

DRAFT MEETING SUMMARY (v.1)

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HANFORD ADVISORY BOARD

TANK WASTE COMMITTEE

August 15, 2002

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.

Introduction

Doug Huston, committee chair, opened the meeting, and announced the November meeting of the Hanford Advisory Board (Board) would have a strong focus on Tanks issues, per Todd Martin, Board chair. Doug suggested that all committee members keep this in mind during the meeting and think about how the discussion could be applied to furthering a productive meeting in November.

The summary from the July committee meeting has already been updated with comments submitted by Doug. Paige Knight asked that the summary be edited to clarify the term “nameplate capacity.” Leon Swenson requested more time to review the meeting notes. The committee agreed to postpone finalizing the meeting notes until Paige’s edits could be added and Leon’s review could be completed.

Roy Schepens Welcome

Roy Schepens, the new manager of the Department of Energy’s Office of River Protection (DOE-ORP) introduced himself to the committee. Roy’s primary experience has been managing facilities at DOE’s Savannah River site since 1992, including starting up a vitrification plant there. He also managed a K reactor in the years after the Chernobyl disaster, dealing with the issues raised by that incident. He handled operations of the site’s F and H canyons – the F

canyon was completed and shut down, while the H canyon has an ongoing mission. Roy also provided a brief description of his ten years managing nuclear plants in the commercial sector for General Electric.

Roy stated his goals as manager at DOE-ORP. The top priority for DOE-ORP is conducting the work safely – if safety cannot be assured, DOE-ORP will not do the work. Roy also stressed openness and honesty, and wants to encourage strong relations with regulatory agencies, Tribes, local stakeholders, and the Board.

Roy detailed the specific projects being tackled by DOE-ORP. The first of these projects is the vitrification plant, now under construction. Three concrete pours for the plant foundation have been completed, and more are planned for the near future. DOE-ORP has also committed with the Washington Department of Ecology (Ecology) to a change package that includes a tanks closure demonstration, cleaning out the remaining sludge in the C106 tank. The change package also assigns closure dates to three other tanks and establishes interim milestones for retrieval and closure for three tanks that were already part of the closure process.

Roy also spoke about the Performance Management Plan (PMP.) He explained that the PMP applies his preferred way of doing business, which is always to accomplish more than planned for the same amount of money or the expected technical standpoint. He expects to push the limits and beat milestones, and is not interested in plans that say that agreed goals cannot or will not be met. Roy believes that the site has a real advantage in terms of having access to people who have worked on similar projects and accomplished the same cleanup goals at other sites.

Roy also reported on a meeting with Todd Martin the week before the committee meeting. Roy felt the discussion had been a good one and felt that he could look forward to working with the Board. The Board is an advocate of the vitrification work and high-level cleanup activities that Roy intends to push, and Roy looks forward to the Board's support on these issues. Roy also presented copies of the newly-published River Protection Project System Plan to the committee.

Finally, Roy spoke to his efforts to improve credibility and trust between DOE-ORP staff and the public. He is looking to encourage greater communication of DOE efforts and setbacks – running into trouble is okay, as long as the difficulties are communicated promptly and clearly. Roy has already instituted a daily report of DOE-ORP efforts and the operating status of plant activities, which is sent to DOE Headquarters (HQ) and to the Defense Nuclear Facilities Safety Board in Washington, DC. This is a communications pathway which has already generated a positive response. Roy believes that DOE-ORP should focus more on an ownership role and less on a regulator role in respect to its contractors: while DOE-ORP should continue its oversight, this should be at a higher level and have less of a concern with details.

Committee Discussion

Committee members thanked Roy for coming.

- How does he plan to handle oversight consistency in the wake of HQ's directive to cut DOE-ORP staff and accelerate cleanup efforts? Paige Knight voiced her concerns that

the lowered staff levels and the focus on acceleration could both act to lower oversight ability and cause problems to slip by. Roy responded that a smaller, leaner organization is actually closer to his own preferences, with quality of expertise mattering more than number of staff. He prefers to have an organization small enough that everyone's responsibilities are clearly defined. Roy expressed his confidence in bringing in any specialist staff needed through a request to HQ or by hiring a contractor and stated his belief that the regulatory agencies will provide advice to ORP on any needed technical knowledge.

- Would the PMP provide an indication of the path forward even if long-term funding did not work out? Committee members are concerned about the possibility that Congress would not agree to long-term funding efforts. Roy answered that the PMP was designed to put forward a long-standing technical approach to meet the 2028 closure deadline, and acted as a goal setting document and a way to communicate how to reach that goal and what to work for. The technology employed may be modified as advancements are put in place, but the overall goal should remain the same.
- Is Roy willing to simply establish a vision and allow a budget to be handed to him, or is he willing to draft a budget and fight for it? Roy responded that he is willing to push for a budget, but also always looks at ways to do the work at lower cost. He believes that the budget is flexible enough to do additional work, and wants to put money into building the vitrification plant and improving site cleanup. He also believes that the budget allows sufficient funds to do so.
- Wade Riggsbee, Yakama Nation, extended an invitation to Roy to meet and work with the Tribe's Environmental Restoration and Waste Management (EWRM) group. EWRM had a good dialogue with Harry Boston, DOE-ORP's previous manager, and has suggested many solutions to Hanford site issues in the past. Wade believes that an excellent discussion of where to go is possible, and sees opportunities for future cooperation.
- Paige Knight also extended an offer for Roy to meet with Hanford Watch and other Oregon groups and expressed that these groups have had a good relationship with DOE-ORP since the office was founded. A meeting between Roy and the Oregon groups would be a good opportunity to build public trust. Roy indicated that he would be interested in meeting with the Yakama Nation and with Hanford Watch and also announced that he will be attending the September Board meeting in Seattle.

Project Management Plan (PMP) Review

Steve Wiegman, DOE-ORP, provided a brief review of the current status of the PMP, and of the six strategic initiatives being used to guide its progress. Steve also provided details on the target baseline schedule established in the PMP. This baseline looks at differences in technology and cleanup applications between current plans and what the future may hold – it points out differences in cleanup ability and shows where changes are needed to meet cleanup milestones. In a sense, the target baseline is the foundation for developing the PMP into a living, evolving

cleanup document. Steve requested that the committee examine and comment on the target baseline – the final baseline established by DOE-ORP will serve as a bridge between the current baseline and the target baseline.

Wade Riggsbee noted that some of the technologies mentioned in the PMP have not yet been fully proven. Steve replied that the baseline was set to evolve over the next couple years, and admitted that some issues remained to be defined.

Several committee members asked about the funding levels needed for the vitrification plant and the new plan, and asked if DOE-ORP was requesting enough funding to manage its operations. Steve replied that DOE-ORP believes it has enough funding to accomplish its goals. The funding for operating the vitrification plant is separate from the funding provided to build it, which may be an issue in the future; the vitrification plant will need to be fed at full operating capacity, and that capacity will not be finalized until plant construction is complete. The lack of price figures in the PMP is due to the general lack of knowledge of the DOE budget, and cannot be controlled by DOE-ORP. If final budget figures are not available by September 30, the PMP (and the rest of DOE-ORP) will operate on contingent allocation.

Regulator Perspective

Suzanne Dahl, Ecology, reported on the regulator perspective. Regulators want cleanup tools that meet the 2028 cleanup deadline. While some aspects of the PMP emphasize more efficient technologies, this efficiency must be used to make cleanup faster, not to reduce the scale of the vitrification plant or other cleanup tools. An example mentioned by Suzanne are the three low-level waste melters. The PMP states that each of these melters can handle 15 tons of waste per day, instead of the 10 tons anticipated in the baseline. The regulators approve, but believe that the increased capacity should be used to push more waste through, instead of being taken as license to remove one of the melters from the plant.

Committee Discussion

- How does the PMP interface with the System Plan? The System Plan describes the current baseline; the PMP does not set a formal baseline but does establish what to work for in order to meet milestones and the goals of the Target baseline. DOE must be clearer on how it will all fit together.
- There was discussion of whether the established cleanup standard of “99% of all waste, or what’s technically feasible” was met by the PMP, or was even the right standard to apply in this instance. It was suggested that the concept of technical feasibility should include a cost/benefit analysis.
- The PMP is an opportunity for DOE to implement a more effective public participation process. DOE seems to have a habit of not implementing suggestions provided by the public, and then failing to explain why the suggestions were not implemented. If DOE could provide an explanation of why changes were not made, the public involvement

process could be more useful. DOE does not need to conduct more public involvement, it just needs to implement its current efforts more clearly and effectively.

- Public involvement is a two-way process, and a sense of what is gained by participating in the process seems missing at this point. DOE feedback efforts seem to be just a matter of going through the motions. Explanations and meaningful responses should be provided.
- There was discussion of the possible ways in which risk assessment could apply to the PMP. The Board has requested a comprehensive risk assessment that looks at a large enough section of the big picture to be meaningful. The committee is interested in risk assessments that cover more ground than the assessments usually applied to support DOE decisions and standards, and consider what actions might need to be taken in the future. There was a question of whether assessments should cover the overall tank farm area, or be conducted tank by tank. There was also a request to conduct cumulative risk assessments, instead of considering risks piecemeal.
- The PMP seems to be moving very quickly. DOE needs to be careful that the baseline does not pull away from the guides established by the Tri Party Agreement (TPA) and the National Environmental Policy Act (NEPA). In particular, the use of supplemental technologies as a replacement for the second vitrification plan seems to be a “done deal” in the PMP, which is not the case and should not be implied.

Bechtel Estimate of Completion

Bill Taylor, DOE-ORP, introduced the staff from Bechtel National, Inc. (BNI). Bill stated that DOE-ORP is in alignment with BNI on the issue of the cost growth for the vitrification plant construction. BNI expects to have finalized an updated proposal with set costs by October 1, at the latest. DOE-ORP is requesting a built-in contingency fund under the new plan, so that changes in budget do not need to be submitted to DOE-HQ.

Ron Naventi, BNI, provided the contractor goals in the plant construction, as well as an overview of how the established costs break out. The bulk of the cost growth comes from pending items identified as potential additions to the facility after the initial contract was signed. DOE-ORP has the option to add these to the contract. Funding for contingency items and risk also factors into the cost growth. The final estimate is \$4.6 - \$4.8 billion, plus any DOE contingency and fee in the contract (the \$5.3 billion figure includes all of these numbers). DOE-ORP wants to determine the final budget request, and send that number to Congress. There is a strong desire to avoid having to ask Congress for multiple appropriations.

Ron also spoke to the BNI commitment to safety and the safety record. Construction crews have a daily discussion before work starts each day, and BNI has had a few cases of work stand-downs in the interest of meeting safety needs and reviewing safety expectations. BNI has also added some site upgrades, such as striping crosswalks and adding handrails on stairs, to improve safety. The safety program is run by the craft workers, not management. Worker productivity

bonuses are also tied to meeting safety standards: if standards are not met, the bonuses are not provided, even if productivity is high.

BNI conducts many audits, both internal and external. These audits track both cost and schedule milestones. Both kinds of audits point out weaknesses and suggest corrective actions. BNI has recently instituted an online system for proposing and implementing corrective actions, which also tracks the results. Corrective actions are reviewed by an independent board.

BNI is interested in a more modularized approach than hard pipe, and is looking at placing tanks that will not require maintenance in hard pipe in a black cell. Plugs will be allowed for emergency access. The change to jumpers in some areas allows for reduced lifecycle costs.

The Change Order process had been without a decision for close to a year when Roy Schepens joined DOE-ORP. Roy has since sat down with BNI to craft a meaningful discussion and push the Change Order process forward. Some of the lag was due to BNI's way of doing business – instead of pulling staff off of other projects to negotiate the change order, BNI brought in independent resources to discuss the issue.

The committee asked how the original contract and the new discussions fitted with acceleration plans in the PMP and elsewhere. Ron Naventi responded that the original contract predated acceleration. Some of the new efficiency estimates for the finished plant have been built into the PMP. Acceleration has had the greatest effect on the plant by keeping it built to full scale, after discovery that some elements such as melters could function at greater efficiency and meet the original contract needs while being built to a smaller scale.

Committee Discussion

- The committee concern about the Bechtel cost increase is partly due to anxiety from the failure of the previous contract.
- There should be visible progress on this issue by mid-October at the latest. It would be useful to have at least a brief discussion at the November Board meeting to keep the Board on top of the situation. A short, one-page list of what elements have changed as part of the cost increase would be useful.
- It sounds as if BNI is paying attention to safety, and taking a good approach to maintaining it.

Doug Huston commented that the committee seemed to have a good idea now where the cost increases were coming from, and proposed that Harold Heacock act as issue manager to keep track of this topic.

Supplemental Technologies

Doug Huston provided an overview of the four technologies that have been selected for further investigation: sulfate removal; containerized grout; bulk vitrification; and steam reforming. Rudy Carreon, DOE-ORP, was present to answer technical questions from committee members about these technologies.

Doug asked about the effect of sulfate on glass. Rudy replied that too much sulfate caused the glass to become brittle, as well as causing corrosion problems in the melter units. By removing sulfate, a larger amount of radioactive material can be trapped in a given volume of glass.

Containerized grouting is a method to remove some less dangerous types of waste from the waste stream. Rudy noted that while grout is not as durable or long-lasting as glass, it is also safer and easier to handle. He also commented that grouting is unaffected by sulfate levels. However, high levels of sodium do have an effect on grout; this is a balancing act. Suzanne Dahl noted that grout does have issues with leaching of both technetium and nitrates, and that the grout also has four times the volume of other waste forms.

Bulk vitrification is a new technology; testing has been conducted in Australia and Japan. Vitrification occurs as normal, and the material is loaded into the container later. The number of containers needed for storage is unknown but estimated to be slightly less than standard vitrification. Normal storage would be inside a building (so weather is not an issue). Rudy stated that the advantages lay in a potentially higher waste load and in the ability not to worry about removal of waste glass.

Doug noted that steam reforming is the technology furthest along in the testing process. Cold testing has already been completed in California, and the results from that series of tests look good. Additional testing is in progress, and DOE-ORP is waiting on the results from those tests before deciding on a path forward. There are concerns about the possibility of some glass types decomposing under oxygen; committee members would like to know how the performance of glass from steam reforming can be examined over time.

Regulator Perspective

According to Suzanne Dahl, the regulatory agencies have accepted glass as the baseline waste form and want proof that any supplemental technology employed will produce a waste form as good as glass. If tests demonstrate that this is the case, the regulators are willing to accept the alternatives. The regulators are in the process of meeting with DOE to develop tests and risk assessments to determine whether alternate waste forms meet the glass standard.

Committee Discussion

- The committee is concerned about the durability of waste forms produced by these supplemental technologies; durability over time needs to be examined. The durability of any waste form should be clearly understood before switching technologies.
- Testing and technology selection seems to be happening very quickly. Testing the new technologies to the public's satisfaction may not be possible during the proposed timeframe. There is a question about whether the current testing results adequately represent the behavior of waste forms over the long term. The committee would like to see the results of different supplemental technologies side by side with vitrified glass.
- Retrievability of waste has always been a priority for the Board. The committee needs more information about how waste forms can be retrieved.

- A discussion of risk and how it can be incorporated into these issues should be held. Information about lifecycle costs and affects on human health is important.
- The committee should discuss this issue at another committee meeting before bringing information to the Board. An idea of the big picture and a sense of where each individual technology can fit into the cleanup process is also needed. One committee member suggested creating a flow sheet that lays out the decision process.
- The committee needs more information about financing for supplemental technology research; not only how much money is required, but also where the money is coming from. Money for this work should not be taken from the budget for site cleanup.

Supplemental Environmental Impact Statement (SEIS)

Gae Neath, DOE-ORP, provided a quick overview of the changes in the SEIS from the original Tank Waste Remediation System (TWRS) EIS and explained where the process is at the moment. The main changes in the SEIS deal with changing the waste form from cullets to glass monoliths; the need to dispose of the monoliths in a Resource Conservation and Recovery Act (RCRA) -compliant trench rather than putting waste into long-term storage; and disposing of the waste in a different location.

Gae said that programmatic change had resulted in three separate supplemental analyses of the disposal actions and that after the cumulative changes it appeared that the actions were no longer bounded by the TWRS-EIS. Suzanne Dahl noted that many of the changes expressed in the SEIS had been analyzed in earlier performance assessments and adopted as an unofficial baseline, and only now were being stated in writing.

The SEIS public comment period ends on August 26, which is too soon to develop feedback through a formal Board process. However, the committee can look at the SEIS after the next draft is published, and bring it to the Board to discuss. The August 26th cutoff date is only for the current round of comments dealing with scoping; another comment period will be presented after the draft SEIS is published in October.

Committee members asked why the SEIS process was a separate decision from the Solid Waste EIS. Both documents seem to cover similar waste types, and the decision would be more easily approached as a single document, rather than two. Gae noted that the guiding document for this SEIS is the existing TWRS-EIS, so the SEIS has to be developed using the TWRS-EIS as a baseline. DOE-ORP is looking at ways to consolidate the two documents. Jim Rasmussen, DOE-ORP, noted that the SEIS involves permitting that allows the use of immobilized low activity waste (ILAW) trenches for disposal, and that pushing the SEIS as a separate document is necessary to apply these permits. Sharing trench space between the two EISs may be an option in the future.

Committee Discussion

- The RCRA-compliant plastic liner, with its 30 – 50 year lifetime, does not seem to fit well in a disposal effort for radioactive waste forms with lifetimes of thousands of years. Applying RCRA to radioactive waste disposal may be a fundamental disconnect. Other

committee members noted that while the waste form was the main long-term containment factor, the plastic liner and other tools provided by RCRA offered additional near-term indications as to the success of the assumptions made in the disposal process, and would offer indicators to verify the solution will work over the long term. The liner will help to prevent wide-scale contamination in the event of a major failure early on.

- There is a real concern with the move to import offsite waste to Hanford for disposal when not all of the waste onsite has been unearthed for proper disposal. This document may not deal with any offsite waste at all, but this is still something to bear in mind. Local groups are interested only in ways that the site can deal with its own waste.

Committee Work Planning

Doug Huston asked the committee to consider what the November Board meeting should look like, what the results of the meeting should be, and what the committee would like the Board to take away from the meeting.

Topics proposed for the November meeting include the current status of the vitrification plant work; alternate or supplemental technologies; risk issues; tank closures; and the enhanced vitrification plant. The committee also discussed ways to weave discussion of risk issues, cost issues, and public involvement efforts into the flow of all topics. Paige Knight suggested that public involvement was not a topic for discussion, but an outcome.

The Board should take away information on and an understanding of Tanks issues, and the ability to focus on real and important issues. Suzanne Dahl mentioned that large, wide-sweeping changes were approaching, and the Board's should understand not just DOE's goals, but also how these changes would affect the entire Pacific Northwest.

The committee agreed that supplemental technologies could be addressed during a Wednesday evening informational session. The committee also agreed that half of Thursday should be used for informational presentations on Tanks issues, and the committee should host a half-day workshop on Friday. Dave Johnson will take the lead on preparing the Wednesday evening session; Harold Heacock, Leon Swenson and Suzanne Dahl will lead the preparation of the Thursday information session; and Paige Knight will take the lead on developing the workshop, all with the support of the rest of the committee.

Doug Huston proposed the Tanks committee report at the September Board meeting include an update on the M45 change package. Suzanne Dahl suggested including a full briefing on the change package. The proposal will be presented to Ken Bracken for review, as Ken is the Tanks committee issue manager on the change package.

The committee agreed that a September meeting is not necessary. The committee also agreed to cancel the August 19 conference call. The next scheduled conference call is September 16.

The meeting adjourned at 4:10 PM.

Handouts

Memo from Todd Martin on Board Priority Focus
 River Protection Project System Plan
 Performance Management Plan Overview
 Waste Treatment Plant presentation
 Supplemental Treatment Technologies comparison
 Tank Waste Remediation System SEIS notice of availability
 Draft Advice on the River Corridor from the Exposure Scenarios Task Force

Attendees**HAB Members and Alternates**

Shelley Cimon (by phone)	Dave Johnson	Wade Riggsbee
Harold Heacock	Paige Knight	Leon Swenson
Doug Huston	Jeff Luke	Margery Swint

Agency Staff, Contractors and Others

Rudy Carreon, DOE-ORP	Suzanne Dahl, Ecology	Suzanne Heaston, BNI
Joe Cruz, DOE-ORP		Ron Naventi, BNI
Al Hawkins, DOE-ORP		Ed Aromi, CHG
Bill Hewitt, DOE-ORP		Moses Jarayssi, CHG
Greg Jones, DOE-ORP		Bryan Kidder, CHG
Billie Mauss, DOE-ORP		Rick Raymond, CHG
Gae Neath, DOE-ORP		Rodger Burns, EnviroIssues
Erik Olds, DOE-ORP		Lynn Lefkoff, EnviroIssues
Jim Rasmussen, DOE-ORP		Barb Wise, Fluor Hanford
Bill Taylor, DOE-ORP		Sandra Lilligren, Nez Perce Tribe
Steve Wiegman, DOE-ORP		Sharon Braswell, Nuvotec/ORP
		Chris Chamberlain, Nuvotec
Yvonne Sherman, DOE-RL		Peter Bengston, PNNL/ORP
		John Stang, Tri-City Herald