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

April 27, 1995

Donna Powaukee
Nez Perce Tribe
P.O. Box 305
Lapwai, Idaho 80540

Re: 200-BP-1 Operable Unit Proposed Plan Comments

Dear Ms. Powaukee:

The Environmental Protection Agency (EPA) appreciates The Nez Perce providing comments on the 200-BP-1 Operable Unit (OU) Proposed Plan in a timely manner. Enclosed are EPA's responses to your comments. 34046

Responses to the Nez Perce comments will be added to the responsiveness summary that will become part of the Record of Decision for the 200-BP-1 OU. If you have any questions or would like to meet with me to discuss any issues, please contact me at (509) 376-8665.

Sincerely

Paul R. Beaver
Unit Manager

Enclosure

cc: Rico Cruz, Nez Perce
Bryan Foley, USDOE
Larry Gadbois, USEPA
Fenggang Ma, Ecology
Dave Lundstrom, Ecology
Herman Rubin, Nez Perce
Doug Sherwood, USEPA
Administrative Record, 200-BP-1 Operable Unit

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Preferred Alternative:

Comment:

ERWM concurs to the selection of the preferred alternative, which is the "Modified RCRA Barrier". It was really important to see that EPA have considered 10 alternatives on this project. One of our concerns is the effect of seismic activities on the barrier. Another is the certainty of the life expectancy of the barrier. What are the basis of arriving to a 1,000 years design life? No prototype has been tested to last that period of time. Would it be better to indicated that the barrier was designed to last for 1,000 years, with a certainty included? It could be that the barrier can last up to 10,000 years, but at a lower confidence that it will last that long.

Responses:

The concern about seismic effects on the barrier is a legitimate concern and EPA shares this concern. The EPA has conducted a review of the Department of Energy's (DOE) 'Focused Feasibility Study of Engineered Barriers for Waste Management Units in the 200 Area'. This comment has been transmitted from EPA to DOE.

The life expectancy of 1,000 years is related to the Hanford Barrier. The Modified RCRA Barrier is designed to last for a minimum of 500 years. The barrier program at Hanford has been attempting to engineer barriers with very long lives for semi-arid environment of similar to Hanford during the past ten years. The design of the Modified RCRA Barrier is based on these past ten years of data. The data associated with the past ten years is contained in numerous documents, although DOE has attempted to summarize much of this data in the 'Focused Feasibility Study of Engineered Barriers for Waste Management units in the 200 Area'. At this time, no confidence levels have been assigned to the Hanford or Modified RCRA Barriers.

The basis for these design lives is based on the requirements for protecting human health and the environment as stated in DOE orders, 10 CFR Part 61, and 40 CFR Part 191. The effective life of an intruder barrier should be at least 500 years for Class C as defined in 10 CFR or Category 3 as defined in WHC-EP-0063-4 (Hanford Site) which is analogous to Class C waste mentioned above.

Contamination and Risks:

Comment:

ERWM wants to know the criteria behind the evaluation of the levels of contaminants. It was indicated that the contaminated surface soils contained relatively low levels; the 2-15 ft near surface soils contain low levels of contamination of Cs^{137}, Ra^{226}, Pu^{238} to Pu^{240}, Sr^{90}, Tc^{99}, Co^{60}, U, Th^{238}, and Nitrates; and soils between 15-50 ft also contain the contaminants listed above. The difference is that nearly all of the significant contamination

results from much higher levels of Sr^{90}, Cs^{137}, Pu^{238} to Pu^{240} and U. Since extensive soil investigations and sampling were performed, it will be useful to have a three-dimensional map showing the contamination. It is our impression that the contaminants are mixed with each other, are there some chemical reactions or bombardments that could occur which may accelerate or delay the decay of contaminants? Moreover, it was stated that Sr^{90} and Cs^{137} are attributed for most of the radioactivity, with half-lives of up to 30 years, and will decay away in 200-300 years. It might be better to state the latter clause that these radionuclides will be gone 200-300 years from now.

A baseline risk assessment was done to estimate the health and environmental problems that may occur due to the contamination. ERWM suggests that the baseline risk assessment must include cultural risk. There are risk methods that equalize cultural values and resources with the more easily quantified public, worker, and ecological health. As an example, USEPA has Comparative Risk projects that have sets of metrics related to quality of life that include various measures of cultural, social, economic, and "outrage" impacts.

Responses:

The levels of contaminants contained in the upper 15 feet of soil are considered relatively low in comparison to contaminants contained in the deeper soils (15-50 feet). Also, the risks associated with the upper soils are at or near acceptable limits according to EPA regulations as compared to the very high risks associated with the deeper soils.

A map showing contaminants will be placed in the Record of Decision.

Although there is a possibility that bombardments may occur within the waste matrix, the amount or frequency of these bombardments will be extremely minute. These interactions are not expected to change the contamination in any way.

The Proposed Plan has been changed to state that radionuclides will decay away or will be gone within 500 years to coincide with the 500 year design life of the preferred barrier option.

The EPA agrees that cultural risk related to Native Americans should be assessed. The three parties have requested assistance from the Nez Perce Tribe as well as the Yakama Indian Nation and the Confederated Tribes of the Umatilla Indian Reservation to help in the development of a cultural risk assessment. Currently, no assessment has been agreed upon, although ongoing consultation and development is being conducted between the affected Native Americans and the three parties. Once, an assessment has been developed and agreed upon, a decision will be made whether to evaluate the 200-BP-1 OU.