

FINAL MEETING SUMMARY
HANFORD ADVISORY BOARD
TANK WASTE COMMITTEE MEETING
March 8, 2006
Richland, WA

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This is only a summary of issues and actions in this meeting. It may not represent the fullness of ideas discussed or opinions given, and should not be used as a substitute for actual public involvement or public comment on any particular topic unless specifically identified as such.

Welcome and Introductions

Rick Jansons, Tank Waste Committee (TWC) Chair, welcomed the committee and introductions were made. The February committee meeting summary was adopted with changes.

M-62-08 Status

Zack Smith, Department of Energy-Office of River Protection (DOE-ORP), provided an update on issues regarding Tri-Party Agreement (TPA) milestone M-62-08. DOE-ORP is continuing to work on the design of the Demonstration Bulk Vitrification Project (DBVP), which is scheduled to be complete in June 2006. An external independent review (EIR) will be performed in August 2006 to evaluate the costs associated with construction and operation of the DBVP. He said the EIR is the key determination for deciding to move forward with the project. In addition to the EIR, DOE-ORP is considering developing a “best and brightest” team to review the DBVP and determine efficient expenditures of project funding. Results from the EIR would be available in 2007.

Zack said DOE-ORP does not have adequate information to appropriately develop an interim report on the DBVP. DOE-ORP does not have complete information from the test runs, and producing an interim report would not meet the requirements of M-62-08. Therefore, he believes a report would be inappropriate and speculative at this time.

Regulator Perspectives

- Laura Cusack, Washington State Department of Ecology (Ecology), said Ecology agrees that DOE does not have adequate information to fulfill the requirements of M-62-08. She said DOE needs to compare treatment technologies and demonstrate that the selected technology produces a waste product that meets or exceeds the disposal performance of waste from the Low-Activity Waste (LAW) vitrification facility (i.e., “as good as glass”). Ecology is concerned that DOE does not have adequate information to fulfill M-62-08. Ecology is interested in getting the technology to a point of demonstration, and is disappointed that the project has not received necessary funding. Laura said she was not sure how the State would respond to indications that DOE will be unable to meet M-62-08.

Committee Discussion

- Rick explained that Hanford Advisory Board (Board) Advice #183 advised DOE to produce an interim report on the DBVP by June 2006, evaluating available data, including comparative cost analyses for the DBVP facility, a production Bulk Vitrification Plant, and expansion of the current LAW vitrification facility capacity. Several Board members indicated DOE-ORP’s response letter was unclear whether DOE-ORP supports producing an interim report of the DBVP. Rick said the advice response letters from both DOE-ORP and Ecology were similar in terms of support for an interim cost comparison report. Zack said he was unsure of specifics in the letter, but said that DOE-ORP is not planning to perform an interim cost comparison report. He said DOE-ORP could provide a design of the DBVP to the Board when it is available.
- *Since DOE-ORP knows what the present Waste Treatment Plant (WTP) facility will cost and, therefore, what it would cost to replicate it, why isn’t DOE-ORP able to perform a cost comparison between an additional LAW facility and the DBVP?* Zack said DOE-ORP needs the results of EIR in order to conduct an adequate cost evaluation. Results of the EIR should be available in the August-September 2006 timeframe. DOE-ORP is relying on the “best and brightest” review to determine how to expend funds for the DBVP. Currently, there is no effort to pursue procurement.
- Dick expressed concern that the cost review would evaluate bulk vitrification without anything to compare it against. Laura said the “best and brightest” review would provide a comparison between bulk vitrification and a second LAW facility, but she will get back to the committee on whether other technology options would also be evaluated.
- Laura said Ecology’s response letter on Board Advice #183 indicated the State of Washington is in favor of DOE-ORP producing an interim report on life-cycle cost analysis of bulk vitrification compared against an additional LAW facility. Ecology’s support of an interim report recognizes that an extensive evaluation of technical issues would come later, once demonstration of the technology occurs.
- Al Boldt expressed concern that the EIR will be conducted simply to validate the DBVP process, without any comparison of costs associated with the production

system. Zack said DOE-ORP plans to evaluate the viability of the system, including safety systems, in the EIR, but will not evaluate the production system.

- Al commented that from the perspective of DOE-Headquarters (DOE-HQ), DOE-ORP needs to be able to justify its request for DBVP funding and demonstrate a long-term cost savings. Without a production evaluation, he said it seems DOE-ORP is just requesting funding to do additional research. Laura said other factors besides cost are being considered in the evaluation, such as potential increased flexibility provided by the system.
- *What does DOE-ORP plan to do with the secondary waste produced by the DBVP?* Zack said DOE-ORP does not plan to vitrify secondary waste. Laura said that until the DBVP demonstration runs are performed, it is unclear what type of secondary waste will be produced. Al commented that until the type of secondary waste is known, DOE-ORP cannot perform a production evaluation.
- Several committee members indicated a need for DOE-ORP to clarify what was meant by the reference to an interim report in the response letter to Board Advice #183.
- *When will the DBVP “hot” runs be conducted?* Assuming funding is available, Zack said the “hot” runs would be conducted in December 2007 at the earliest. Currently, there is no funding for the “hot” runs. Billie Mauss, DOE-ORP, said “hot” runs might not begin for 13 or 14 months.
- Dirk Dunning commented that M-62-08 requires consideration of multiple supplemental treatment technologies. *If the DBVP is having problems, why is DOE-ORP not looking at other technologies?* Zack said DOE-ORP has already evaluated several technologies, and bulk vit was selected as the most promising.
- *Will a public involvement process be initiated before the report on the technology alternatives evaluation is developed?* Laura said she does not believe there is a public involvement process planned, but she encouraged the Board and the committee to provide comments and advice on the topic. Dirk suggested the Board consider requesting a public involvement process for this report in its scoping comments on the Tank Closure and Waste Management Environmental Impact Statement (TC&WM EIS).
- *What are the specific criteria that will be used in the EIR?* Zack said the criteria would include cost verification, project adequacy and maturity, safety, and hazard controls. He said the criteria would be specific to the DBVP.
- *Will an independent cost (IC) review be performed for the DBVP?* Zack said an IC review would be done.
- *Can the committee ask questions of or provide comments to the EIR team?* Zack said he would be willing to consider questions and comments from committee members. Interested committee members will develop a list of questions and comments for consideration.
- *How does DOE-ORP plan to conduct glass composition evaluations and take samples to develop test criteria?* Rick Raymond, CH2MHill Hanford Group (CHG), said

glass composition evaluations are done in collaboration with Ecology. Glass core samples would be taken from radioactive containers, and although DOE-ORP has not succeeded in doing this yet, there are vendors that indicate they are able to take these core samples. DOE-ORP plans to take representative sample cores from various angles, but does not plan to take a homogenous sample. Dirk recommends conducting a full disassembly of a radioactive box as part of the glass composition evaluations. There was general committee agreement that these types of comments should be included in TC&WM EIS scoping comments.

- *Would core sample borings on cold boxes start on the outside?* Rick said the boxes are composed of layers of steel, sand, refractory, and glass. He said the refractory layer is the hardest but most interesting to sample. DOE-ORP is planning to begin from the outside and go through the refractory layer into the glass. Dick commented that there might be potential for problems at the boundary between the refractory and glass layers. Rick said he agrees there might be a problem at that interface, and DOE-ORP intends to get sample thin slices of the area.
- Al commented that core samples should be taken at the top, bottom, and sump area of the boxes. The integrated sum of all pieces of the box has to be as good as glass. He expressed concern that the “best and brightest” review is only evaluating a portion of the system. Zack said the review will compare LAW runs to the DBVP system, to evaluate the different glass forms. Laura said Ecology will verify, along with DOE-ORP, what M-62-08 stipulates for evaluating glass forms.
- Gerry Pollet requested DOE-ORP provide the names, affiliations, and qualifications of the members of the “best and brightest” review team. He said just a list of names is not useful.
- Gerry commented that the Fiscal Year 2007 (FY07) budget request does not currently include funding for the DBVP. Laura said Ecology will be advocating for more funding for the DBVP. Zack said DOE-ORP will not proceed with any procurement or design of the DBVP until additional funding is available.
- Al commented that if DOE-ORP decides bulk vit is an appropriate technology, the use of the process has still not been compared with a second LAW facility.
- Dick said it is unclear whether bulk vitrification is more cost effective than the LAW system. Therefore, it is also unclear whether a combination of LAW facilities is better than using bulk vitrification. He believes this needs to be determined before DOE-ORP commits significant funding to bulk vitrification technology. Laura said a comparison of bulk vitrification and the LAW facility could be done, but there are a lot of unknowns about bulk vitrification, such as the off-gas and throughput, so a comparison would possess significant uncertainty. She said she has heard the costs of the two systems are roughly equal, and it will be more important to determine the operational flexibility of the DBVP and its relative ability to get treatment online faster.
- Al expressed concern regarding the impacts of delayed funding for the DBVP on the start-up of the WTP. In conversations between Ecology and DOE-ORP about bulk vitrification funding, Laura said DOE-ORP representatives were surprised funding

was not provided. She said Ecology's position is to have DOE-HQ provide enough money to get bulk vitrification online.

- Laura said Ecology has not been notified that DOE-ORP will miss M-62-08. DOE-ORP must notify Ecology that a milestone will be missed 110 days in advance. No public comment period is required unless major milestones are being changed. Ecology can fine DOE as soon as they miss a milestone.

Advice on DOE-ORP integration

Based on the discussion from the February TWC meeting regarding double-shell tank (DST) space issues and the integration of tank farm systems, Rick and Todd Martin drafted advice on DOE-ORP systems integration for committee consideration.

Committee Discussion

- *Is the Board's advice intended to address the need for new DSTs?* Rick said the need for new DSTs is not addressed explicitly in this advice, but the committee should consider this issue for a second piece of advice. He said the draft advice attempts to focus on the systemic problems and emphasizes that changes in one part of the system affect other parts of the system.
- Maynard Plahuta commented that he believes DOE is beginning to realize some TPA milestones are unrealistic given current conditions. He emphasized it is not as important to stick with a milestone date or schedule, as it is to ensure waste remediation activities are done correctly. Rick said the first paragraph of the advice is meant to say the system should operate so milestones and interim milestones mean something based on real budgets. Jeri Main suggested focusing on developing a systems engineering model, rather than identifying corrective actions for weak points in the current system schedule.
- Harold Heacock commented that there is only so much money available, and the Board has traditionally advised DOE to fully fund the WTP. He expressed concern that money for new DSTs would be taken from WTP funding and be misinterpreted as the Board moving away from its commitment to getting the WTP online. Harold said the tanks need to be evaluated to determine their condition and ability to cover actual storage space needs.
- Jerry Peltier said that when DSTs were built it was uncertain how long they would last. He commented that Hanford needs a temporary waste storage solution, not a long-term solution. DSTs are very expensive to build, so he believes temporary SSTs that have a life of 5 to 10 years should be built, which would force DOE to remain committed to completing the WTP.
- Dirk commented that Congress needs to understand there are cost impacts associated with the funding they provide for the WTP.
- Harold suggested DOE-ORP define a mechanism of failure for the tanks beyond simply corrosion; it is not something that can be defined only by system fatigue.

- Several committee members agreed “trigger points” need to be identified for making decisions about tanks. Dirk suggested advice could say the Board opposes building new DSTs, but also indicate there may be drivers that could make it necessary.
- Several committee members suggested there is a need to establish a tank inspection program to ensure tank integrity to the highest degree possible.
- Harold suggested advice could express the Board’s concern about tank conditions, reiterate the Board’s support for completing the WTP as quickly as possible, and advise DOE-ORP to develop an integrated plan with criteria to address these things.
- Several other committee members made specific comments on the draft advice. Rick will incorporate comments and distribute a revised version of draft advice for committee review in advance of the April Board meeting.

Preparation for the April Board Meeting

The committee discussed an approach for a Board tutorial on the status of tank storage space and other DOE-ORP issues.

Committee Discussion

- Although the committee is familiar with DST storage space issues, Dirk said most Board members need to understand the issues before receiving a presentation on draft DST advice at the April Board meeting.
- The committee generally agreed that the information they received about DST conditions and storage capacity issues should be part of a tutorial for the Board.
- John Stanfill said he believes more information is needed about DST storage capacity. If this information is unavailable, he suggested it might be good to have the Board hear that from DOE-ORP to convey the urgency.
- Shelley Cimon expressed interest in knowing the regulatory agencies’ perspective on changes in scheduling: What do scheduling changes mean for TPA milestones? Are the scheduling changes reasonable?
- There was general committee agreement about the flow of the presentation of issues to the Board. Committee members expressed the need for a concise, factual presentation of the WTP schedule from DOE-ORP. This would be followed by a presentation on tank space issues, with the regulatory agency perspective provided by Ecology. Finally the Board would engage in discussion of the proposed advice principles.
- Rick said he will revise the draft advice based on the committee’s comments for the April Board meeting. The presentation to the Board will discuss concerns about the WTP, sluicing of remaining tank waste, tank space issues, and then discuss the proposed advice principles.

Committee Business

- The committee decided both a March committee call and an April committee meeting are unnecessary. If necessary, the committee will meet in May.
- The committee considered emerging issues for discussion at the next committee meeting:
 - Based on a recent meeting on Hanford groundwater issues, Shelley Cimon indicated the committee should consider discussing apparent discrepancies between current and historic tank leak estimates. She said some current estimates are significantly different than historic estimates, which likely impacts the conceptual groundwater models being used. She said it would be appropriate to invite Ecology to discuss their concerns about tank leak estimate discrepancies. This could be presented as a joint agenda item with the River and Plateau Committee (RAP) in May.

Action Items / Commitments

- Interested committee members will develop and submit questions and comments on the EIR for the DBVP to Zach Smith, DOE-ORP, for consideration.
- Gerry Pollet requested DOE-ORP provide the names, affiliations, and qualifications of the members of the DBVP “best-and-brightest” review team. He said just a list of names is not useful.
- Maynard Plahuta will develop language for the draft advice on DOE-ORP integration that addresses the need for DOE-ORP to get system schedules and information right rather than meet potentially unrealistic milestones.
- Committee members should provide specific proposed comments and edits on the draft DOE-ORP integration advice to Rick Jansons.
- Rick will prepare draft advice on tank capacity issues for committee consideration prior to the presentation at the April Board meeting.

Handouts

- There were no handouts at the meeting.

Attendees

HAB Members and Alternates

Al Boldt	Rick Jansons	Dave Rowland
Shelley Cimon	Jerri Main	Dick Smith
Dirk Dunning	Jerry Peltier	John Stanfill
Harold Heacock	Gerry Pollet	Charlie Weems
George Jansen Jr.	Wade Riggsbee	

Others

Steve Chalk, DOE-RL	Laura Cusack, Ecology	Rick Raymond, CHG
Billie Mauss, DOE-ORP		Alan Dobson, Energy Solutions
Woody Russell, DOE-ORP		Lynn Lefkoff, EnviroIssues
Zack Smith, DOE-ORP		Jason Mulvihill-Kuntz, EnviroIssues
		Kim Ballinger, Nuvotec/ORP
		Annette Cary, TCH