



Oregon

Theodore R. Kulongoski, Governor



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Mathew S. McCormick
Assistant Manager for the Central Plateau
U.S. Department of Energy - Richland Operations Office
PO Box 550, MS A5-11
Richland, Washington 99352

Subject: Review of the "Remedial Investigation Report For The Plutonium/Organic-Rich Process Condensate/Process Waste Group Operable Unit: Includes The 200-PW-1, 200-PW-3, And 200-PW-6 Operable Units," DOE/RL-1006-51, Rev. 0. and Draft A of the Feasibility Study and Proposed Plans

Dear Mr. McCormick:

Oregon appreciates the opportunity to review this remedial investigation report (RIR) and the follow on feasibility study and proposed plan.

We submitted mainly favorable comments on the prior version of this report (draft A) on December 14, 2006. Although our comments noted that some additional work was still needed on the conceptual models that form the basis of the investigation, our review suggested that the project was generally headed in the right direction – that the models recognized that waste movement was far more complex than simply in a vertical direction.

Our review of the latest version of this document suggests that, except for correcting some erroneous data values that we pointed out, DOE has gone back to a simple vertical flow model, which we believe does not accurately reflect the manner in which water and contaminants move in the subsurface. The concern we have is that significant decisions are being made based on these erroneous conclusions.

Perhaps the most significant is the decision to leave substantial contaminants in place in these Operable Units.

In July 2005, the Oregon Hanford Cleanup Board and the State of Oregon provided detailed recommendations to the Department of Energy on capping. While the Board recognized that capping will be necessary in some cases, it urged that capping not be considered as a substitute for cleanup. Not only do they require extensive, long-term maintenance and monitoring commitments, in time – a few decades at most – they will fail. They are also themselves significant natural resource injuries. Therefore, they commit DOE to making the significant natural resource restorations legally required to offset those injuries.

The Board said there are certain conditions in which capping should almost never be considered: when the waste site is not fully characterized; when wastes are known or suspected to be mobile or long-lived; and when movement of water through the soils adjacent to and through the waste sites is not fully understood. The Hanford Advisory Board (HAB) offered similar advice (advice #173).

We believe that these Operable Units fail the Cleanup Board's criteria for capping. While we cannot speak on behalf of the HAB, it is our opinion that these Operable Units also fail the HAB's criteria for capping. These waste sites are not fully characterized and there is known to be plutonium and americium in these waste sites – which are both long-lived and, in certain conditions, are mobile. Revision 0 of the RIR presumes that plutonium and other contaminants are highly immobile in the soil. Mobile plutonium and americium under these waste sites is not tightly sorbed or retained by the soil. A large fraction of the waste remains in the cribs and is slowly converting to highly mobile forms.

Moreover, caps and barriers cannot and will not work when a flow of water and waste comes from outside the area under the cap or within the barrier—such as in the waste sites considered here. Revision 0 of the RIR presumes that preferential flow of water and waste is not occurring under these waste sites. However, the historical and investigational data clearly demonstrate this to be the case. Water and waste are moving via preferential horizontal and vertical paths as described in the attached detailed comments.

We also note three other major problems with this work. First, many of the wastes disposed in these sites were and are governed by the Resource Conservation and Recovery Act (RCRA) and the Model Toxics Control Act (MTCA), both of which require more stringent protections than those required by the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and its amendments. These also include requirements for the closure and post-closure process analysis for the waste sites that received RCRA wastes and cleanup of those wastes.

Second, the alternatives evaluated do not achieve the risk range required under either CERCLA or RCRA. Thus, the simple barrier alternative (and others) should have been excluded from further analysis for failure to meet the threshold protectiveness criteria. By continuing to include analysis of these alternatives, DOE biases the resulting feasibility study by including the costs of non-protective alternatives that fail to meet the most minimal requirements of CERCLA or RCRA. The analyses also seemingly discount or ignore the bias for action and treatment EPA requires under CERCLA and that the State of Washington requires under RCRA and MTCA.

Third, DOE devalues and ignores the natural resource injury resulting from the proposed actions. Per DOE and EPA guidance, evaluations of alternatives considered need to include these impacts and costs.

In summary, proceeding with the proposed alternatives will not be protective or effective. The proposed alternatives will result in continued movement of plutonium, americium, carbon

tetrachloride and other wastes beneath the site, requiring more costly and difficult cleanup work later.

We therefore recommend you retract the draft A of the feasibility study and proposed plan as premature and complete work on the remedial investigation report using accurate and valid conceptual models that are based on the known historical data, which shows rapid transport of all of these contaminants via preferential pathways to groundwater.

We further recommend you convene a new team (including regulators and independent external members) to re-evaluate and develop these conceptual models and perform additional data quality objective and field sampling work to define the fundamental nature of the wastes' movement and the fate and extent of that movement.

Please refer to the attachment for specific examples and comments detailing the sorts of problems we find in the RIR.

If you have questions regarding our comments or would like more details, please contact Dirk Dunning at (503) 378-3187.

Sincerely,



Ken Niles
Assistant Director

Attachment - Detailed comments focused on the Z-9 crib as an example

Cc: Dennis Faulk, U.S. Environmental Protection Agency
John Price, Washington Department of Ecology
Sandra Lilligren, Nez Perce Tribe
Wade Rigsbee, Yakima Nation
Ted Repasky, Confederated Tribes of the Umatilla Indian Reservation
Hanford Natural Resource Trustees
Susan Leckband, Chair, Hanford Advisory Board