

FINAL MEETING SUMMARY

**HANFORD ADVISORY BOARD
JOINT TANK WASTE COMMITTEE AND BUDGETS AND CONTRACTS COMMITTEE
MEETING
October 10, 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, Chair of the Tank Waste Committee (TWC), welcomed the committee and introductions were made. No changes were made to the August meeting summary and the summary was adopted.

Tank Waste System Advice (#192)

Rick reviewed the tank waste system advice and noted that Erik Olds, Department of Energy – Office of River Protection (DOE-ORP), requested an opportunity for DOE-ORP to discuss its response to Board advice #192 with the TWC.

John Eschenberg, DOE-ORP, said he had two objectives for the committee discussion:
1) Obtain conceptual agreement on DOE-ORP’s interpretation of Board advice #192, and
2) Determine the preferred level at which the Board would like to be involved in the tank waste cleanup process.

John presented a conceptual integrated assessment of the tank waste system schedule. He said the current status and the planned closure date are all that are known at this point.

The logical sequence of closure activities is also known, but when they will happen remains uncertain. The milestones, program elements, and decision points in the closure schedule include: the Tank Closure and Waste Management Environmental Impact Statement (TC&WM EIS), demonstration bulk vitrification, decision to build double shell tanks (DSTs), tank farm closure, transuranic (TRU) waste treatment and disposal, supplemental treatment decision, vadose zone treatment and characterization, ETF siting capabilities (secondary waste treatment system), early low-activity waste (LAW), start-up of the Waste Treatment Plant (WTP), empty single shell tanks (SSTs), tank farm closure, end WTP operation, tank farm closure, and complete closure. Steve Wiegman, DOE-ORP, noted that many of these decisions indicate how difficult and ambiguous the closure schedule is.

John said the critical decision points in the cleanup schedule will drive the direction of closure. Several subsystems feed into the larger system. He said DOE needs to do another engineering systems study on the larger system, since all subsystems feeding into the larger system do not always add up.

Committee Discussion

- Ken Gasper suggested a matrix of cleanup schedule milestones and decision points would be more useful for the committee than a timeline.
- Dick Smith said he would like an opportunity to see subsystem plans before they are factored into the larger cleanup plan. He stated that there is a lot of expertise on the Board, which could help DOE-ORP identify areas with insufficient data and information. John said he expects the level of Board interest to vary by topic, and therefore a continual collaborative process may work the best.
- Gerry Pollet stated that DOE-ORP should not send new baselines and retract already sent one from DOE-HQ without involving stakeholders based on a prior commitment made to the Board to ensure a stakeholder review of fundamental questions of treatment and timing. He expressed concern that focusing on subsystem projects would cause the larger cleanup picture to become a secondary consideration. John said it might be a chicken or egg situation, but DOE-ORP currently knows the beginning and end points, as well as what needs to be accomplished along the way. He said he is averse to conducting additional WTP studies, and emphasized the need to push WTP construction schedules forward to get the plant built. He pointed out that significant study is still required for smaller level subsystems,
- Al Boldt said many people are concerned DOE is fixated on the notion that success means the startup of the WTP, when the WTP is a relatively small piece of the necessary systems analysis. Committee members emphasized the need for a clean closure plan based on an adequate systems analysis. John said he did not see these concerns expressed in Board advice #192.
- Several committee members expressed concern about DOE moving forward quickly on the project without the appropriate level of study and how the current WTP delays impact other subsystem decisions. From a systems engineering perspective, John said decisions made today often have cascading future effects that were never predicted.

He added that DOE recognizes the importance of how decisions are linked and the need to understand the interrelating impacts.

- Todd Martin said there was a regional consensus on cleanup, which told the public that DOE and Hanford stakeholders know what they are doing, but he expressed concern that regional consensus does not exist now. He said it is essential to develop a cleanup plan that convinces the public that DOE and Hanford stakeholders support a common cleanup approach. Such a plan starts with the subsystem elements, on which he said the Board can provide input. John said DOE is trying to establish good baselines to restore public confidence and credibility in the WTP and Hanford cleanup.
- The committee generally agreed John's timeline included the right large project events, key decision points, and is on target. The Board would like to be involved in key insertion points in the subsystem process. John said DOE would respond to Board advice #192 based on the committee's discussion.

DST Integrity Report

Dirk Dunning, issue manager, gave an overview of the advice principles previously drafted in response to this report. He said the main concerns with the report include its failure to discuss the current condition of each DST and future DST needs. He said this omission is the basis for the advice.

Vic Callahan, DOE-ORP's DST technical contact, presented DOE-ORP's response to the committee's draft advice principles and reviewed the purpose of the report is to determine how DSTs hold up over time. He said the report provides a current evaluation of tank integrity, which considers all DSTs, and material properties and degradations. The report applied a 60-year time period (1960 – 2028), which Pacific Northwest National Laboratory (PNNL) used to develop worst case design load scenario conditions for the DSTs. Thermal load and seismic analyses were done, and over this period the DSTs were shown to withstand the worst case design load scenario conditions. Therefore, Vic said most DSTs are currently in a static condition, which will likely change to a more dynamic condition over time.

In response to IMs' concerns about the quality of the data used in the report, Vic said DOE-ORP used extreme value statistics to predict a maximum flaw size. He noted that significant thought went in to making sure physical examinations of tanks were possible. He said DOE-ORP uses the best available data and approaches to ensure evaluations are as accurate as possible. For example, lab analyses of potential factors causing stress-corrosion cracking were performed, which determined the tanks will not fail structurally. This conclusion was affirmed by PNNL. Vic said there is a misconception that the tanks have an end of useful life threshold, and that DOE-ORP is allowing the tanks to run to the point of failure. He said this is not true, and DOE-ORP uses acceptance criteria for tank operations. If a tank breaches acceptance criteria, DOE-ORP takes action using an internal document that details an approach. He noted three instances when acceptance criteria were breached, which resulted in structural and increased ultrasonic analysis.

Since the tanks are thin-walled, slightly pressurized vessels not nuclear reactor vessels, he said DOE-ORP uses Tank Structural Integrity Panel (TSIP) guidelines instead of American Society of Mechanical Engineers (ASME) guidelines.

Vic said there were concerns about DOE-ORP not using a 50% wall thickness acceptance criteria. He said PNNL is conducting another analysis that will provide updated tank wall thicknesses and build further confidence in data gathering. If DOE-ORP used a 50% wall thickness acceptance criteria, he noted that tanks would have to be repaired, replaced, or removed from service, despite their being shown not to fail at that level.

Vic reiterated that the report is an assessment on the current condition of the tanks, to determine whether they are fit for service. He noted DOE-ORP will perform another DST analysis in 2016. Individual tanks examinations will occur every five years. He said he considers this to be a robust tank integrity system.

Regulator Perspectives

- Cheryl Whelan, Ecology, said Ecology is reviewing the DST Integrity Report with comments due by the end of November. Ecology believes DOE needs to maintain a frequent tank integrity assessment and examination program because tank life expectancy is unpredictable. Adequate safety and emergency actions are fundamental to the tank integrity program. Ecology is focusing its efforts on establishing detailed permit conditions that will ensure tanks are operated in a manner that protects the public and environment.

Committee Discussion

- Gerry said that the Resource Conservation and Recovery Act (RCRA) requires for 1) integrity of tank wall thickness for service, and 2) integrity of transfer piping through cement walls and other walls. He commented that a non-compliant condition exists, which causes serious questions that have not been resolved. *The key question this raises is what would happen if there was a tank failure? Has some effort been made to analyze this issue?* Vic said AY and AZ tanks are the only tanks that have piping going into the tanks, but they are no longer being used. He said he has not seen any structural analysis tank piping. There were some single-walled pipes that were not compliant. He said Ecology granted a variance making those tanks administratively compliant. A leak through the piping sections of any of those tanks is highly unlikely since there is a small percentage of pipe; however a leak would release waste to a pit or the environment. Gerry said that would be a very serious worker exposure problem. John said there are systems in place to keep leaks from happening. *Gerry asked what Ecology's rationale was for granting the variance?* Cheryl said the variance is rolled into the DST Integrity Report permit. She said the Board can provide advice to Ecology as they consider the permit.
- Harold Heacock commented that tank integrity should be discussed in terms of operational failure rather than structural failure. If tanks fail he said they would likely fail during service, so the focus should be on functional failure. He also suggested

leak repair techniques, which are readily available from nuclear industry, could be investigated as necessary. Dirk agreed that functional failure should be the focus for evaluating tank integrity. The DSTs were originally designed to standards that are very different from today's standards, and identifying the current condition of the DSTs is the most critical need. He said this is not clear in the report.

- *Ken Gasper asked what methodology is used to determine the source of a leak? Does the mitigation plan take the leak location into account? Does Ecology concur with DOE's mitigation plan?* Vic said DOE has not developed methodology that includes considering the location of a leak, but provisions for doing that could be added to the DST Integrity Plan. He noted that there are procedures in place to empty a tank in the event a leak is detected. Cheryl said Ecology would require emergency tank waste removal measures to be in place.
- Dick asked whether DOE will conduct rescans of the DSTs to examine the same areas previously evaluated, to determine whether there are any changes. Vic said rescans are performed to determine whether changes occur, and over time rescan accuracy improvements have been made.
- Todd commented that the report provides the notion that tank integrity is good, but not necessarily whether the tanks will last over the life of the cleanup program. Vic said the ultrasound lifecycle program and PNNL's structural analysis goes out to 2028. He said DOE would evaluate three to four DSTs each year. Another structural analysis will be performed in 2016 to ensure the tanks are compliant. The report identifies 123 comments and recommendations that need to be addressed to ensure the tanks last until 2028.
- Rick said the path forward for the committee is to determine whether the tanks will reach functional failure rather than structural failure. He proposed Dirk and Rob Davis serve as IMs and meet with DOE-ORP to discuss technical issues and evaluate whether advice is necessary.
- Gerry expressed concern there has been a lack of communication on tank integrity. He said the draft DST advice discusses tank failure criteria, which is different than what Vic reported. He believes the background to the advice needs to be evaluated, especially by Ecology. He suggested the advice go forward regardless of the structural integrity information.
- Al expressed concern that DOE is fixated on 2028 as the date by which tank waste removal will be complete. *What happens if tank waste retrieval extends beyond 2028?* Dick said DOE's analyses do not seem to predict a point at which tanks should be taken out of service, which is the type of systems information the committee is interested in knowing. Vic said based on current DST integrity information and an established flow and corrosion rate, the life of a particular DST is predictable. Dick said a reliable system for predicting time to failure is necessary.
- Todd said the Board is unlikely to adopt the draft DST advice, depending on the extent to which the committee bases the draft DST advice on this report. There is no integrity report that states DSTs will last to the end of the Hanford closure mission. Until this data exists, there is committee consensus that Ecology not consider DSTs

permits. *Jeff asked whether the advice should go forward once Dirk and Rob have a chance to discuss the outstanding technical issues with DOE-ORP?* He said he does not support the recommendation that Ecology not issue a RCRA permit. Gerry said Ecology issuing a permit suggests it is appropriate to leave waste in the DSTs for a long period of time. He said there needs to be an enforceable order for storing mixed waste.

- Pam Larsen reminded the committee that technical issues, such as tank integrity need to be developed adequately by the IMs before bringing them before the Board for a policy-level discussion. The majority of Board members are not technical experts. What is written as advice needs to be understandable to the public and non-experts.
- Maynard Plahuta expressed concern the committee is confusing the report's results with follow-on activities. He said there seems to be two distinct issues regarding tank integrity: 1) tank integrity, and 2) compliance of order and maintenance and operation.
- There was general committee agreement to pursue three potential advice principles: 1) Recommend end state criteria; 2) Consider a longer timeframe for tank operation than 2028; and, 3) Develop consensus permitting language. Jeff, Gerry, Rick, and Dirk agreed to work on the draft advice.

Tank Leak Characterization

John Brodeur, Professional Engineer and Geophysicist, provided an overview of a report on tank leak characterization he prepared for Heart of America Northwest (HoANW) in April 2006.

He said the purpose of the report is to review progress made on the entire T-Complex, but he only had time to conduct a review of the TY Tank Farm. Due to the difficulty of identifying the nature and extent of vadose zone contamination, groundwater contamination is largely unknown. He indicated primary data needs include: 1) determining the location of the contamination, 2) how contamination is distributed in the vadose zone sediments, 3) contamination migration chemistry, mechanisms, and mechanics, and 4) adequate data to develop a model to predict the extent and future of groundwater contamination. John said his study gathered data using a process involving low-cost pile driven borehole installation, which provides a cost-effective approach to obtaining data.

John presented the following conclusions about DOE's current characterization efforts:

- Ignores data showing deep contamination has already reached groundwater,
- Focus only on high concentration regions,
- Lacks investigation of the deep vadose zone region with high risk contamination,
- Uses the wrong instrumentation (appears to be designed not to detect low-level contamination, which is the contamination that is moving), and
- Lacks an essential monitoring component.

Stan Sobczyk, Nez Perce Tribe, presented his review of DOE's characterization efforts in the 200 East Area tanks farms, specifically the BX-102 tank leak. Some RCRA corrective measures have been taken, but those are inadequate to control the growth of the contaminant plumes. The sources of groundwater contamination have not been identified due to a lack of characterization.

He stated that groundwater contamination has increased over time. He presented data from the PNNL Groundwater Monitoring Report and maps depicting the increase in tank leaks between 1995 and 2000. He noted that uranium was not detected in groundwater near BX-102 in 1992, but increased significantly in deep vadose zone borehole readings. As a result of different sampling times and insertion of wells, the growth of the contamination plume, which now extends beyond the 200 Area boundary, is difficult to track through time.

Stan said DOE-ORP's explanation of its characterization results indicated the contamination was from waste sites, but DOE-RL denied this claim. DOE's response indicates that uranium is immobile in the vadose zone and ends before reaching the BX tank farm fence line and is likely not the source of uranium in the groundwater. Stan said the contamination plume is actually more laterally extended and deeper than DOE maintains. He added that DOE is concentrating field investigations near the tank source, where the most immobile constituents are expected to be found, and ignores uranium concentrations in the deep vadose zone further from the tank farm.

Stan noted that the following issues related to DOE's tank leak volume estimates will impact the Tank Closure and Waste Management Environmental Impact Statement (TC&WM EIS) and the Initial Single Shell Tank Performance Assessment:

- Inconsistent tank leak criteria
- Reduced documented leaks without a technical basis
- Multiple leaks from a tank are treated as a single leak
- Highest gamma activity results not considered
- Minimum leak detection volume
- Tank leaks attributed to surface spills
- Misuse for krigging estimates
- Dismissal of the Historical Leak Model (HNF-3233)
- Similar estimates found in DOE/ORP-2003-02, Rev. 0 (Inventory and Source Term Data Package for the Tank Closure EIS)

Stan concluded that BX-102 is the only place DOE identified uranium in the vadose zone. Uranium concentration in the deep vadose zone has increased in boreholes between 1991 and 2006. Based on the current data, the BX-102 tank farm is the only identified source of current uranium groundwater contamination in this area. In his estimation, the tank farms are the probable sources of recent and growing groundwater contamination plumes in the 200 East Area.

Regulator Perspectives

- Cheryl said Ecology reviewed the report, and expressed concerns about leak volumes. She said leak volumes should be presented with an uncertainty of ranges and minimum detection limits. She added that DOE has conducted insufficient vadose zone characterization, and characterization of the deep vadose zone is necessary. Ecology is also concerned about the lack of progress on groundwater issues, but is encouraged by the Department of Energy – Headquarters (DOE-HQ) commitment to move forward on identifying and addressing groundwater contamination and would welcome input from the HAB on these issues and how it compares to the WTP.

Committee Discussion

- Pam expressed concern about the lack of vadose zone characterization in terms of the needs for the TC&WM EIS. *Pam asked John if he had looked at the boreholes request for proposal (RFP) at the WTP for seismic analysis?* John said he has not reviewed the recent RFP. Pam said the new RFP will result in a two dimensional analysis, which John said would require intensive review.
- *Since the vadose zone has the highest risk for the greatest contaminant mobility, Bob Parks asked whether contamination is still in that area or has moved on?* John said contamination in the vadose zone material is the highest risk material with the least amount of characterization. It is unclear whether the vadose zone is clean, because little characterization was done, and work was not done to characterize contaminant plumes.
- Jeff said the committee is focused on discussing whether tank farm characterization is adequate for risk assessment and decision-making, but the committee needs to be clear and specific about the purpose of the discussion. Gerry said he has heard of a demonstration closure being evaluated, but wondered whether enough data exists to make closure decisions. He has heard DOE has made trade-offs in its cleanup decisions, which should drive Board advice development.
- Dick stated that the current version of the DST integrity report is not reliable since the data that informs it is inaccurate. This is an issue, since the report feeds the TC&WM EIS and other closure decisions. Steve Wiegman, said DOE-ORP would like to discuss the existing data and its cleanup plans to achieve agreement that its data is sufficient.
- Rick reviewed the committee's next steps:
 - DOE presentation on past and future work
 - Ecology presentation on what elements DOE should seek funding.
 - Discuss how the report informs the TC&WM EIS

(Beginning of joint TWC/BCC Meeting Discussion Topics)

WTP Estimate at Completion

John Eschenberg, DOE-ORP, provided the background of the Army Corps of Engineers (ACOE) review of the WTP Estimate at Completion (EAC). He explained that Bechtel delivered their EAC on May 2006, whereupon DOE-ORP engaged ACOE to conduct an independent validation review. Kim Callan, ACOE, presented the results of the ACOE review of the WTP EAC.

Kim said the team was comprised of cost and technical experts. The review was broken down into costs, schedule, risk assessment/contingency, and management controls, which were the main areas of validation. The review's overall conclusion indicated there were some outstanding issues on cost related to labor rate issues, since the EAC was more conservative, causing contingency and schedule impacts. The review's recommendations amount to a roughly \$650 million project budget increase and a three month schedule extension.

John said he accepts the ACOE recommendations, and the project total costs and schedule will be modified accordingly. He said this is the first bottom-up EAC and validation review. He noted that the EAC and the review are within 5% of each other, which seems very good.

Committee Discussion

- Gerry said he would like more information about contract and management reforms. Prior discussions with the Government Accountability Office (GAO) and DOE-ORP about GAO's views of contract reforms, were frustrating since management reforms remain redacted. He said DOE-ORP confirmed it will not release that information. *He asked whether ACOE believes its recommendations are still valid?* Kim said ACOE recommended some revamping of the WTP contract, since the review team felt the contract language did not give DOE enough control of project costs. He said the best way to control costs is to have a detailed design. ACOE wanted DOE to look for opportunities to break out pieces of work to control costs. The team felt a cost-plus contract gave too much leverage to the contractor, and there needed to be more DOE oversight of the contract. ACOE recommended a new contract scope language defining contractor and DOE roles and responsibilities. ACOE provided recommendations to DOE for new scope language. Gerry said if there are additional ACOE recommendations, the committee would like to review them.
- *Bob asked whether all the WTP seismic issues have been resolved?* Kim said there are a couple on-going teams doing some seismic boreholes, and ACOE has been asked to analyze the data to make sure it matches data used to develop design criteria. A complete answer to the seismic issues should be available this spring.
- *Bob asked what information was blacked out of the review?* Kim said ACOE was instructed to document everything found during its review. In doing so, ACOE did not validate a lot of information with Bechtel, and there was no feedback from the contractor. He said the review contains a lot of proprietary information which could be harmful for future DOE negotiations.

- *Dirk asked about the fault seen in the borehole?* Kim said he did not have details, but the borehole information is being received as expected. John said it was important to quantify the age of the fault. The fault is estimated to be 14 million years old, and is located in a specific inner-bed area, which indicates there have been no recent seismic events.
- *Ken asked what is the total WTP project cost?* John said current total project cost is \$12.2 billion. He said additional scheduling contingency puts the end date at November 2019.
- *Keith asked what the additional \$650 million buys?* John said \$250 million provides a link to non-jurisdictional labor; \$320 million to cover installation rate differences for electrical, instrumentation control, and piping; and \$80 million for schedule contingency.
- *Harold said the previous EAC was based on \$690 million per year, so what is the impact if DOE-ORP does not receive adequate annual funding?* John said neither the EAC nor ACOE quantify the impact; however, he believes it is a doubling factor.
- *Maynard asked what were the most significant or helpful recommendations from ACOE?* John said he is treating all recommendations equally and has not categorized which recommendations are most important.
- *Gerry asked John to discuss where ACOE's management recommendations and DOE's independent review fit into the project timeline?* John said he has a schedule that he will share with the committee. Once DOE completes its independent review of ACOE's recommendations, he will take the EAC to Jim Rispoli to discuss the estimate and then he will likely meet with the DOE Deputy Secretary in mid-November. DOE-ORP has to negotiate a settlement with Bechtel, which will take two months to go through requests for equitable adjustments and adjudicate them. DOE-ORP will also engage with Ecology and Hanford stakeholders. He said the cost plus, incentive fee contract is better suited for a project with a 90% design and minimal risks. He said he expects a hybrid contract to emerge with fee earned on plant performance, an award fee component, and Congressional language to incentivize the contract. DOE-ORP is working on a revised contract to make clarifications, but the main contract structure will not change. Given the contract status, Gerry said there may be an opportunity for the Board to impact changes to the contract structure.
- *Gerry asked what is the timeline for Board input? Will ACOE continue to have a role?* John said ACOE is reviewing draft contracts. The sooner the contract is finalized, the sooner the costs of the changes can be bid, negotiated, and finalized, so issuing Board advice in February would be too late.
- *Todd asked whether the follow-up discussion with the DOE Deputy Secretary is contingent on Mr. Rispoli's sign off on the recommendations.* John said that is the current scheduled process. Todd suggested the schedule might allow for the Board to provide advice in February.

Early LAW Start-Up

John Eschenberg, DOE-ORP, reviewed the study of whether an early Low-Activity Waste (LAW) start-up is feasible. This feasibility study indicates that from an engineering perspective it is possible to take direct drop from tank farms and feed waste into the LAW plant, with a moderate amount of required infrastructure. The challenge is more significant for tank farms than for the WTP, since a method for plumbing tank waste from the tanks to WTP must be developed. At the WTP, DOE-ORP needs to know how long the tank waste feed would be available, since the melters must remain on once they are activated and have to be fenced off from other facilities at the operation site. Activating the LAW plant early (by 2013) would not reduce the overall closure mission timeline, since the High-Level Waste (HLW) facility is on the River Protection Project's critical path. Advantages of an early LAW start-up include: 1) more experience with commissioning, and 2) some DST space could be recovered, enabling a more aggressive retrieval schedule. John recognized Ecology has issues with secondary waste streams, but those are largely unknown at this point.

Committee Discussion

- Dick said some reports done on the HLW facility indicate that the mission would take roughly 30 years to bring online. John said there are estimates that the mission, supported by a viable supplemental treatment system, could be completed in about 25-30 years from 2019.
- *Susan asked what the determining factor will be for an early LAW start decision?*
John said he was not sure.

Bulk Vitrification Report

Steve Wiegman, DOE-ORP, Jim Honeyman, CH2M Hill (CHG), and John Longenecker, CHG, presented the findings from a technical review of the demonstration bulk vitrification system published on September 28, 2006. The review team was comprised of representatives from a variety of companies and areas of expertise. The review team considered technical and engineering aspects of the project and identified several issues requiring DOE's attention, including mixed and dried waste feed and ventilation. The review excluded cost review of and schedule, since DOE will review that information before proceeding with the project. Steve said the project is not currently funded for fiscal year 2007 (FY07), but DOE-ORP is in a position where the project can be activated when the funding is available.

John discussed the review's production and major findings. The team boiled the review findings down into "show-stoppers," technical issues that need to be fixed before proceeding, and suggested improvements. In total, there were no "show-stoppers," 19 technical issues, and 27 suggested improvements.

Regulator Perspectives

- Laura Cusack, Ecology, said Ecology has tried to develop confidence with the proposed schedule of making glass in 2011, and bulk vitrification coming on-line

between 2016 and 2019. Ecology is not happy with the schedule, but continues to consider ways to move the decision up sooner than 2011. She noted that funding is the one major issue.

Committee Discussion

- Susan Leckband said the first technical issue with bulk vitrification is that it will not meet waste treatment needs. She commented that the study seems to indicate there are several potential “show-stoppers.” *She asked whether DOE is convinced these issues can be addressed with little to no schedule or cost changes?* John said the review team was convinced the issues could be fixed, and did not see any technical “show-stoppers.” Jim said there is not enough information to know for sure what the impacts are on costs and schedule.
- *Dirk asked whether the study looked at waste form characterization?* John said it did, and the tests to date show that glass is an acceptable waste form for Hanford. He said there is an issue with the surrogate that is used and the mass balance on technetium (Tc99).
- Gerry said the cost estimate for the project has been \$240 million. *He asked when a cost estimate will be available?* Steve said DOE-ORP has to review the technical analysis’ findings and develop an approval process, which is not going to be done unless the project receives additional funding. Gerry said that means DOE-ORP will not be in a position to begin the project in 2008.
- *Several committee members asked how long it would take to determine whether a supplemental treatment system is appropriate?* John said that cost and schedule implications were not part of the study. Peter Brockman, CHG, said DOE-ORP’s current plans use the 2011 M-62-08 as the decision point. Gerry said that does not sound realistic given a lack of funding for two years. Dick said the decision to go forward with bulk vitrification needs to ensure the technology is cost-effective. Laura said there are many elements to consider, such as systems flexibility. John said the only way to obtain data to make an informed decision is to have both cold and hot tests. Al explained Dick’s point that DOE does not have to wait five years to decide whether bulk vitrification is cost-effective. He said he has not seen any information about the cost of a production facility. Jim said DOE released preliminary cost estimates about a year and a half ago, and there is an estimate in the baseline for the entire mission life cycle. He noted that the next cost estimate will be based on a better information once it is available.
- *Considering the study’s technical issues, Susan asked whether Ecology believes issues can be resolved?* Laura said Ecology has more problems with the waste form. She said there seem to be a lot of technical issues without a good plan to move forward, and she does not have a high degree of confidence the issues can be resolved.
- *Maynard asked whether DOE has looked at the time, resource, or dollar effort to address these issues?* Jim said that responding to the study is not in the work scope, and the contractor does not have the authorization to start the work.

- Gerry said there are significant issues about safety documentation. Is the system designed to address these fundamental issues. Steve and Jim were unable to answer the question, but Jim said those are questions that should be examined. Gerry requested DOE-ORP return to the committee with the answers.
- *Since the original cost estimate was \$30 million, Gerry asked why bulk vitrification does not receive the same review as the WTP EAC?* The committee discussed the issue of subcontractor performance and the need to review it based on technical issues and schedule implications.
- *Pam asked whether DOE-HQ has been briefed on the review of bulk vitrification?* Steve said Jim Rispoli will be informed on Monday. He emphasized that DOE-ORP will have to convince DOE-HQ to take the study to the Department of Energy – Office of Management and Budgets (DOE-OMB) to get funding. Pam indicated that the Board, this committee, and stakeholders also have to be convinced.

TWC Committee Business

Rick reviewed the committee's work assignments:

- Dirk will draft the DST advice (co-authors include: Jeff, Gerry, Jerry, Rick and Todd). The draft will be sent to the committee in a week.
- The committee will continue to discuss tank leak characterization and hear from DOE-ORP at its next meeting.
- A group of volunteers will develop a committee meeting guest presenter protocol with EnviroIssues' help.
- The committee will seek answers to the committee's questions about subcontractor performance for the bulk vitrification.
- Dirk, Jerri Main, Ken Gasper, and some IMs from RAP will assist Mary Beth Burandt, DOE-ORP, with developing TC&WM EIS updates and topics for committee and Board meetings.

Future committee meeting topics:

- Review of the early LAW report when it becomes available
- Discuss the timeline of the TC&WM EIS schedule and the bulk vitrification decision date of 2011. Since the TC&WM EIS could lead to a supplemental treatment decision, how can that predate the bulk vitrification decision?
- Begin an initial dialogue on boreholes

The committee agreed an October committee call was unnecessary.

The committee agreed a November meeting was necessary.

Other issues:

- The comment period for the two-plus-two melter permit revision is open until November 27. The permit revision looks at a reconfiguration of the melter system. There is a public meeting on November 9 at Ecology's offices. Board advice (#139)

was on topic, and could be re-submitted. Gerry said Ecology should recognize the Board's record of advice on the topic.

- Dirk said his office has updated their Hanford video, which is available for those who are interested.

(End of the Joint TWC/BCC Meeting, and beginning of the BCC meeting.)

Pensions and Benefits

Gerry Pollet welcomed the committee and introduced DOE-RL's review of the pension and benefits program. Karen Lutz, DOE-RL, said DOE-HQ is still working the issue but is committed to getting information to the Board and others as soon as possible.

Kristin Elby, Senator Maria Cantwell's office, explained that when a proposal came out for a combined pensions and benefits system for the new RFP, Senator Cantwell was told it would not work. Senator Cantwell originally heard that HAMTEC agreed to the two-tiered system, because the 401K proposal worked better for new workers. She believes it makes more sense to put the new RFP into the original Hanford contracts and benefits. Kristin said Senator Cantwell believes workers who work side-by-side should have the same benefits.

Dwight Care, Washington Closure Hanford (WCH), said a group of Hanford Enterprise employees have formed a group called Hanford Retirement Benefits Action Committee (HRBAC). Enterprise companies were moved outside the Hanford benefits and pensions systems, but some companies have been brought back under the system. The cost to employees outside the pension system is roughly \$100 per year plus the cost of medical benefits for the 10 years they have been outside pension system. He emphasized bringing enterprise companies back under the pension system under new contracts.

Committee Discussion

- Keith said there are costs associated with making the change from a single pension and benefits plan to the two-tiered system, as well as with tracking multiple pension plans. He said Senator Cantwell told DOE they would not receive funding to change the system.
- *Pam asked how the pension system works?* Dwight said it was 1.6% multiplied by an employee's highest five salary years over the past 60 months, multiplied by the number of years of on-site credit. This system applies to all companies that did not become enterprise companies.
- Maynard said the argument DOE used was that employees had no choice when decisions were made about switching systems. Dwight said there was no public review of the RFP ten years ago. Gerry said there was a public review of the RFP, and the Board opposed the enterprise system.
- *Maynard asked the HRBAC whether their recommendations are that DOE not change the pension and benefits plan again, and that enterprise employees get their pension?*

Dwight said they are requesting the same benefits package and pension systems. He said there is a huge difference in the cost of medical benefits inside-the-fence and outside-the-fence.

- *Gerry asked what is the policy for outside-the-fence workers to participate in Hanford's on-site medical screening program?* Dwight said outside-the-fence workers do not participate in program. Susan expressed concern that Lockheed Martin employees are not part of the on-site medical safety programs. She said they should have a health surveillance program as part of the inclusive medical monitoring programs.
- *Gerry asked whether there have been any conversation with Senator Cantwell in terms of a response to issues for the new contract?* Kristin said she has not heard anything.
- There was general committee consensus to develop draft advice on the fairness and sensibility of a one-tiered versus two-tiered pension system. Jeff, Susan, and Keith volunteered to develop draft advice. There were some concerns about potential conflict of interest issues. Todd said the Board typically has operated with a lot of personal responsibility regarding potential conflict of interest issues, and it was agreed that individuals would recuse themselves if necessary. Bob requested DOE issue a letter addressing conflict of interest issues.
- Gerry wondered whether current enterprise employees would be offered a new pension when they do the same work as Hanford workers. He said he expected an answer from DOE that the policy review would be done before the RFP was issued. Karen said she is working on getting an answer.
- Jerry said the issue with the new contract is whether to reinstate the benefits for enterprise employees or strip the inside-the-fence workers of their benefits. *If they restore benefits to enterprise companies, he wondered what should be done for former employees?*
- Maynard suggested all contractors should be covered by one pension system. The single system should apply to the current RFP, but also apply to all contracts.
- Todd said advice drafters and the committee need to consider the target audience for advice, since the site managers do not have any influence on the issue. He suggested the advice should be targeted at DOE-HQ.
- Gerry emphasized the need for an open public review of the new contract. The committee generally agreed a public meeting should be held in addition to written comment. Maynard said a public meeting on such a volatile issue would certainly draw a large amount of people, but he expressed concern about the potential negative fallout from such a meeting.
- *Keith asked whether Lockheed Martin implemented integrated safety management?* He said it appears they have a different safety culture that does not match with the Hanford safety culture. He emphasized Hanford essential services should be part of the benefits package. Maynard suggested Hanford companies should pay for a portion of the benefits for private work.

- Maynard said it is important to keep in mind that workers have no say in the pension and benefits decisions.

Update on Request for Proposals (RFPs) for Infrastructure Contract/Extension of Current Contracts

Stacey Charboneau, DOE-RL, discussed the contract extensions for CHG (\$0.5 billion) and Fluor (\$1.3 billion), and discussed DOE-RL's response to previous Board contracting advice. Regarding the Board advice from November 2005 on the GAO reports and design-build issues, DOE has incorporated 4.13.3 project management principles. Hanford is ahead of the curve compared to the rest of the DOE complex.

DOE-RL is going through the process of external independent review for all major projects, including integrating all groundwater issues under one project. Part of the contract extension brings PNNL groundwater work under the Fluor contract. DOE-RL has instituted thresholds for specific health and safety areas. Project incentives are now based around meeting TPA milestones. She said she is unable to discuss specifics regarding the new RFPs.

Committee Discussion

- *Gerry asked whether the project baseline incentives (PBIs) will be available for review?* Stacey said they are available online at: www.pr.doe.gov
- Susan said Stacey cited the contract extensions were for 24 months, but it is likely the contract protest period could last longer than expected. Stacey said no extensions were built into the contract, but DOE-RL considered a reasonable protest period.
- Gerry said there has been a misunderstanding that the extensions would go into effect at same time. Stacey said not to assume this.
- Keith said many contractors believe they are applying integrated safety management and expressed concern DOE is not giving health and safety enough authority over other contractor work incentives. Stacey said DOE believes integrated safety management systems (ISMS) are incorporated throughout the site, and that there is ample safety oversight on-site. Stacey said workers concerned about safety issues should be addressing them with their employee concerns programs. She added that workers hopefully recognize they can also bring safety issues to DOE.

Bechtel National, Inc. Contract Renegotiation

Harold Heacock presented two GAO reports on contracting and project management. In general, he said the two reports criticized the lack of defined scope. He noted that GAO always recommends 90% design, which is not always relevant or achievable.

Harold described the content of the reports:

1) GAO 06-722 addresses delays in awarding contracts, and makes recommendations to create a system for identifying and implementing best practices. DOE agreed with the report's recommendations. The report reviewed 31 contracts, but lacks specifics on

delays between 2002 and 2005 or the most commonly encountered delays. He said no contracts were awarded on time and delays ranged from two weeks to four and a half years. Delays occurred mostly due to DOE changes in approach after starting the award process, resulting in increased costs. In 2005, DOE started the program to improve the contracting system, is still implementing lessons learned.

2) IG report 07-39 was issued in September and looked at performance-based contract incentives at Hanford. The report concluded that in some cases assigned work was not realistically achievable, which is beyond contractor controls. The report suggests DOE needs greater emphasis on evaluating probability of success. Examples were transuranic (TRU) waste shipment issues and SST waste retrieval. The report recommended making the contracting process less cumbersome. It also recommended DOE only pay for work that is accomplished, and not award incentives for incomplete work. The report looked at recent awards and found they were appropriate since DOE paid for the work that was done, even though accelerated goals were not met.

Regulator Perspectives

- Melinda Brown, Ecology, said Ecology gets briefed on PBIs, and DOE knows what Ecology's priorities are and when PBIs do not meet TPA milestones. She reported that Ecology objected when DOE established contracts with incentives that did not match TPA milestones in the past. Ecology does not allow DOE to incentivize a contract that will miss a TPA milestone without objections.

Committee Discussion

- *Gerry asked what probability of success means?* Harold said DOE was including incentives in contract, but the work was not realistic. In many cases contractors were paid incentives anyway.
- *Gerry asked whether there is consultation for PBIs and whether there are any regulator expectations for PBIs in new contracts?* Stacey said DOE followed TPA milestones to determine PBIs. The regulators were not consulted during PBI development. Gerry said it might be important to involve regulators in work prioritizing decisions. Stacey said priorities for DOE and/or regulators receive higher incentives, and PBIs are typically laid out to align with regulatory milestones.
- *Gerry asked whether the discussion of lessons learned on contract incentives indicates a need for advice on contracts?* Harold said other contracts are too far down the road to consider advice at this point. However, re-emphasizing several contracting points in advice for the Bechtel contract is appropriate. Gerry suggested the committee defer consideration of advice for a November or February meeting.

Committee Business

- Develop potential draft advice on AMEC cost and performance for November with TWC.

- Todd said he believes advice is premature, but asking why contractor performance has not been considered would be very worthwhile. The committee would like to hear more information on what is being done to evaluate contractor performance.
- Draft advice on pensions/benefits issue for November Board meeting; the committee will attempt to reach consensus over e-mail. A call can be arranged if necessary.
- Evaluate PBI consideration with FY08 budget in the spring.
- Committee agreed an October committee call is unnecessary.
- Committee agreed a November joint committee meeting with TWC is necessary.

Handouts

NOTE: Copies of meeting handouts can be obtained through the Hanford Advisory Board Administrator at (509) 942-1906, or tholm@enviroissues.com

- Advisory Board on Radiation and Worker Health – Meeting 38 National Institute for Occupations Safety and Health, U.S. Senator Maria Cantwell, Statement for the record, 6/16/06.
- Position Paper for the Hanford Advisory Board Budgets and Contracts Committee Meeting discussion of Pensions and Benefits Agenda Item, Hanford Retirement Benefits Action Committee (HRBAC), 10/10/06.
- Cantwell hears Hanford workers’ pension worries, Annette Cary, Tri City Herald, 4/13/06.
- DOE delays pension change, Annette Cary, Tri City Herald, 6/21/06.
- DOE-ORP Waste Treatment Plant Confirmatory Bore Hole Study timeline, DOE-ORP, 10/10/06.
- Tank Waste Program Path Forward, Hanford Advisory Board Advice #192, 9/8/06.
- Response to Hanford Advisory Board (HAB) Advice #192 – Tank Waste Program Path Forward, Jane Hedges, Nuclear Waste Program Manager, Washington State Department of Ecology, 10/5/06.
- A Comprehensive Technical Review of the Demonstration Bulk Vitrification System: Technical Assessment Conducted by an Independent and External Team of Experts, Volume 1, CH2M Hill Hanford Group, Inc., 9/28/06.

Attendees

HAB Members and Alternates

Al Boldt	Jeff Luke	Dick Smith
Dirk Dunning	Jerri Main	Keith Smith
Ken Gasper	Todd Martin	John Stanfill
Harold Heacock	Vince Panesko	Gene Van Liew
Rick Jansons	Bob Parks	
Pam Larsen	Jerry Peltier	
Susan Leckband	Maynard Plahuta	

Larry Lockrem	Gerry Pollet	
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Others

Stacey Charboneau, DOE-RL	Madeleine Brown, Ecology	Kim Callan, ACOE
Karen Lutz, DOE-RL	Melinda Brown, Ecology	Kayle Booma, CHG
John Morse, DOE-RL	Laura Cusack, Ecology	Michael Connelly, CHG
	Cheryl Whalen, Ecology	Jim Field, CHG
Sharon Braswell, DOE-ORP		Karen Hale, CHG
Mary Beth Burandt, DOE-ORP		Jim Honeyman, CHG
Vic Callahan, DOE-ORP		Moses Jaraysi, CHG
John Eschenberg, DOE-ORP		John Kristofzski, CHG
Lori Gamache, DOE-ORP		John Longenecker, CHG
Eric Olds, DOE-ORP		Cathy McCague, EnviroIssues
Walter Scott, DOE-ORP		Jason Mulvihill-Kuntz, EnviroIssues
Steve Wiegman, DOE-ORP		Barbara Wise, FH
		Marc Wood, FH
		John Brodeur, independent Hanford contractor
		John Huber, LATA Inc.
		Steve Canaday, LMIT
		Jeff Boston, LMIT
		Stan Sobczyk, Nez Perce Tribe
		Herbert Berman, PSGS (for CHG)
		Kristin Elby, Senator Maria Cantwell's Office
		Frank Kendall, Unemployed from Lockheed Martin
		Dwight Care, WCH