) has completed it's review of the **RCRA Facility Investigation/Corrective Measures Study Work Plan** for the 100-DR-2 Operable Unit. Enclosed please find comments from both Ecology and the United States Environmental Protection Agency (EPA). If you have any questions please contact me at (509) 736-3012

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Sincerely,

Ted Wooley
Unit Manager
Nuclear Waste Program

TW:mf
Enclosures

cc: w\enclosures:
Paul Beaver, EPA
Administrative Record, 100-DR-2

cc: w\o enclosures
Rodger Friedberg, USDOE



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**THE WASHINGTON STATE DEPARTMENT OF ECOLOGY
COMMENTS FOR THE RCRA FACILITY INVESTIGATION/CORRECTIVE
MEASURES STUDY WORK PLAN FOR THE 100-DR-2 OPERABLE UNIT
DOE/RL-93-46 DRAFT B**

GENERAL

The 100-DR-2 RFI/CMS work plan adequately represents a standard past practice work plan as stipulated by the Hanford Federal Facility Agreement and Consent Order and CERCLA. However, the Washington State Department of Ecology (Ecology) has some question as to whether it makes sense to keep all of the solid waste burial grounds(e.g., those contributed from the 100-DR-3 operable unit)on the IRM pathway. It is almost a given that some of these burial grounds will be of a low priority nature (e.g., construction burial grounds)and should not be carried as priority waste units. Ecology would like to leave this issue open for discussion even though this has been standard procedure in the past.

Ecology would like also an indication of when the validated data that was generated from the LFIs will be available for regulator review.

SPECIFIC

Executive Summary, page ES-1, paragraphs 2 and 3:

COMMENT: Paragraphs 2 and 3 should be combined into one paragraph.

RECOMMENDATION: Combine and revise into a single paragraph as follows: "The 100-DR-2 Operable Unit is one of two remaining source operable units in the 100 D/DR Area, which originally included 100-DR-1, 100-DR-2, and 100-DR-3. Source operable units are those that contain facilities and unplanned release sites that are potential sources of hazardous substance contamination. In order to more efficiently manage the environmental restoration of the D\DR Area, 100-DR-3 was incorporated into 100-DR-2. 100-DR-2 contains liquid, sludge, and solid waste units that were used to support the operation of the DR reactor. 100-DR-3 mainly consists of solid waste burial grounds, which are presently the IRM pathway."

Executive Summary, page ES-1, bottom paragraph:

COMMENT: It should be clarified that the LFI\QRA appendices that will be incorporated into the final draft work plan will be subject to public review as normal.

RECOMMENDATION: Revise text to state this.

Executive Summary, 3rd paragraph, 3rd sentence under, "Overview":

COMMENT: During the last comment resolution meeting, both Ecology and EPA indicated their concern for having any discussion on threshold requirements in the 100-DR-2 work plan. The third sentence of the third paragraph directly discusses this very issue.

RECOMMENDATION: Remove it.

Executive Summary, 1st paragraph, 4th sentence under, "Overview":

COMMENT: The fourth sentence states that three sites were identified for additional field sampling. Although this is a true statement, it should be further stated that the field work has already been performed.

RECOMMENDATION: The sentence should read something like the following: "Three waste sites were identified as warranting additional field sampling and this sampling has been performed as per agreement by the TPA unit managers."

Section 1.2, page 1-3, 5th paragraph.:

COMMENT: This paragraph discusses the screening threshold that was introduced in the executive summary. A numeric value of 28.5 is given as an indicator as to whether or not a site will stay on the IRM pathway. Is this value a negotiated TPA value and, if so, where is it documented other than work plans?

RECOMMENDATION: Provide a background on the origin of this number so that an agreeable justification can be given for retaining this value in the workplan.

Section 3.1, page 3-1, 1st paragraph:

COMMENT: This paragraph discusses all of the available data with the exception of the current LFI data.

RECOMMENDATION: Revise this paragraph to indicate the availability of the current LFI data.

Section 3.1.2.1, page 3-2, 1st sentence.:

COMMENT: The first sentence states that there is no specific background data for 100-DR-2. This is incorrect since there was a mobile laboratory staged at the Sodium Dichromate Transfer Station, as well as the other sampling and analysis that was performed to support the LFI.

RECOMMENDATION: Remove the first sentence.

Section 4.2.2.2, page 4-7. The text should also indicate that geophysical surveys are planned for sites 118-DR-1, 118-D-1, 118-D-2, and 118-D-4.

Table 4-3. This table should be revised to contain information on the sites that were previously part of operable unit 100-DR-3. The appropriate information is present in Table ES-1.

Appendix A, page A-1. The purpose of the QAPjP in Appendix A is to provide all means of ensuring that proposed data quality objectives are met to fully support the project's objectives, as well as to provide all necessary quality control to evaluate data generated against the proposed objectives. Westinghouse Hanford Company has satisfied each fundamental aspect of quality control, as required by EPA (1980a) guidance. However, minor inconsistencies are evident between fundamental aspects of quality control within the overall project plan. For example, the QAPjP does not provide an accurate portrayal of analytical precision and accuracy. First, analytical methods cited in the QAPjP include EPA (1986) SW-846 guidance, but DQOs are specified for these methods from EPA (1990a,b) Contract Laboratory Guidance (CLP) guidance. EPA (1986) guidance may be used to generate data with a level of quality comparable to CLP, but this is not necessarily intrinsic. Second, Table QAPjP-1 defines DQOs for precision and accuracy individually for each target compound, ignoring the quality control protocol described elsewhere by the QAPjP that outlines quality control for measuring precision and accuracy in terms of matrix spike and matrix spike duplicate analyses, surrogate analyses (organic compounds only), blank spike analyses, and postdigestion spike analyses (inorganic compounds only). DQOs for analytical precision and accuracy should be proposed in terms of these QC mechanisms. Finally, CLP analytical methods are cited in Section 4.2.3.1, and Table 4-4 for proposed chemical analyses of borehole samples, but the QAPjP does not cite CLP methods. A coherent program for sample analyses and quality control and the precise level of data quality that will be provided should be specified.

Comment: Section 5.1.1.5.5, Geophysical Borehole Logging

It is stated that gross gamma logging will be used "when spectral-gamma equipment is not available". The spectral-gamma tool is greatly preferred over the gross gamma tool for obtaining the best data. All efforts should be made to obtain spectral-gamma data where possible.

Section 5.1.1.5.3. The size, depth, and location of the test pit proposed for the 116-DR-3 storage basin trench should be specified since the trench is large (40 feet by 60 feet) and since the influent from the 105-DR fuel storage basin may not have been uniformly distributed across the trench.

Section 5.1.1.5.5, page 5-12. The text indicates that ground penetrating radar (GPR) or an analogous type of survey method (e.g., electromagnetic inductance [EMI]) will be followed at four sites. Additional surveys should be conducted at 118-DR-1, 118-D-1, 118-D-2, and 118-D-4. In addition, GPR and EMI cannot be used interchangeably. Each technique has strengths and weaknesses. One technique should be selected based on the objective of the survey at a given site and the types of soil and waste conditions expected.

**Environmental Protection Agency
Comments for the RCRA Facility Investigation/Corrective Measures
Study Work Plan for the 100-DR-2 Operable Unit
DOE/RL-93-46 Draft B**

EPA GENERAL COMMENTS

A revised quality assurance project plan was not included with this work plan.

The work plan has been incompletely revised to reflect the addition of source areas previously associated with the 100-DR-3 operable unit. The sections in which additions to the text should be made are identified in the specific comments.

EPA SPECIFIC

Section 2.1.3.6.4, page 2-11, last paragraph. The radionuclide list presented includes ¹⁴cobalt. This radionuclide should be corrected to ¹⁴carbon. This comment also applies to Section 2.1.3.6.4.

Sections 2.1.3.6.4 and 2.1.3.6.5, pages 2-12 and 2-13. The metallic waste inventories presented for burial ground 118-D-2 and burial ground 118-D-3 are exactly the same, although the text indicates that 118-D-2 received approximately 10,000 cubic meters of waste, whereas 118-D-3 received approximately 100 cubic meters of waste. Given the difference in waste volume, it is unlikely that the metallic waste inventory at the two sites are identical. This discrepancy should be resolved.

Sections 2.1.3.6.6 and 2.1.3.6.7, pages 2-14. The text cites Stenner et al. for the radionuclide inventories for the 118-D-4 construction burial ground and the 118-DR-1 gas loop burial ground. It seems unlikely that the radionuclide inventories for these two different burial grounds are exactly the same. This source should be rechecked for accuracy.

Comment: Section 3.1.2.1, pages 3-2 and 3-3

This section discusses the quality of the radiological background soil data, indicating that they are of limited utility. The text should explain how the uncertainty associated with this data will impact the qualitative risk assessment, since the determination of contaminants of potential concern relies partly on a comparison of environmental data to background data.

Comment: Section 3.3.2, pages 3-7 through 3-11

This section discusses the preliminary identification of contaminants of concern and presents a focused approach involving contaminant levels, quantity, hazard, and persistence. Mobility should also be included in this approach since groundwater contamination and migration of contaminants to the Columbia River are major concerns in the 100 area.

Comment: Section 3.4.1, pages 3-13 and 3-14

The preliminary corrective action objectives presented in this section should also include preventing or mitigating further release of contaminants to surrounding environmental media.

Comment: Section 3.4.4, page 3-16

One of the preliminary corrective actions listed in Section 3.4.4 is "alternatives emphasizing removal." The action should be changed to "alternatives emphasizing removal, treatment, and disposal."

Comment: Section 4.1.2, page 4-4

The indicates that minimum analytical detection limits were selected as one-tenth the 10^{-6} risk-based exposure level for ingestion of a particular contamination. The reason for selecting the detection limits using only carcinogenic risk-based concentrations is unclear. Also, the 10^{-6} target risk level is for human risk assessment and does not take into account ecological sensitivity. The rationale for selecting detection limits in this manner should be provided. The text also does not address the ability of current analytical methods to achieve these risk-based concentrations.

Comment: Section 4.2.2, page 4-6, 2nd and last paragraphs

Table 4-3 is referred to on three occasions in which it appears that Table 4-2 is the correct reference.

Comment: Section 4.2.3.1

This section indicates that analysis of target compound list (TCL) contaminants, which includes semi-volatiles, pesticides, and PCBs, will not be conducted unless field screening results indicate the presence of Volatile Organic Compounds (VOC). This section should present the rationale for not analyzing the sample for semi-volatiles, pesticides, and PCBs based on VOC screening data.