



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10 HANFORD/INL PROJECT OFFICE
309 Bradley Boulevard, Suite 115
Richland, Washington 99352

October 19, 2010

Briant L. Charboneau
Federal Project Director
Richland Operations Office
U.S. Department of Energy
P.O. Box 550, A6-33
Richland, Washington 99352

Re: EPA Comments on the 200-CW-5 Feasibility Study (Draft C Reissue)

Dear Mr. Charboneau:

The U.S. Environmental Protection Agency (EPA) has reviewed the Draft C Reissue version of the 200-CW-5 Feasibility Study (FS). Overall, the draft is a significant improvement over earlier drafts. Please find our comments enclosed.

If you have questions, please contact me at 509 376-8665.

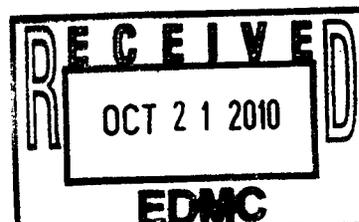
Sincerely,

A handwritten signature in cursive script that reads "Craig Cameron".

Craig Cameron
Project Manager

Enclosure

cc: Greg Sinton, DOE
Jane Hedges, Ecology
Nina Menard, Ecology
Susan Leckband, HAB
Ken Niles, ODOE
Stuart Harris, CTUIR
Gabriel Bohnee, Nez Perce Tribe
Russell Jim, Yakama Nation
Administrative Record: 200-CW-5 Operable Unit



200.CW.5

**U.S. Environmental Protection Agency Comments on the Feasibility Study for the
200-CW-5 Cooling Water Operable Unit (DOE/RL-2004-24, Draft C, Reissue)**

October 19, 2010

1. This version of the 200-CW-5 operable unit (OU) feasibility study report is much improved over earlier versions. The main points from EPA comments provided in 2005 and 2008 on the Z-Ditches waste sites have been addressed. The document is readable and the technical editing was performed to a high level of quality.
2. EPA is awaiting the additional changes to the document that DOE mentioned in the transmittal letter (e.g., making it consistent with regard to waste site cover thickness for the Tribal scenarios in the risk evaluation). We also expect that the document will be updated with the characterization data recently gathered from the U Pond delta where the Z-Ditches used to flow into the pond during operations.
3. EPA understands that DOE is considering the RTD alternative as the preferred alternative for the Z-Ditches (almost the entire operable unit consists of these waste sites with one other site already meeting preliminary remediation goals [PRGs]). We agree that RTD should be the preferred alternative for the Z-Ditches when the proposed plan is developed. Besides the trend of comments on earlier versions of this document, the EPA and Ecology white paper on cleaning up the Hanford Central Plateau is instructive in understanding how the regulatory agencies view cleanup of shallow, long-lived contaminants.
4. The RTD alternative (EPA's preferred alternative) must include the provision, consistent with the approach used for the 200-MG-1 and 200-MG-2 OU waste sites, to dig below 15 feet below the ground surface in some places if digging a few more feet completely eliminates the waste site residuals by removing them. This would allow for the elimination of the need for institutional controls (ICs) and monitoring, as well as having to include a review of the Z-Ditches during CERCLA Five-Year reviews. If it is observed while excavating the sites that contamination above PRGs is substantially deeper, then DOE and EPA could reconsider the appropriate response action.
5. The heavy skewing of the contaminants of concern toward long-lived radionuclides such as plutonium-239 challenges the use of the 1,000 year timeframe for risk assessment and cost estimating. An earlier version of this document indicated that PRGs would not be met for up to 4,400 years for some portions of the Z-Ditches if left unremediated. ICs, and groundwater and vadose zone monitoring would have to continue long after 1,000 years if contamination is left in place. In fact, reducing infiltration with a surface barrier may actually extend the timeframe for meeting PRGs by lessening the rate of diffusion of contaminants which, along with radioactive decay, is a part of the process of natural attenuation. Please clearly present in the feasibility study the estimated time to meet PRGs for these sites, absent of remediation.

6. With regard to the barrier alternative, adding a barrier when there is supposedly no threat to groundwater just to make the 15 foot point of compliance seems to violate the spirit of that compliance point from the regulations. In actuality, material shouldn't be added to increase the thickness between the waste and the receptor, but rather the sites should be cleaned up to the original 15 foot depth below the ground surface. We believe this is consistent with the EPA and Ecology white paper position we took on this issue as well as with applicable Hanford Advisory Board advice (e.g., Advice 173 - Central Plateau Values [flow chart]).
7. Please explain the apportionment of groundwater monitoring costs covered by the 200-CW-5 remedial action versus what is addressed by the two underlying groundwater OUs. What is the rationale for this apportionment of costs?
8. Delete references to the two exposure scenarios DOE is proposing related to a hypothetical all-terrain vehicle rider and an institutional control worker. Not only were these not run for this feasibility study, but we are only in preliminary stages of discussing these in the scoping of the remedial investigation/feasibility study for the 200-WA-1 OU. Also, delete any reference to using these scenarios to set cleanup levels. EPA and Ecology have not agreed to use these scenarios to set any cleanup levels.
9. EPA would like DOE to be consistent with the 200-PW-1/3/6 feasibility study and run an excavation worker scenario (just like the one used in that feasibility study). We believe that the inhalation of alpha-emitting radionuclides during robust excavation work will make this a fairly conservative scenario, even though the duration of the activities is shorter than the time period for the regular industrial scenario.
10. EPA believes the characterization of in situ vitrification (ISV) as an "innovative" technology is misleading. We agree that the use of this technology on larger sites is less proven, however the technology is a long way from being considered "innovative" as it has been applied successfully for years to smaller sites. We agree that a pilot test would probably be necessary to help scale up and refine the process if an alternative using ISV were selected.
11. There is very little information about nitrate contamination for these sites. It is difficult to know for sure that there is not a groundwater threat from nitrate based on the characterization information. Use of the observational approach (if RTD is selected) and verification sampling should allow for modifications to address this contaminant if the conceptual model (indicating it is not a groundwater threat) is not confirmed. Also, if an alternative that leaves more residual material behind is selected, design and confirmatory sampling will need to be performed to confirm that nitrate contamination is fully understood and is addressed by the remedy.
12. In evaluating the CERCLA criteria, a note should be added with regard to RTD and the reduction of toxicity, mobility or volume (TMV) through treatment. While generally, the radionuclides in low-level waste that go to ERDF do not receive treatment, it is possible for some waste forms to be grouted if the extra benefit of doing so was deemed

necessary. So by removing the waste, there is an opportunity to treat it, even if it does not receive treatment.

13. One recurring concept that we would like to see DOE improve its coverage of in documents is that of CERCLA's definition of "onsite." This term has a very specific meaning under CERCLA and draft DOE documents often confuse this concept with proximity on the Hanford site. When DOE means something on the Hanford site it should be referred to as "on the Hanford site" rather than "onsite" which implies the secondary location is part of the CERCLA action. Please revise the document where necessary.
14. EPA would like to clarify that the situation where PRGs (or more appropriately, the cleanup levels selected by the record of decision and remedial design/remedial action work plan) are not met is not the only thing that would warrant having to perform a Five-Year review. Five-Year reviews are necessary as long as the waste sites do not meet unrestricted use and unlimited exposure (UU/UE). Meeting industrial cleanup levels would require ICs to be in place to assure industrial exposures and this is not the same as meeting UU/UE.
15. Finally, there is a statement in the Appendix on the proposed applicable or relevant and appropriate requirements (ARARs) that indicates that regardless of ARARs or to-be-considered (TBC) criteria, that DOE orders must be met. EPA would like to point out that DOE orders are not promulgated and therefore cannot be considered ARARs. EPA must agree with the application of these orders to the CERCLA response action and when they conflict with statutory authority we would weigh in on their application. However, we are supportive of DOE meeting its appropriate safety procedures and requirements.