



May 2, 1997

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Lloyd Piper, Acting Manager
U.S. Department of Energy, Richland Operations
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Subject: 100-D Area Treatability Study

Dear Messrs. Frank and Piper:

For over a year, the Hanford Advisory Board and its Environmental Restoration Committee have been tracking several technical issues associated with proposals to perform scale-up treatability studies of a new technology called In Situ Redox Manipulation. This technology is being considered to remediate chromium VI contaminant plumes in the 100-D Area of the Hanford Site. These issues relate to (1) questions about reoxygenation of the groundwater before it reaches the Columbia River where it could impact salmon reds, (2) effects of the technology on mobilization of uranium and other metals in the plume, (3) the need for contingency planning if groundwater does not reoxidize before reaching the River, (4) the need for long-term monitoring of the effects of the technology on groundwater, and (5) the need to better characterize the magnitude and extent of the chromium contamination. DOE, the concerned tribes, and the DOE-RL Site Technology Coordination Group have been negotiating these issues and the Board understands that the parties have reached general agreement on measures resolving the concerns. The parties are to be commended on their efforts to address and incorporate stakeholder concerns into this technology demonstration and deployment project. This demonstrates a firm commitment to get on with cleanup of this area of groundwater contamination.

In evaluating this technology for further development and deployment, DOE should consider how the technology addresses the following Hanford Advisory Board values:

1. Protect the Columbia River.
2. Deal realistically and forcefully with groundwater contamination.
3. Get on with the cleanup.
4. Do no harm during cleanup.
5. Use the most practicable, timely, available technology, while leaving room for future innovation.

The Hanford Advisory Board supports efforts to move forward with the in situ redox manipulation projects at the Hanford 100-D Area, including the current treatability study and the proposed development of a deployment initiative. The Board also supports the use of Technology Development funding for a treatability study and deployment initiative with this technology. The Board recommends DOE commit and adhere to the following conditions: This support is contingent upon DOE acceptance of and commitment to the following conditions:

1. Long Term Monitoring - DOE should incorporate tThe treatability study and deployment initiative will be incorporated into the DOE Hanford Groundwater Monitoring Plan after expenditure of project funds. This mMonitoring of should address all pertinent constituents throughout the life of the Redox barrier will be continued.
2. Long-Term Mitigation - DOE should ensure appropriate action is taken to mitigate the area impacted if In the event the anoxic plume from associated with in situ redox manipulation poses an environmental risk to the Columbia River, such as salmon spawning to the Columbia River gravel substrate environment and associated biota, DOE-RL will ensure that appropriate action is taken to mitigate the impacted area.
3. Peer Review Recommendations - DOE should provide aAdditional funding is being provided by EM-50 to support response to to address all the Peer Review Panel concerns and recommendations. This Panel was convened in February 1997 to review in situ redox manipulation, identifying a number of unresolved issues. convened by the American Society of Mechanical Engineers. This will include re-oxygenation and uranium mobilization problems associated with the technology plus other concerns.
4. Characterization at Test Plan and Deployment Site - DOE-RL should has agreed to fund, and initiate this fiscal year, additional characterization of the 100-D chromium source(s). Hot Spot to define the magnitude and extent of high chromium concentrations.

We look forward to your response and to periodic progress updates on this matter.

Very truly yours,

Merilyn B. Reeves, Chair
Hanford Advisory Board

cc: Shannon Saget, DOE-RL
Tom Fitzsimmons, Washington Department of Ecology
Chuck Clarke, Environmental Protection Agency
Alice Murphy, Designated Federal Official
The Oregon and Washington Congressional Delegations
Randy Smith, Environmental Protection Agency
Dan Silver, Washington Department of Ecology

This advice represents HAB consensus for this specific topic. It should not be taken out of context to extrapolate Board agreement on other subject matters.

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For questions or comments, please send [email](mailto:Hanford_Advisory_Board@rl.gov) to Hanford_Advisory_Board@rl.gov
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