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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10 HANFORD PROJECT OFFICE
712 SWIFT BOULEVARD, SUITE 5
RICHLAND, WASHINGTON 99352

November 28, 1994

Jeanne Wallace
The Washington State Department of Ecology
1315 W. Fourth Avenue
Kennewick, Washington 99336-6018

Re: Review of 200-BP-11 Work/Closure Plan

Dear Ms. Wallace:

Enclosed are the Environmental Protection Agency's comments on the 200-BP-11 Operable Unit and 216-B-3 Main Pond/Closure Plan, Hanford Site, Richland, Washington. As we agreed previously, these comments have been sent to the Department of Energy (DOE) as well as DOE's Environmental Restoration contractor.

For your convenience, these comments have been transmitted electronically. If you have any questions or comments, please contact me at (509) 376-8665.

Sincerely,

Paul R. Beaver
Unit Manager

DEC 1994

Enclosure

cc: Dan Duncan, EPA
Brian Foley, DOE
Jim Pankanin, PRC
Rhett Tranbarger, ITH
Donna Wanek, DOE
Administrative Record (200-BP-11 Operable Unit)

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GENERAL COMMENTS

Overall, the 200-BP-11 operable unit and 216-B-3 main pond work/closure plan adequately addresses the sampling strategy and field investigation activities. There are, however, several concerns that need to be addressed.

Although a groundwater investigation is not a part of this study, a discussion of groundwater contamination within the operable unit would be useful for evaluating the level of effort given to proposed investigations of the vadose zone as a potential source of contamination.

SPECIFIC COMMENTS

Section 1.0, Page 1-1, Third Paragraph:
Remove '(or treatability studies)' from last sentence.

Table 1-1, Page T1-1.2:
The term IRM is used when an interim action is warranted. For 200-BP-11, a final cleanup action should be the goal, therefore the term 'IRM' needs to be removed from the table.

Sections 2.3.1 and 2.3.2, Page 2-7:
Both of these pipelines will be remaining active for an unspecified duration. The text should provide justification for the pipes remaining active.

Section 3.2, Page 3-2, First Paragraph:
This paragraph states that the phase 2 sampling event took place in 1992 and the phase 3 sampling event took place in 1989 and 1990. This discrepancy should be corrected.

Section 3.2.1.1, Page 3-2, Last Paragraph:
The text states that the "non asterisk" metals are found to be within normal soil concentration ranges. A reference should be included to support this statement.

Section 3.2.1.1, Page 3-3, First and Second Paragraph:
The text discusses a threshold value. The threshold value needs to be listed, either in this section or in a table referenced by this section.

Section 3.2.1.2, Page 3-3, Lines 38, 44, and 46:
The text uses the phrase "B Pond." It is not clear whether the phrase "B Pond" refers to the 216-B-3 Main Pond or to another pond. The text should be clarified accordingly. This comment is also applicable to other sections.

Section 3.2.1.3, Page 3-4:
The contract-required detection limits (CRDL) or the detected values for organic contaminants in soil are

reported in micrograms per gram (μg/g). This unit is incorrect. The unit micrograms per kilogram (μg/kg) should be used instead. If the unit reported is correct, then the reported concentration of contaminants are very high. This discrepancy should also be corrected where appropriate in other sections.

In the last paragraph, the text discusses other compounds being below practical quantitation limit guidelines with the exception of one. That one compound should be listed here.

Section 3.2.1.4, Page 3-5. Second Paragraph:
The text states that Strontium-90 is associated with gamma activity. Strontium-90 is a pure beta emitter. If the gamma is associated with a daughter product, state it.

Section 3.2.2.4, Page 3-5:
The text states that phase 2 radionuclides analyses will be included in the field investigation report. Since phase 2 radionuclide analytical results may be useful in selecting surface soil sampling and borehole locations for this study, phase 2 data for radionuclides should be discussed in this work/closure plan.

Section 3.1.2.4, Page 3-6:
The text states that there were six unplanned releases but only describes four. Section 2.1.5 infers that the remaining two unplanned releases were either dealt with as part of other operable units or have been remedied already, although this is unclear. This issue should be resolved in one of these two sections.

The data reported on unplanned releases are not consistent with the information presented in the B Plant source AAMS report. The text in this section states that during unplanned release UPR-200-E-34, approximately 2,500 curies (Ci) of mixed fission products was released to the 216-B-3-1 Ditch and 216-B-3 Main Pond. A release of 10,000 Ci of mixed fission products is reported in the B Plant source AAMS report (Table 2-6) for UPR-200-E-34. Similarly, a release of 51 kg of cadmium nitrate from unplanned release UPR-200-E-51 is reported in this section, and 15 kg of cadmium nitrate is reported in the B plant source AAMS report. These discrepancies should be corrected. This comment is also applicable to Section 2.1.5.

Section 3.2.3.1, Page 3-6, First Paragraph:
The text refers to background levels. The text should state where these background levels are from.

Section 3.2.4, Page 3-6:
The text states that an unplanned release contaminated ditch 216-B-3-3 and main pond, but did not contaminate any other

ditches upstream. The text should state why and how this happened.

Also, the source of these unplanned releases is not stated. The source(s) need to be listed or, if the sources are unknown, this should be stated.

Section 3.2.5, Page 3-7, Second Paragraph:
The text is unclear whether the surface water sampled is waste water or other.

The text also needs to state where the soil samples came from.

The third paragraph states that contamination in the soils will not be considered further in the RFI/CMS. All data available should be considered in the RFI/CMS, including this data, although a qualifier may be warranted.

Table 3-2, Pages T3-2.4 and T3-2.6:
In note 6, the unit for total uranium is reported as $\mu g/mg$. This unit appears to be incorrect and should be corrected.

Section 4.2.1, Page 4-4, Second Paragraph:
The text states that if contaminants are above HSRAM standards for radionuclides, additional sampling will be conducted to determine with statistical confidence whether contaminants exceed HSRAM industrial cleanup standards. The text is confusing. If phase 1 analysis show radionuclide levels above HSRAM, why conduct phase 2 sampling? Also, the term HSRAM should be changed to HSRAM.

Section 4.2.1.1.2, Page 4-5:
The text states that the list of analyses for these samples is derived from the LFI contaminants of concern listed in Section 3 (Table 3-2). The listed contaminants of concern are not the LFI contaminants of concern. They are derived from the B Plant and PUREX Plant source AAMS reports; phase 1, 2, and 3 data; and modified 40 CFR 264 Appendix IX groundwater monitoring list. The statement should be phrased accordingly.

Section 4.2.3, Page 4-13, and Section 4.2.3.2, Pages 4-13 and 4-14:
The text states that existing data are considered sufficient for the 216-B-3B and 216-B-3C expansion ponds. But, existing data for radionuclide contamination in the 216-B-3B and 216-B-3C expansion ponds are not provided in the Section 3.0 phase 2 and 3 data summary. Phase 1 unvalidated data indicated radionuclide contamination in the 216-B-3C Expansion Pond. Supporting data should be included to justify that no test pit/auger hole sampling locations are required in the 216-B-3B or 216-B-3C expansion ponds.

Section 4.2.4.3, Page 4-15:
This paragraph suggests an assessment of potential soil contamination after the pipeline integrity monitoring surveys are complete. An assessment of sediment/sludge contamination inside the pipe should also be conducted after the surveys are complete.

Figure 4-4, Page F4-4:
A long bypass pipeline to 216-B-3A Pond is shown on the figure. The operational history for this pipeline should be discussed.

Section 5.1.3.1.2, Page 5-8:
The text states that "additional sampling for risk assessment is defined at a depth of 15 to 20 feet to evaluate the potential exposure to humans or wildlife through plant uptake." A reference should be cited for assuming sampling at a 15-to-20 foot depth to evaluate the potential exposure to humans or wildlife through plant uptake.

Section 5.1.3.3.2, Page 5-11:
Dust only will be collected as part of the ongoing monitoring plan. The size fraction of dust particles to be collected is not defined here, in Section 5.1.4.10, or elsewhere in this document. The size of the filters should be specified. This will determine the percentage of particles collected that will be respired by workers (or others), affecting the risk calculated from inhaling suspended dust.

Section 5.1.4.4.2, Page 5-14, First Paragraph:
The first sentence states that chemical, physical, and archive samples will be collected. Later, the entire section discusses chemical, physical, and archiving sampling activities. This section should also discuss the sampling procedure for radiologically contaminated soils.

Appendix A, Section 3.0, Page A-3:
This section describes the DQOs. DQOs are specified in terms of detection limits, precision, accuracy, and completeness. Table QAPjP-1 lists all of the DQOs for the 200-BP-11 source operable unit except completeness. This criteria should also be specified for every analysis. Equations to be used for measuring the precision, accuracy, and completeness should also be provided in this section.

Appendix A, Section 7.0, Page A-7, Third Paragraph:
This section discusses the method to be used for metals, organic compounds, geochemical, and physical properties analyses. Methods to be used for radiological analyses should also be discussed here.

Appendix A, Table QAPjP-1, Page TA-1.1:

This table lists the DQOs for the 200-BP-11 analytical measurements. The quantitation limits for a majority of the water sample analyses are not specified. Some of the quantitation limits provided in this table are significantly higher than those specified in the analytical method. For example, the quantitation limit for beryllium in water is given in this table at 5 milligrams per liter. The detection limit for this analyte in the methodology is estimated at 0.3 micrograms per liter (μg/L), which would result in a quantitation limit of about 2 μg/L. Appendix C indicates that the laboratory analyses will have practical quantitation limits below the residential cleanup standards using the Model Toxics Control Act (MTCA) method B levels for dangerous wastes. MTCA method B level for beryllium in water is 0.02 μg/L, which is below the quantitation limit provided in this table. Quantitation limits above the regulatory levels should be lowered to meet the regulatory requirements. Quantitation limits for this compound and others (e.g., cadmium and copper) that exceed the method quantitation limits should be revised to meet MTCA method B level. In addition, this table indicates that bismuth and boron will be analyzed by using Test Methods for Evaluating Solid Waste: Physical/Chemical Methods (EPA 1986) methods 7471 and 6010, respectively. These methods do not include analysis of these compounds. The correct methods to be used to identify these compounds and the source of the DQOs for these compounds should be provided in this table.

Appendix C, Attachment 1:

This attachment provides a list of contaminants of concern at the 200-BP-11 operable unit and their corresponding practical quantitation limits and MTCA methods B and C levels in soils. This attachment should also provide this information for the groundwater at this site.