



U.S. Department of Energy
Office of River Protection

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Richland, Washington 99352

11-HAB-0041

AUG 25 2011

Ms. S. L. Leckband, Chair
Hanford Advisory Board
EnviroIssues Hanford Project Office
713 Jadwin, Suite 4
Richland, Washington 99352

Dear Ms. Leckband:

HANFORD ADVISORY BOARD (HAB) JUNE 3, 2011, CONSENSUS ADVICE # 245,
"SYSTEM PLAN (REVISION 6)"

Thank you for your letter (enclosed) and interest in the system planning utilized as part of the U.S. Department of Energy (DOE) Office of River Protection's (ORP) mission to safely store, retrieve, treat, and immobilize tank waste at Hanford. ORP appreciates the HAB's input and understanding needed of the complexities involved in this process.

ORP's River Protection Project (RPP) System Plan describes how the mission could be achieved given an underlying set of assumptions and communicates the potential mission impacts of key issues and uncertainties. The plan integrates single-shell tank retrieval, waste feed delivery, supplemental low activity waste (LAW) treatment, potential transuranic (TRU) packaging, and operation of the Waste Treatment Plant (WTP). This integration results in the identification of areas that might benefit from resolution of issues and uncertainties, and provides input to ongoing risk mitigation strategies at ORP.

The RPP System Plan is currently being revised consistent with the assumptions previously provided to and discussed with the HAB. Revision 6 is planned to be published in October 2011. DOE has carefully considered each of the HAB's specific recommendations contained in Advice #245 and has addressed them individually below.

Advice Point #1: System planning is important to establishing the approach to efficient cleanup, and to managing the process, costs, and schedules. DOE should fund this work as a high priority.

Response: DOE will continue to support the system planning efforts necessary to advance the ORP mission. While the Tri-Party Agreement (TPA) Milestone M-062-40B requires the RPP System Plan to be issued tri-annually, the system planning process is structured around the production of an annual update. Current baseline planning anticipates a revision annually, in October.

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Advice Point #2: For system planning to be effective, the participating agencies should involve all of the stakeholders on each annual revision as they have been, even as the Tri-Party Agreement makes that participation a formal requirement only every third year. The insights gained from working together yearly are far too important to do otherwise; such a project calls for consistent attention to allow the formal reviews to be comprehensive and timely.

Response: The TPA requires ORP and the State of Washington Department of Ecology collaboration every third year; however, it is DOE's intent to continue to foster collaborative working relationships consistent with HAB Advice #238.

Advice Point #3: The System Plan should evaluate contamination arising from the tank farm complex, WTP, and residual waste streams of the WTP and ancillary facilities. These scenarios should appropriately include evaluation of the proposed facilities, costs, and impacts occurring from long-term on-site storage of high-level waste products to more accurately capture the total system parameters.

Response: As you know, the purpose of the RPP System Plan is to provide a basis for the alignment of program cost, scope, and schedule from the upper-tier contracts to individual facility operating plans. The RPP System Plan is based on the delivery and immobilization of tank waste. As such, it is not a tool that is designed to model contamination levels at various locations around the Hanford Site or the disposition of residual waste streams.

Advice Point #4: There are a number of issues that should be considered in future system plans. DOE and Ecology should plan WTP system operations, in so far as it is possible, to maximize immobilization of long half-life isotopes such as technetium-99, iodine-129, and uranium in a deep geological repository rather than in local disposal. Currently, carbon-14 appears to be routed for release to the air which may increase risks to human health and the environment.

ORP Response: Due to the difficulty in retaining mobile contaminants such as Technetium -99 (Tc-99) in a high temperature immobilization process such as vitrification, the current design of the WTP will result in the majority of the Tc-99 and Iodine-129 going to the LAW immobilization processes. Several efforts are underway to ensure suitable waste form performance for a near surface burial trench disposition of immobilized LAW. We are performing melter off-gas recycle testing to validate design assumptions and maximize Tc-99 retention in LAW glass, and exploring alternate waste forms that may better retain Tc-99. We are also exploring possibilities of Tc-99 removed from LAW and secondary waste treatment feed streams. While the RPP System Plan cannot make WTP perform differently than its design, ORP is working to address mobile contaminants in the best, most cost-effective ways possible as part of the system planning process.

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Advice Point #5: The Board encourages DOE and Ecology to evaluate new and applicable technologies when necessary to meet requirements. DOE and Ecology should not be distracted by alternative technologies that are not well proven until they achieve a high level of maturity and certainty about their capabilities, costs, and other issues. Inclusion of immature technologies on an equal basis with proven technologies in the System Plan creates significant programmatic and financial uncertainties and risks.

Response: ORP evaluates alternative technology scenarios in the RPP System Plan to help drive decisions regarding where limited technology development dollars can be best invested to achieve significant improvements in our waste retrieval, treatment, and disposition mission.

Advice Point #6: The participating agencies should continue to work towards developing and integrating the System Plan with the Lifecycle Cost and Schedule Report. DOE and Ecology should consider total system costs and operating lifetime, when comparing potential system alternatives (including lifecycle cost, actual capital expenditures, operations, decommissioning, and disposition costs). This report should also explicitly evaluate the metrics for performance and risk.

Response: The ORP system planning process is aligned with the Hanford Lifecycle Cost and Schedule Report planning efforts. The 2012 lifecycle report is scheduled to be issued in January 2012 and will incorporate the RPP System Plan 6 results. The existing process for the RPP System Plan development, including risk identification and mitigation steps, will continue to contribute information to the Hanford Lifecycle Cost and Schedule Report. Please understand however, that the RPP System Plan draws from other risk management and performance measurement systems, and does not attempt to replicate those efforts.

Advice Point #7: DOE should include an indicator for "degree of uncertainty" for each alternative in the scenarios document (similar to the currently used indicators of "difficulty" and "priority"), to provide information on how much confidence the decision-makers should place in the System Plan alternatives and results.

Response: The system planning process documents the results of the analysis of select scenarios that are based on formalized key assumptions. Each scenario is individually modeled to provide an evaluation of integrated system performance. Individual attributes may be varied to determine the impact on the overall performance. Assigning subjective "degree of uncertainty" weights to each scenario prior to evaluation over-complicates an already detailed, sophisticated process. For the baseline scenario, a risk management plan has been developed to analyze the uncertainties.

Advice Point #8: For subsequent System Plans, DOE and Ecology should consider routing to WTP the long half-life isotopes from various waste streams (recovered from solid and liquid

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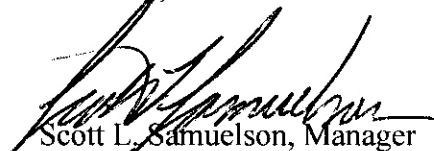
wastes, burial grounds, soil, and groundwater). DOE should include these wastes with the high-level waste stream destined to be vitrified and disposed in the high-level waste repository.

Response: The RPP System Plan is focused on accomplishment of ORP's tank waste cleanup mission. Waste streams from other Hanford Site cleanup efforts largely do not factor into the retrieval, treatment, and disposal of tank waste, and are the subject of other cleanup decision processes.

ORP appreciates the HAB's values and policy level advice with regard to ORP's tank waste cleanup mission. We recognize the importance of the stakeholder involvement and appreciate the effort that is required to consider Hanford tank waste cleanup plans and alternative analysis. We look forward to sharing the RPP System Plan Revision 6 with the HAB after the plan has been approved.

If you have any questions, please contact Pamela K. McCann at (509) 376-7663.

Sincerely,



Scott L. Samuelson, Manager
Office of River Protection

HAB:DMS

Enclosure

cc: See page 5