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**Department of Energy**

Richland Operations Office  
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JUL 12 1995

Ms. Donna L. Powauke  
Environmental Restoration/  
Waste Management Program  
Nez Perce Tribe  
P.O. Box 365  
Lapwai, Idaho 83540-0365

Dear Ms. Powauke:

**RESPONSES TO COMMENTS ON THE DRAFT A, PROPOSED PLAN FOR THE 300-FF-1 OPERABLE UNIT**

The U.S. Department of Energy (DOE), Richland Operations Office, acknowledges the receipt of your letter to Mr. R. G. McLeod, dated April 26, 1995. The referenced letter presents the Nez Perce Tribe Department of Environmental Restoration and Waste Management (ERWM) comments on DOE/RL-95-10, Draft A, "Proposed Plan for the 300-FF-1 Operable Unit." DOE has reviewed and prepared responses to both the general and specific comments as enclosures to this letter.

A number of the concerns presented are addressed to issues associated with leaving waste in place for long periods of time. Leaving waste in place is a difficult decision to make. This decision can be made only if, after careful evaluation of the National Contingency Plan evaluation criteria, it is clearly the most prudent alternative. The 300-FF-1 proposed preferred alternative is still being discussed with the U.S. Environmental Protection Agency and the State of Washington Department of Ecology. The comments provided by the Nez Perce Tribe ERWM will be helpful during the decision making process.



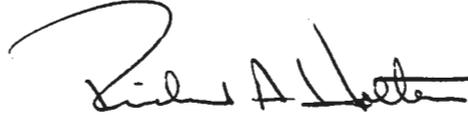
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Ms. Powaukee

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If you have any further comments or follow-up on these responses, please contact Mr. R. G. McLeod on (509)372-0096.

Sincerely,



Richard A. Holten, Director  
Plateau Remediation Division

Enclosures:

1. Comment Responses to the  
Nez Perce Tribe ERWM General  
Comments on the Proposed Plan  
for the 300-FF-1 Operable Unit,  
DOE/RL-95-10, Draft A
2. Comment Responses to the  
Nez Perce Tribe ERWM Specific  
Comments on the Proposed Plan  
for the 300-FF-1 Operable Unit,  
DOE/RL-95-10, Draft A

cc w/attach:

S. Alexander, Ecology  
D. Einan, EPA  
T. Logan, BHI  
H. Rueben, Nez Perce  
D. Sherwood, EPA  
L. Treichel, EM-442  
T. Wooley, Ecology

ATTACHMENT A  
3 Pages

COMMENT RESPONSES TO THE NEZ PERCE TRIBE ERWM GENERAL COMMENTS  
ON THE PROPOSED PLAN FOR THE 300-FF-1 OPERABLE UNIT  
DOE/RL-95-10 DRAFT A

COMMENT RESPONSES TO THE NEZ PERCE TRIBE ERWM GENERAL COMMENTS  
ON THE PROPOSED PLAN FOR THE 300-FF-1 OPERABLE UNIT  
DOE/RL-95-10 DRAFT A

a) Your preferred alternative (Process Waste Unit Consolidation and Soil Cover Option and the Burial Ground Institutional Controls Option) will create permanent disposal sites along the Columbia River. Therefore, ARARs pertaining to disposal sites should be considered with respect to leachate control, groundwater monitoring, and performance standards. Nez Perce ERWM recognizes no final decisions have yet been made, but we recognize the seriousness of leaving hazardous and radioactive waste permanently placed under only a soil cover so near the Columbia River.

Response: Specific ARARs were not cited in the proposed plan. The 300-FF-1 Phase III Feasibility Study (FS) evaluates all the alternatives including the preferred alternative for all potential ARARs. The ARARs section of the proposed plan will be revised to reflect the key ARARs at a minimum. Items such as leachate control, groundwater monitoring, and performance standards are evaluated in the FS report and are being considered as part of discussions with EPA and Ecology on the preferred alternative.

b) How does leaving in place waste containing radionuclides with half-lives longer than the term of expected operations satisfy DOE Order 5820.2A (III)(2)(a)? This order states that no legacy requiring remedial action remains after operations have been terminated. Compliance with this pertinent ARAR was not addressed in describing the remediation.

Response: DOE Orders are not ARARs under CERCLA, but are categorized as "To Be Considered." DOE Orders will be implemented where applicable. Under the Consolidate and Soil Cover Option and the Burial Ground Institutional Controls Option, institutional controls remain in place, requiring that no more than 25 mrem annual effective dose equivalent be exceeded beyond the facility boundary. This is being met by the alternative.

c) Your preferred alternative (Process Waste Unit Consolidation and Soil Cover Option and the Burial Ground Institutional Controls Option) requires ground water monitoring. The costs and length of time for ground water monitoring is not stated.

Response: A rough order-of-magnitude cost estimate was prepared for each of the alternatives presented in the proposed plan. This estimate is documented in Appendix H of the 300-FF-1 Phase III Feasibility Study report. Present worth analyses was performed so that all of the alternatives could be compared in current dollars. The present worth analyses was performed for a 30 year period per EPA guidance.

Groundwater monitoring costs were factored into the 300-FF-1 Feasibility Study cost estimates using the following assumptions: 1) long-term monitoring is performed for 30 years after remediation is complete, 2) 8 new wells are installed up and down gradient of contamination left in place above remediation goals, 3) groundwater monitoring and detailed

analyses is performed quarterly for indicator parameters for the first 5 years and annually thereafter, and 4) a comprehensive review of remedy performance is performed every 5 years as required under CERCLA Section 121(c).

d) The Nez Perce Tribe prefers the Excavation and Disposal Alternative to remediate the 300-FF-1 Operable Unit as it removes long-lived radionuclides from close proximity to the Columbia River. Although this alternative is more costly in the short run, we believe it is prudent to reduce this long term threat to the Columbia River, and biota dependent upon the river, as much as reasonably possible.

Response: The preference of the Nez Perce Tribe is recognized. It is clear that there is some level of long-term risk reduction by implementing the Excavation and Disposal Alternative. For an industrial use site, the risk levels indicate that some action is required at the 300-FF-1 Operable Unit. The Nez Perce Tribe preference will be taken into account during discussions with the EPA and Ecology on leaving contamination in place vs. removal.

e) Within the 300-FF-1 Operable Unit there are other contaminated areas which are not explicitly discussed. Specifically, we do not know if Burial Grounds No. 2, No. 7, No. 8, and No. 13 (referenced in the Remedial Investigation and Feasibility Study Report for the Environmental Restoration Disposal Facility, DOE/RL 93-99, p. 3-18 & 3-19) are being remediated. Are they labeled as Landfills 1a, 1b, 1c, and 1d on Figure 2, or are they in the 300-FF-2 Operable Unit?

Response: Not all of the contaminated areas within the 300 Area are shown in Figure 2. Burial Ground Nos. 2, 7, 8 and 13 are not shown in Figure 2 because these burial grounds are located within the 300-FF-2 Operable Unit.

f) The Plan should be revised to include bringing in Tribal cultural experts to monitor excavation activities along the river. The Proposed Plan doesn't mention the source of soil for the soil cover alternatives. If the origin of this soil is from an area with cultural resources then cultural experts from the Tribes should be present during the excavation.

Response: It is agreed that Tribal cultural experts should be involved to monitor remediation activities, especially along the river. DOE is very sensitive to the area's cultural resources. The exact source of the silty soil has not yet been determined. A cultural resource survey is required, and will be performed before any new areas are disturbed for purposes of obtaining soil cover materials. Tribal cultural experts are welcome to witness these activities.

g) Originally, the 307 retention basin and disposal trenches and 316-4 Crib were placed in the 300-FF-1 Operating Unit. Why are they now placed in the 300-FF-2 Operating Unit? The 307 retention basin and disposal trenches received sludge from 316-1 (South Process Pond) which remains in the 300-FF-1 Operating Unit. Liquid containing a total of 560 kg of uranium was discharged to the 316-4 Crib (referenced in the Remedial Investigation and Feasibility Study Report for the Environmental Restoration Disposal Facility, DOE/RL, 93-99, p. 3-20). These sites represent major environmental hazards. The Nez Perce Tribe is concerned that their placement on the list of approximately 190 sites in the 300-FF-2

Operating Unit will dilute the resources available to remediate 316-4 Crib and 307 retention basin and disposal trenches.

Response: The 316-4 Crib is located near the 618-10 Burial Ground; a considerable distance from the boundary of the 300-FF-1 Operable Unit. This waste management unit has never been a part of the 300-FF-1 Operable Unit. However, the 307 Retention Basin and Disposal Trenches were originally included within the original boundary of the 300-FF-1 Operable Unit. Phase 1 remedial characterization activities were performed at the 307 Trenches. It was only after the data was analyzed that a decision was made to transfer the waste management unit to the 300-FF-2 Operable Unit to facilitate the ability to completely remediate a complete operable unit. The 307 Trenches currently are partially covered by active facilities.

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ATTACHMENT B  
6 Pages

**COMMENT RESPONSES TO THE NEZ PERCE TRIBE ERWM SPECIFIC COMMENTS  
ON THE PROPOSED PLAN FOR THE 300-FF-1 OPERABLE UNIT  
DOE/RL-95-10 DRAFT A**

COMMENT RESPONSES TO THE NEZ PERCE TRIBE ERWM SPECIFIC COMMENTS  
ON THE PROPOSED PLAN FOR THE 300-FF-1 OPERABLE UNIT  
DOE/RL-95-10 DRAFT A

SPECIFIC COMMENT RESPONSES

Page 4, Figure 2

Are all the contaminated areas within the 300 Area shown? Burial Grounds No. 2, No. 7, No. 8, and No. 13 (Remedial Investigation and Feasibility Study Report for the Environmental Restoration Disposal Facility, DOE/RL-93-99, p. 3-18 & 3-19) are not shown. These areas should be shown and labeled if they belong in the 300-FF-1 Operable Unit.

This figure is not drawn to scale, and should be to fully appreciate the magnitude of the features involved and their proximity to the Columbia River and Richland residential areas.

Response

Not all of the contaminated areas within the 300 Area are shown in Figure 2. Burial Ground Nos. 2, 7, 8 and 13 are not shown on Figure 2 because these burial grounds are located within the 300-FF-2 Operable Unit. It is correct that the figure is not drawn to scale. Figure 2 will be replaced with a scaled figure.

Page 5, Column 2, 1) Process waste units (i.e., ponds and trenches), paragraph 1

The contamination in the Retired Filter Backwash Pond, which was part of the South Process Pond, was not sampled and is assumed to be the same as the South Process Pond. This assumption may not be valid. Sampling the Retired Filter Backwash Pond would lessen any doubts about the type and amount of contamination in the Retired Filter Backwash Pond.

Response

It is correct that no additional waste unit specific samples were taken in the CERCLA remedial investigation of the Retired Filter Backwash Pond area. It is agreed that additional sampling would lessen any doubts about the type and amount of contamination in the Retired Filter Backwash Pond. However, it is felt that additional sampling is not required considering all of the following information: 1) The contaminants in the soils in the area of the Retired Filter Backwash Pond resulting from the South Process Pond operations are not expected to be any different than those identified through process knowledge and sampling results from other locations within the South Process Pond, and 2) Near surface samples were taken from the Filter Backwash Pond area that were analyzed for non-radioactive contaminants that can be used as an analog to the Retired Filter Backwash Pond. This

addresses the operational period of the Retired Filter Backwash Pond, and 3). Although no sampling was performed during the CERCLA remedial investigation, prior sampling had occurred. A test pit was dug and 4 samples taken to a depth of 12.3 ft through the center of the Retired Filter Backwash Pond in 1987. The data from this sampling effort is referenced in the 300-FF-1 Phase I Remedial Investigation Report.

Page 5, Column 2, Burial Grounds, paragraph 2

Landfills 1a, 1c, and 1d are assumed to contain wastes similar to Burial Grounds 4 and 5. "Little historical information is available on the burial grounds within the 300-FF-1 operable unit." (Remedial Investigation and Feasibility Study Report for the Environmental Restoration Disposal Facility, DOE/RL-93-99, p. 3-18). Information supporting this assumption should be referenced. Soil sampling, magnetometer surveys, and ground penetrating radar can be used to assess the contents of Landfills 1a, 1c, and 1d.

Response

The referenced RI/FS for ERDF is correct in stating that "Little historical information is available on the burial grounds in the 300-FF-1 Operable Unit." Much more detailed information on the characterization of the 300-FF-1 Operable Unit burial grounds is found in the 300-FF-1 RI/FS documents referenced in the proposed plan. It is true that landfills 1a, 1c, and 1d are assumed to contain similar wastes as those in Burial Grounds 4 and 5. This assumption is based both on process knowledge and on the surface radiological surveys, ground penetrating radar, electromagnetic inductance, metal detector, and magnetometer surveys that were performed on the landfills. Some waste materials were observed on the surface at landfill 1a and 1c. This data coupled with some limited historical information suggests that waste contaminants are likely to be similar to those found during digging and sampling of test pits in Burial Grounds 4 and 5.

Page 5, Column 2, Burial Grounds, paragraph 3

Please provide a reference for the cultural resource survey conducted around the 300-FF-1 Operable Unit. Previous construction within the 300-FF-1 Operable Unit does not preclude the presence of historic and prehistoric artifacts. Work should proceed with caution throughout the area, and Tribal cultural observers should be involved.

Response

A Cultural Resource Survey was performed for the 300-FF-1 Operable Unit at the beginning of the phase 1 remedial investigation. The survey was performed by the Hanford Cultural Resource Laboratory given the designation, HCRC # 90-300-012. The proposed plan does state that with respect to the disturbed sites, that "none of the sites should contain historic and prehistoric artifacts." It is also stated and agreed that "work will proceed with caution

during remediation with special emphasis near the river." It is also agreed, but not so stated in the proposed plan, that Tribal cultural observers should be involved.

Page 6, Column 2, SUMMARY OF SITE RISKS, Paragraph 2

DOE claims monitoring data show ground water uranium concentrations are decreasing, due to the cessation of discharge to the 300 Area Process Trenches. However, monitoring data supporting this statement is not referenced.

Response

Groundwater monitoring data supporting the fact that uranium concentrations in groundwater are decreasing as a result of the cessation of discharges to the process trenches are located in the 300-FF-5 Operable Unit RI/FS documents. Appropriate reference(s) will be cited in the proposed plan.

Page 7, Column 2, Burial Grounds - B-2: Institutional Controls, second bullet

The use of Institutional Controls to "remediate" the Burial Grounds is similar to the No-Action Alternative, and the amount of years needed to remediate the site is unknown.

Response

Years to remediate for the No-Action alternative will be revised to not applicable. For this proposed plan, the definition of "years to remediate" is the time period to achieve the stated remedial action objectives. Remedial action objectives can be met by means of institutional controls, soil cover and excavation. The No-Action alternative does not meet the remedial action objectives. Therefore, "years to remediate" is not applicable.

Page 7, Column 2, Process Waste Units - P-2a: Soil Cover Alternative, second bullet

The amount of years to remediate is the same as the No-Action Alternative (unknown), and a soil cover can be placed over the ponds and trenches in two to three years.

Response

See previous comment.

Page 7, Column 2, Burial Grounds B-3: Consolidation and Soil Cover, second bullet

The amount of years to remediate is the same as the No-Action Alternative (unknown), and the earthmoving involved can be accomplished in two to three years.

**Response**

See previous comment.

Pages 7 & 8, Burial Grounds B-3 and Process Waste Units P-2b: Consolidation and Soil

This alternative requires that workers rearrange contaminated soil within the area to hopefully reduce the amount of area committed to long term waste management. This alternative exposes workers to hazardous materials and would release airborne contaminants as dust. It appears there is little advantage to this approach.

**Response**

There is potential to expose workers to hazardous materials and release airborne contaminants if this option is implemented. This same statement holds true for the Excavation and Disposal Alternatives P-3 and B-4 and the Excavation, Soil-Washing, and Fines Disposal Alternative P-4. An analysis of short-term worker risks is included in the 300-FF-1 Phase I Remedial Investigation with respect to potential accidents, fatalities, and potential for radionuclide exposure. As an analog for potential future cleanup actions in the 300-FF-1 Operable Unit, it is prudent to evaluate the 316-5 Process Trenches Expedited Response Action. The ERA consisted of excavating and hauling contaminated soils from one end of the 1500 ft long trenches to the opposite end. Dust controls were implemented, personnel breathing zones and air samples monitored indicating personnel breathing zones well within allowable limits and no observed contaminant migration resulting from the removal and consolidation activities. The risk of worker exposure or airborne releases are therefore considered to be very small and manageable. The advantage of this alternative is to minimize the area that would need to be used for long-term containment.

Page 8, Column 1, Process Waste Units - P-2b: Consolidation and Soil Cover, second bullet

The amount of years to remediate is the same as the No-Action Alternative (unknown), and the earthmoving involved can be accomplished in two to three years.

**Response**

Please see comment, above, regarding "years to remediate."

Page 8, Column 1, Process Waste Units - P-3: Selective Excavation and Disposal, second sentence

Since burial ground contents are partially unknown, it may be prudent to further investigate these contents before committing to a specific remediation plan. Further study, to define burial ground contents, would aid the remediation workers to anticipate potential hazards.

**Response**

Historical information was reviewed, geophysical and surface radiation surveys performed for all of the burial grounds including the landfill areas. In addition, test pits were dug and soil gas surveys performed for Burial Grounds 4 and 5. Discussions are ongoing with EPA and Ecology on leaving the burial grounds in place vs. excavating them. The amount of characterization needed to leave a burial ground in place is a part of the discussions. Worker safety is an important aspect for both characterization and remediation work scope. Appropriate worker protection health and safety planning will be performed prior to implementation of field work.

**Page 8, Column 2, Overall Protection, last sentence**

The DOE claims prior construction and operations have degraded the area to the extent that natural and cultural resources can no longer exist in the 300 Area. On the contrary, the Nez Perce Tribe believes that cultural sites in the 300 Area have not been automatically precluded by prior disturbances and reasonable caution should be taken to prevent adverse impact on newly discovered cultural sites.

**Response**

In the process of remediation, all attempts will be made to remain within the confines of the disturbed areas. DOE is very sensitive to the fact that some of the northern sections of 300 Area and areas near the river may contain cultural resources. However, remediation work performed within the previously disturbed waste management units is not expected to significantly impact natural or cultural resources. It is agreed that reasonable caution will be taken to prevent adverse impact on potential cultural sites.

**Page 9, Column 1, Compliance with ARARs**

The statement "All alternatives that include a soil cover to prevent direct exposure from surface contamination meet ARARs" is unsupported.

**Response**

The text will be included to support the statement. An analysis of ARARs was performed with respect to each of the alternatives evaluated in the 300-FF-1 Phase III Feasibility Study report cited in the introduction of the proposed plan.

**Page 9, Column 1, Cost**

The DOE claims the Process Trench Consolidation and Soil Cover option and the Burial Ground Institutional Controls Option combination is the most cost-effective solution. However, it is not clear how ground water monitoring costs have been factored into the

overall cost of the remediation; neither is it clear over what time period the DOE proposes to monitor ground water in the 300 Area.

#### Response

A rough order-of-magnitude cost estimate was prepared for each of the alternatives presented in the proposed plan. This estimate is documented in Appendix H of the 300-FF-1 Phase III Feasibility Study report. Present worth analyses was performed so that all of the alternatives could be compared in current dollars. The present worth analyses was performed for a 30 year period per EPA guidance.

Groundwater monitoring costs were factored into the 300-FF-1 Feasibility Study cost estimates using the following assumptions: 1) long-term monitoring is performed for 30 years after remediation is complete, 2) 8 new wells are installed up and down gradient of contamination left in place above remediation goals, 3) groundwater monitoring and detailed analyses is performed quarterly for indicator parameters for the first 5 years and annually thereafter, and 4) a comprehensive review of remedy performance is performed every 5 years as required under CERCLA Section 121(c).

Page 9, second column, PREFERRED ALTERNATIVE, last bullet

The addition of a soil cover will not eliminate infiltration as the DOE claims. It will, however, reduce infiltration of surface water, and thus reduce further transport of contaminants into the ground water.

#### Response

It is agreed that the soil cover will not eliminate 100% of infiltration. This statement will be corrected. However, a fine silty soil cover planted with shallow rooted grasses will significantly reduce infiltration. Evapotranspiration studies performed in the 300 Area since 1979 have indicated that with rainfall averaging over 6 inches per year, only a few tenths of an inch of drainage occurred per year in weighing lysimeters.