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Mr. Todd Martin, Chair
Hanford Advisory Board
713 Jadwin, Suite 4
Richland, Washington 99352

Dear Mr. Martin:

RESPONSE TO HANFORD ADVISORY BOARD (HAB) ADVICE #180: 200 BC CRIBS FOCUSED FEASIBILITY STUDY AND PROPOSED PLAN

65630

Thank you for your letter of advice on the Focused Feasibility Study (FFS), DOE/RL-2004-66, Draft A, and the Proposed Plan (PP), DOE/RL-2004-69, Draft A, for the BC Cribs and Trenches Area. The documents you reviewed represented initial drafts of the FFS and PP. A second revision of both documents is being prepared for U.S. Environmental Protection Agency Region 10 review. This revision will take into consideration your advice and a final version will eventually be made available for public review and comment as part of the CERCLA process.

The U.S. Department of Energy (DOE), Richland Operations Offices' (RL) specific responses to your advice #180 follow.

The Board advises DOE to reevaluate the FFS/PP to include:

a) Full evaluation of Best Available Technologies following the decision tree set forth in HAB Advice #173

Response: Per the DOE response to HAB advice 173 and 174, RL continues to follow the CERCLA remedy evaluation process which includes consideration of retrieval and treatment-related technologies (as referenced in the HAB's Central Plateau remedial Action Values Flow chart). In addition, as identified in Chapter 4, an Evaluation of Best Available Technologies is addressed in the Identification and Screening of Remedial Technologies. This chapter identifies the review of technologies that have been previously considered by the Implementation Plan (DOE/RL-98-28) such as in situ vitrification, in situ grouting, vertical grout barriers, etc. and expands the review to address in situ treatment of deep mobile contaminants such as Technetium-99. Since issuance of the initial Draft A of the FFS, DOE's contractor has received a report containing recommendations from an expert panel review of the deep mobile treatment technologies, which will be taken into consideration in the updated FFS.

b) Reanalysis of worker dose using realistic, probable exposure scenarios while ensuring adequate worker protection

Response: The FFS acknowledges that significant further worker dose reduction is achievable, albeit with potential schedule and cost impact. The current analysis provides focus for process improvement and/or equipment changes. For example, revising the process of installing the cover over the Environmental Restoration Disposal Facility container of contaminated soil could probably be accomplished without workers being in close proximity to the container, thereby providing significant dose reduction. Providing additional shielding between the truck drivers and the loads of contaminated soil would provide further benefit. Additional potential dose reduction measures are to provide remotely actuated water sprayers for dust control and to assess soil dose rates with excavator-mounted sensors rather than having a Radiation Control Technician perform the measurement. Most of these worker dose reduction-type measures have been successfully demonstrated and/or previously implemented here at the Hanford Site. Considering these process/equipment changes, we estimate that the 75 person-rem dose previously estimated could be reduced by half.

c) Full integration of all appropriate DOE organizations to ensure all long-term stewardship needs are addressed

Response: The DOE has long recognized the need to provide enduring long-term stewardship to protect human health and the environment from residual wastes. For all our cleanup projects at RL, DOE has developed Integrated Project Teams that include all of the organizations critical to project success. As we continue to develop institutional control planning for the Hanford Site, we intend to continue to include and involve all of our component organizations, as HAB suggests, in addition to the Tribes and the public. RL will also be working closely with the DOE Office of Legacy Management to ensure a smooth transition between Environmental Management and that office.

d) Analysis of the reasonable likelihood and consequences of failure of institutional controls during and after an active Institutional Controls (IC) period

Response: The remedy selection decision process for the BC cribs and trenches will take into consideration the likelihood and consequences of IC failure. Ultimately, the various types of ICs that are associated with remedial action decisions are expected to be part of a comprehensive Hanford Site IC program. Preparation of this program is expected to include defensible estimates of future IC failure within and outside of the Core Zone. Enduring ICs are expected for portions of the Core Zone that possess residual waste representing significant risk. For portions with lesser risk, somewhat lesser expectations should be applied to ICs. In all cases, ICs must be designed with redundancy and robustness to reduce risk to future generations and the environment. Whether this waste is within an engineered waste disposal site, such as the Environmental Restoration Disposal Facility or Integrated Disposal Facility, or contained beneath a barrier, or

immobilized through treatment, ICs will be necessary. A combination of administrative and engineering "barriers" will be developed to reduce the likelihood of IC failure. In advice #132 the HAB has already recognized its anticipation of restrictions on groundwater use for the next 150-300 years because of expected Iodine-129 contamination. Those same restrictions could be extended to restrict activities having potential to encounter residual waste in the vadose zone.

During the period of active IC, i.e., when surveillance and/or security personnel are onsite, the likelihood of IC failure is less likely. In addition to engineered features associated with the waste containment structure, personnel will maintain fences and signage, perform regular inspections, perform surveillances, and ensure appropriate review occurs before any excavation is performed. Also, the CERCLA Five-Year Review process will ensure enduring vigilance. The period of active IC coincides with the period when consequences of IC failure are highest, because radioactive decay will not have had as much time to work.

Following the period of active IC, some measure of surveillance is expected to continue. The likelihood of the residual waste actually being intersected by human activity will be small, however, because the Central Plateau is unlikely to be the site of significant population growth. The legacy of Hanford and its role in U.S. history make it highly unlikely that its residual risk will be forgotten. While rural activities such as grazing cattle could occur at sometime in the foreseeable future, we believe there will be significantly more attractive locations for housing developments or industrial parks during that timeframe.

If you have questions regarding these specific responses please contact me, or your staff may contact Matt McCormick, Assistant Manager for the Central Plateau, on (509) 373-9971.

Sincerely,

Keith A. Klein
Manager

AMCP:BLF

cc: See Page 4

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