

FINAL MEETING SUMMARY

**HANFORD ADVISORY BOARD
TANK WASTE COMMITTEE MEETING**

*June 16, 2010
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

Dirk Dunning, Tank Waste Committee (TWC) chair, welcomed everyone and introductions were made. He recognized this TWC meeting as Ken Gasper’s last meeting and thanked him for his years of contribution. The committee adopted the May meeting summary. He said the Environmental Management Advisory Board (EMAB) subcommittee on tanks held a meeting in Richland yesterday. Dirk and Susan Leckband conveyed to the committee the top issues for the TWC. Pam Larsen said the EMAB tank committee is looking for large concerns that have been discussed and have invited TWC members to their September meeting. Gerry asked if this committee has looked at past TWC advice. Susan said we can provide them with past HAB advice.

Regulator Review of Comments - Joint topic with the River and Plateau Committee

Suzanne Dahl, Washington State Department of (Ecology), presented on Ecology’s comments regarding the draft Tank Closure & Waste Management Environmental Impact Statement (TC&WM EIS). She said Ecology would like the Department of Energy (DOE) to vitrify all Low Activity Waste (LAW). Vitrifying the LAW is the best option because most of the impacts come from secondary waste. She said with secondary waste there are significant groundwater impacts and robust mitigation is needed to get below the levels of concern. She said the glass options are predicted to be lowest for radiological risk.

Suzanne referenced a table of peak groundwater results from various waste forms and secondary waste. She said for constituents using the glass option, levels were below the benchmark numbers for drinking water standards. She said secondary waste is an impact and that vitrification is the best option. Suzanne also added offsite waste disposal causes

unacceptable environmental impacts and onsite burden with technetium and iodine. She said the Integrated Disposal Facility in 200 East is a better choice when considering contaminant impacts to groundwater.

Suzanne next referenced the line graph displaying the risk comparison for four different alternatives for tank closure. She said the draft EIS indicates that greater than 99% retrieval makes a difference for radiological risk. She said the more you retrieve below 99% the better, assuming all the waste is the same. She said going beyond 99% retrieval might not be as impactful with washing at the bottom of the tanks.

Suzanne referenced a chart of the lifetime radiological risk for drinking water at the core zone boundary due to past leaks at Single Shell Tank (SST) Farms. She compared the risk over time for the alternatives of no landfill closure, landfill closure, partial clean closure and clean closure. She said if the contaminants are immobilized, the radiological risk goes down. She said some contaminants are so close to the groundwater that pump and treat systems will have to be done to lower the risk. She then showed a series of graphs displaying the effects of tank closure alternatives on cribs and trenches, past leaks, other sources and the total. She said the solution might be somewhere between clean closure and landfills. She then showed a comparison of alternative combinations, such as tank farms with landfill impacts. She then showed charts displaying the cumulative of all Hanford waste with alternative combinations and the resulting effects on the core zone boundary and Columbia River near shore over time. She said tank waste is important but so is the rest of the waste at Hanford.

Suzanne highlighted key findings from Ecology's letter on the draft TC&WM EIS. She said all LAW must be in glass and secondary waste requires significant mitigation. She said offsite waste results in considerable groundwater contamination and should be significantly mitigated or not allowed to come to Hanford. Ecology prefers the 200 East Area landfill location because they feel that it is more protective of human health and the environment. She said for tank waste, Ecology suggests retrieval to the 99% level or more if possible. She said if it is possible for landfill closure to be used, it will need to be augmented with significant corrective actions to the vadose zone, including the deep vadose zone, to avoid unacceptable future impacts. She added that partial clean closure with significant vadose zone mitigation may be considered in individual tank farms. Suzanne said to avoid recontamination of the groundwater and unacceptable future impacts, some past practice units in the Central Plateau will need more extensive remediation than was assumed in the draft EIS. She said the rest of Hanford's waste burden adds to future risk significantly. There has to be better Hanford cleanup options.

Ecology thinks the data gathering, modeling and quality assurance were conducted in an adequate manner; and the draft EIS objectively analyses and predicts impacts of the reasonable alternatives and the cumulative inventory. She said Ecology would like to be able to adopt the EIS, yet there is no alternative that addresses the impacts that is acceptable. She said there will be a mitigation action plan, and Ecology will use their State Environmental Policy Act (SEPA) determination to review it. She said Ecology wants enforceable milestones with a risk assessment that decisions are compared against. She said Ecology would like performance assessments for disposal facilities. Ecology will put specific conditions in dangerous waste permits to mitigate past releases to soils

and to inhibit releases in the future. She said Ecology, DOE and the Environmental Protection Agency (EPA) are discussing a sensitivity scenario for the final EIS with reduction of inventory through mitigation. She said everyone cares about protecting the environment and there are different ways to deal with it.

Committee Discussion

- Gerry Pollet said Ecology states in the letter that they will include conditions regarding soils, but with the Resource Conservation and Recovery Act (RCRA), Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and Corrective Action Decision/Record of Decision (CAD/RODs) conditions on soils would be lost. Suzanne said the intention is to mitigate past releases, and she would expect that in the CAD/ROD process has the same approach of looking at cleanup options that mitigate past releases.
- Jean Vanni asked about cumulative risk assessment. Suzanne said Ecology would like to see milestones to maintain cumulative impact assessments in order to see how decisions are impacting other things.
- Al Bolt asked if the radiological assessments account for all radionuclides. He also asked if DOE ever developed the sum of all the maximum contaminant levels. Mary Beth Burandt, DOE-Office of River Protection (ORP) said DOE did a radiological risk assessment and the details are in Appendix Q of the draft EIS.
- Pam asked if any of the charts presented exclude off site waste. Suzanne said one does from the presentation, but off site waste is not in the draft EIS.
- Gerry asked if comments regarding missing data were taken into account. Suzanne said yes, Ecology looked at the comments and due to deadlines not all the comments have been considered, but there is still a chance for Ecology to incorporate them.
- Gerry said there needs to be cumulative risk included in the draft EIS. He said carcinogens should be summed legally and he is fairly sure they are not. Jeff Lyon, Ecology, thinks that the carcinogen information is present in the draft EIS, and the calculations have been made.
- Mary Beth said DOE is looking at comments and at where DOE can better display information in the draft EIS. She said in the cumulative sensitivity analysis, DOE is trying to gain insight moving forward by working in coordination with the regulators and is considering adding information on mitigation.
- Dirk asked if it will be a new draft of the EIS or just a revised version. Mary Beth said there has not been direction given yet, and that the EIS will not be smaller as a result of added sensitivity analysis and detail. The summary might also become a little bigger based on the comments received.
- Dirk asked if there is discussion about how DOE-Richland Operations Office (RL) is involved. Mary said DOE-RL has been involved with the whole EIS process and has signed off on steps including cumulative impacts and modeling.

- Pam asked if the vadose zone contamination has been retrieved around the tanks. Mary Beth said DOE is investigating ways of immobilizing the contamination in alternative four, and there might be more description in the draft EIS to help describe the situation for the vadose zone contamination.
- Jeff Luke said there should be more clarification for the sensitivity analysis. Mary Beth said the top sights that have some of the major constituents were chosen, and DOE assumed that half of the inventory was removed. She said the concept is to look at the sites with half of the contamination removed to analyze the differences and develop milestones accordingly.
- Pam asked about Ecology's concern regarding secondary waste being mitigated. Suzanne said the secondary waste was supposed to go into grout, and Ecology suggested something better be used for mitigation since technetium was leaching out.
- Pam asked about the data in the presentation with regards to iodine. She said the data states that cast stone has less of an impact on groundwater than glass. Suzanne said this must have been a mistake while making the presentation. Suzanne will verify the numbers and pass along that information to the committee.
- Gerry appreciates that Ecology focused on the comments that were given. He said it is concerning that Ecology has to review the mitigation action plan. He wants to know if Ecology would take a SEPA addendum if DOE does not do a revised draft of the EIS. Suzanne said Ecology hopes to not do another draft and the issues raised are in the mitigation plan. She said comments can be made on the permit condition. Gerry said this is assuming that issues are not left out of the permit. He said there is no comparison in this draft to MTCA standards which is why it cannot be adopted for SEPA. He suggested that Ecology uses SEPA so the public can comment on the EIS.
- Jean asked if the mitigation action plan is going to be considered in the primary document by Ecology. Suzanne said the mitigation action plan is not considered with National Environmental Policy Act (NEPA). Mary Beth said it depends what is in the mitigation action plan. She said the plan lays out what you need to do and some might already have milestones, and there may be mitigations already in the Tri-Party Agreement. Jeff Lyon said the mitigation plan will probably not be a primary document but it will be used. It is still being developed and should be a document within DOE's NEPA. He said the mitigation plan will also be used for Ecology's TPA and permitting process. Jean said she hopes the mitigation plan will be made publicly available.
- Jeff Luke said he is interested in commenting on the mitigation action plan. He said the RAP committee should not assume that Ecology is just going to except the plan, there is a permitting process.
- Pam said she is glad that off-site waste acceptance is off the table.

- Gerry said the state of Oregon asked for the withdrawal of the ROD on offsite waste. Mary Beth said it was considered a site for offsite waste, and this draft TC&WM EIS is the analysis. She said DOE is not finished with this process and even when the draft states something; it does not mean it will happen.
- Dick Smith asked if the offsite waste is untreated, and if it makes a difference if it were treated before coming to Hanford. Mary Beth said the offsite waste is not treated; it is similar to the secondary waste. The choice is to either not send it or look at additional treatment options. Dick asked if this information will be in the mitigation plan. Mary Beth said DOE will look at the offsite waste in the mitigation plan, and noted she has received many comments regarding this topic.
- Dirk said another issue is the potential use of a risk budget tool and how this might work.
- Dick said in all the analysis there was nothing for the vadose zone that analyzed the magnitude of effects. Mary said this was discussed in the sensitivity analysis.
- Dirk said the topic should be discussed in the August RAP committee meeting.

Waste Source Contamination

Harold Heacock began the committee discussion by saying this topic came out of the discussion of how much waste and what type of waste is in the tanks. He said it would be useful to have something showing what is in the tanks. He said the pipelines and the associated activity levels would be good to quantify as well. He said an overall map providing this data would be optimal if possible.

Dirk said finding where the various wastes and hazards are is the goal. He said finding out where the waste is has been considered, and he asked if there is budget for finding out where all the waste is.

Regulator Perspective

- Jeff Lyon said there is not a lot of information on the tank pipelines. He said this process is in its infancy. He said there was a DOE technology workshop with a report, but there is not much data and there are a lot of holes. He said this topic of waste inventory would be good to address early.

Committee Discussion

- Dirk asked if there should be a joint committee discussion. Pam asked if there has been preparation, and if Ecology is ready. Jeff said he is not sure if Ecology is ready for this topic, but the question should be asked.
- Jeff Luke said a map would be very helpful. He then asked about the first bullet on the agenda and if we are not accepting the Best Basis Inventory (BBI). Harold

said this topic came from what contaminants are in the SSTs to better inform decisions. Jeff said the BBI provides what is in the tanks. Jeff Lyon said the BBI could be different than what has been seen and he said he is creating a table to attempt to address these questions. He said these are things that should be known, and he thinks it is a good set of questions that should be raised.

- Pam said there was a 3D map by CH2MHill for pipes in a tank farm. Jeff Lyon said it will be released by the end of they year, but it was for only one farm.
- Dirk said with the tank analysis the error bar on the BBI is large, and the certainty of the numbers that have been taken is good to look at. Harold said this information should be known and accurate for closure.
- Jeff Luke said it is a good question to ask, and these questions might lead to finding that the risk proposed by a tank might be too low to retrieve. Dick said the criteria might need to be revised. Jeff said the TPA says strictly to remove mass from the tanks. Suzanne said the risk information in some tanks might say you have to get more than 99%. She said the tanks are under the dangerous waste regulations and when closing them as much waste as possible has to be removed and some retrieval has to be done.
- Harold said this topic also has to do with taking higher risk tanks first and money allocation.
- Jeff Lyon said maybe the HAB should have a document with a list of updates on tank closure to discuss. Jeff Luke said RAP should join in the discussion of this topic. Dirk said it was discussed in a series of COTW meetings.
- Dirk said looking at the committee workloads would be worthwhile. Jeff Luke said looking at closure timelines would be good as well.
- Harold said there should be focus on the 200 Area.
- Dick asked if the BBI has been modified considering supernate. Les Fort, Washington River Protection Solutions (WRPS), said the BBI was done in different phases. Dick asked if the BBI has the types and amounts of waste. Susanne said yes, but the BBI has a potential to be off and there should be precautions taken when using it for modeling. Dirk said there was a waste analysis where tank by tank inventory was taken. Les said the BBIs asses the samples, but even if there is uncertainty, these are the best estimates.

Environmental Management Advisory Board Subcommittee on Tank Waste

Pam said the EMAB tank subcommittee would like the top ten issues on Hanford tank waste. Dirk said this information would be gathered and then forwarded to the subcommittee.

Michele Gerber, WRPS, said there was confusion on if the public could sit in on the meetings. Pam said the meetings are not open to the public, but the committee has asked

if the HAB would like to work with them. Dirk said he is unsure if it is a Federal Advisory Committee Act committee would be made open to the public.

Committee Business

The TWC went over the six month work plan. Dirk said August is fairly full and the committee can finalize the topics on its July committee call. The tentative list of committee topics for August includes:

- Issue manager update on 242-A evaporator
- Pulse jet mixer facility – video presentation
- EPA comments on the draft TC&WM EIS (joint with RAP)
- Hanford Tank Farm Technology Roadmap – DOE-ORP presentation
- System Plan Revision 6
- Closure plan planning
- Issue manager update on Waste Management Area C Performance Assessment meeting in July

Jeff asked how the Ecology presentations from today’s meeting will be provided. Cathy asked Madeleine Brown, Ecology, to send her the letter, comments, and presentation from Ecology.

Action Items / Commitments

- The committee will have a call in July to discuss their August committee meeting. Cathy will update the committee’s work plan and disseminate it to committee leadership.

Handouts

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

- Washington State Department Ecology Specific Comments on the Draft Tank Closure and Waste Management Environmental Impact Statement, Ecology.
- Ecology letter to Mary Beth Burandt, Ecology, April 30, 2010.
- Ecology’s comments on “Draft TC&WM EIS”, Suzanne Dahl.

Attendees

HAB Members and Alternates

Al Boldt	Harold Heacock	Vince Panesko
Shelley Cimon	Pam Larsen	Gerry Pollet

Dirk Dunning	Susan Leckband	Dick Smith
Dale Engstrom	Jeff Luke	
Ken Gasper	Liz Mattson	

Others

Ellwood Glossbrenner, DOE-RL	Dieter Bohrmann, Ecology	Cathy McCague, EnviroIssues
Mary Beth Burandt, DOE-ORP	Rick Bond, Ecology	Blair Scott, EnviroIssues
Lori Gamache, DOE-ORP	Madeleine Brown, Ecology	Sharon Braswell, MSA
Pamela McCann, DOE-ORP	Jeff Lyon, Ecology	David Bernhard, Nez Perce Tribe
Steve Pfaff, DOE-ORP	Dan McDonald, Ecology	Michele Berber, WRPS
Woody Russell, DOE-ORP	Craig Cameron, EPA	Les Fort, WRPS
		John Martell, WDOH
		Mike Priddy, WDOH
		Jean Vanni, Yakama Nation