

FINAL MEETING SUMMARY

**HANFORD ADVISORY BOARD
TANK WASTE COMMITTEE MEETING**

*March 11, 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

Larry Lockrem, Tank Waste Committee (TWC) chair, welcomed everyone and introductions were made. The committee approved the November meeting notes.

Larry said the TWC needs to look for nominations for chair and vice chair. Larry was nominated Dirk Dunning as chair. Dirk Dunning agreed to be chair for the TWC. Larry said he would be vice chair.

Single-Shell Tank Integrity Expert Panel Workshop

Rob Davis introduced the Single Shell Tank (SST) integrity project. He said the project looked at the extended useful life of SSTs by examining the engineering measures to ensure the tanks are safe and contained. The Department of Energy – Office of River Protection (DOE-ORP) wanted to perform the study by convening a team of experts over the course of a few years and Rob noted that the TWC have talked to the committee several times about their effort. Most recently, the group met in January and the committee will hear about the progress of the panel and its path forward. He said Washington River Protection Solutions (WRPS) became actively working at this site and at Savannah River which has led to more participation in tanks and knowledge sharing at both facilities. Rob said the report in April will outline findings on the tanks with stress analysis and chemical sampling of the waste volume. He said there will also be present time data evaluations and a corrosion study on the current conditions in the tanks. He said

there is not much data on real waste, and once this data is collected it will be a big leap forward.

Kayle Boomer, WRPS, presented on the Single Shell Tank Integrity Project (SSTIP). He said he will summarize the topics that were covered in the SSTIP and the progress made.

Kayle said the SST integrity panel was formed in 2008 to help guide the enhancement of the SSTIP. He said the panel met twice during Fiscal Year (FY) 2009. In the first meeting the tank farm personnel provided background about the construction, operation and current status of SSTs. In the second meeting, panel members presented information for developing a plan based on recommendations from the SST integrity panel. He said the meetings from FY 2009 are available on the WRPS's website. He said the panel has developed thirty-three recommendations in the Expert Panel Report for the Hanford Site SSTIP which is publicly available.

Kayle provided a cross section of a SST in order to give reference to the panel composition and what aspect of the SST each panel member is focusing on.

Kayle said the meeting discussions from the SSTIP workshop focused on the DOE-ORP Letter of Direction to address Tri-Party Agreement milestone M-45-91. There was an overview of the SSTIP panel's recommendations and evaluations of existing conditions of SSTs, future use of SSTs, modifications to prevent SST degradation and improving understanding of SST integrity. He said WRPS presented preliminary implementation plans in response to the SSTIP panel's recommendations and the panel was pleased with their response. Kayle said the panel concluded that preparing a new report would be the most effective way to provide input for the new Tri-Party Agreement milestones.

Next, Kayle presented the SST integrity panel timeline and outlined the events that have and will occur in FY 2009 and FY 2010.

Kayle went over the topics that were covered in the SSTIP workshop and the resulting outcomes. He said the first topic was the panel's evaluation of the existing conditions of the SSTs. He said the new panel report will summarize current conditions and will be similar to current condition conclusions from the first report. He said the second topic was on the panel's evaluation of the proposed future use of SSTs. He said SSTs do not meet current industry or Resource Conservation and Recovery Act (RCRA) standards and barriers to demonstrating integrity of the SSTs are challenging. He said these challenges are based on risk assessment for SSTs which is not in the scope of work. The third topic discussed was the panel's recommendations for critical modifications and associated schedule aimed at preventing or minimizing further degradation of SST integrity. The panel drew on its first report to support the recommendations for the second report. He said the fourth topic was on the panel's recommendations for additional evaluations and program elements that would improve existing understanding of SST integrity. The panel presented its recommendations for integrity activities for three categories of SSTs: retrieve, interim stabilized and interim waste staging. He said suggestions from the previous report were reiterated.

Kayle said the SST integrity panel is on track for the report that is due April 29, 2010. He said WRPS is developing an implementation plan based on recommendations focusing on the ten primary recommendations from the integrity panel's report with six secondary

recommendations. He said the plan will be updated to address the SST integrity panel's April 29 report.

Regulator Perspectives

- Jeff Lyon, Department of Ecology (Ecology), said he assumes the results of the project will meet the proposed TPA milestone package. Kale said yes.
- Jeff said in the last meeting S-112 was proposed for re-use, but Ecology has not made a position on this because there are no proposed actions. However, if DOE decides to put liquid in the tanks, Ecology would not agree with this. He said a robust leak detection system is very important, and Ecology struggles with re-use of tanks. He said Ecology has not made a decision, but would typically say no to re-use. He said short term storage to evaporate the liquid might work for using the tanks to store waste, as long as there is not liquid left in the tanks. He said there was discussion of reducing leak inspection frequency, but there are state regulations with respect to inspections that need to be considered. Jeff said Ecology is active in leak testing and is content with reports that have been issued. He said Ecology is concerned about core drilling of the concrete in the tanks; however, the hope is to have a constructive conversation before any decisions are made.
- Jeff said Ecology does not like storing waste in non-compliant tanks, as the tanks could be 100 years old by the time they are retrieved. He said another goal is to close the site as quickly and safely as possible. He said there is hope that the Waste Treatment and Immobilization Plant (WTP) will work well and that the retrieval rates will be balanced. He said infrastructure has to be designed to remove waste from tanks, which should then be put into small receiving facilities. He said if larger tanks that were compliant might also be an option. He suggested comparing the cost of new Double Shell Tanks (DSTs) to the compliant SSTs.
- Jeff said the tank waste system plan with case studies will allow Ecology to use a more analytical process for regulation. He said with more experience, the process of dealing with tank waste will get better.

Committee Discussion

- Mike Terry, WRPS, said the panel's concern was having no risk assessment available to evaluate risk in terms of tanks leaking. He said a risk assessment needed to be done. Harold Heacock asked if there was an immediate threat from the tanks. Kayle said there is no structural risk regarding the tanks and the focus is on retrieval.
- Pam Larsen asked about the impact of waste cascading from one tank to the next. She said there might be tanks that are wrongfully identified as leaking. Kayle said 67 tanks are confirmed to have a history of leaking and 34 of those tanks have questionable integrity. He said WRPS chose to call them all assumed leakers to cover

all bases. He said there are tanks that are being researched for leaking and it is an ongoing process. Rob asked if there could be an update on the status of these leaking tanks at a TWC meeting. Lori Gamache, DOE-ORP, said yes, but the presentation is not ready yet.

- Dennis Washenfelter, WRPS, said in the past there was no gradient on the amount a tank has leaked. He said leak volumes were then assigned, and there was still not enough evidence to know the volume of waste leaked. He said in C-110 there were assumed leakers that were overfilled through spare valve nozzles. The process is tedious but thorough.
- Dick Smith said he is confused by the urgency to remove the waste from tanks when there is no place to move the waste. He said it does not make sense to pump it from tank to tank and have the retrieval process take place more than once. He said there should be a rational decision on what to do before doing anything.
- Rob said since there is investment in SST integrity work, there should be a more aggressive retrieval schedule. He also suggested looking into other strategies. Jeff agreed.
- Pam said to leave waste in the tanks. She said some tanks have better integrity than others and the sooner those tanks can be sluiced the better.
- Dick asked if there are findings on the integrity of the dry tanks. Mike said with simulation testing, WRPS has tested for structural integrity and leaking.
- Rob said the study will lay down a framework for recommendations to accomplish, such as corrosion studies. He asked when there will be a funding package to support all the recommendations from the SSTIP panel's suggestions. Kayle said there will be a Baseline Change Request to support funding of the recommendations. Steve Pfaff, DOE-ORP, added that the report will include efforts to drive funding for the panel's recommendations.
- Dick asked if there will be samples from actual tanks or if it will be simulated calculations. Kayle said there will be a combination of samples and simulations.
- Wade Riggsbee said Yakima Nation has some corrosion on steels from the same era that could be used for comparison studies. Rob said there is funding and students available to research this corrosion. Wade said DOE was going to do a doctorate dissertation, but the money was pulled.
- Larry asked about the schedule for retrievals said it is important to focus on the tanks that are actually leaking. Dennis said WRPS is trying to stay ahead of the retrieval process. He said there is a formal leak assessment on all the tanks that is not random, and it supports the retrieval system sequence.
- Harold said it is not worth moving the waste if the tank is safe. The focus should be on the retrieval process and testing to make sure the waste is stable and safe in the existing tanks.
- Harold asked about the processing and disposal capabilities that are not identified. Jeff said if waste is consolidated, there would be a better leak detection system. He

said if there was more consolidation then there would be more tanks available for retrieval. He said WRPS prefers the DST system.

- Wade said leak detection methodology is important and he recommends the TWC have an update at a future meeting.
- Rob said he has a few actions on which he wants the Board to make recommendations. Those recommendations include: funding SST work, presenting the recommendations and reasoning of the SSTIP, continuing funding on corrosion and leak detection, making sure the information is used for re-evaluation of retrieval processes, and determining the path forward. He said the goal is to make sure the highest risk waste is being dealt with first.
- Harold said there still needs to be discussion regarding where to put the waste once it is retrieved.

Draft Tank Closure & Waste Management Environmental Impact Statement (TC&WM EIS)

Dirk reviewed the Board's recently adopted advice on the Tank Closure and Waste Management Environmental Impact Statement (TC&WM EIS), He said in reviewing the advice, he has found 31 of the 67 issues that the TWC should track. He said this is going to be an ongoing discussion for the committee. He said of the 31 issues, 10 are policy level discussions with DOE. The committee agreed to review this list with Dirk as the lead issue manager and add it to their work plan.

Regulator Perspectives

- Jeff Lyon said Ecology has been working on their comments regarding the TC&WM EIS and has been developing a letter that it will submit to DOE.

Madeleine Brown, Ecology, said the comment period is not over for the TW&WM EIS and people should use their resources to encourage participation.

Committee Discussion

- Pam asked where the referenced 4 billion gallons of tank farm system releases statistic came from. Dirk said he thinks the vast majority could be water, but it is important to look at the composition.
- Dirk explained the document that was handed out lending background support to the Board's advice. He said in the document there are citations supporting references to leaks being larger than thought, providing support. Cathy McCague, EnviroIssues, said she will work with Dirk and Larry to address the ten issues the document brings up.
- Lori said about 100 people attended the Seattle TC&WM EIS public hearing. Jeff said he really appreciated the meetings. The interest groups did a good job getting people to the meetings.

- Larry said there were about 100 people at the La Grand meeting as well. He asked why more people than usual are coming to the public hearings. Lori said there was a lot of work done to get people to attend. Jeff said there were focused interest groups. Lori said the EIS is a good, understandable document that has been used as an education tool to get people engaged about Hanford. Dirk also mentioned Oregon Department of Energy's involvement in doing living room sessions where people met with citizen groups in an informal setting. He said these were quite successful

Committee Business

Larry said the committee needed to check-in on its work priority list as he committed to doing a report card on the committee's work at the Board's leadership retreat. The Tri-Party agencies provided the Board their priorities for the committees to focus on and Larry wanted to compare the two priority lists.

Larry also gave an update on the tank vapor presentation from the Health Safety and Environmental Protection (HSEP) committee meeting yesterday. He said the presentation focused on the issues surrounding the vapor program at the tank farms. He reviewed the key points of the contractor's and DOE's presentations. He went over the technologies that are being used to detect tank vapors including the Proton Transfer Reaction – MS technology being done at Washington State University. He said he hopes to have a follow-up presentation of this technology along with others being explored at a future TWC meeting. Pam asked if the new technologies would detect airborne plutonium. Larry said not plutonium since it is an organic compound. He said the technology looks promising and American Recovery and Reinvestment Act funding is being used to do this research. He said the reason for this research is to do real time monitoring at the tank farms. He also highlighted the respiratory program and said there are injuries resulting from use of safety equipment that DOE will have to resolve. Next he noted the engineering controls that DOE is investigating such as increasing the stack height.

Larry also briefly talked about DOE-ORP's presentation which showed the industrial hygiene data from statistical analysis for determination of compliance. He noted the presentation illustrated a struggle because the data that shows there is not a hazard, but there are still workers affected from vapor exposure. He said this program is a snapshot in time and does not look at when a person was affected.

Wade said he has experience with people getting exposed outside the fence line. Larry said a gas chromatograph can be used but it takes time. The HSEP committee will continue tracking this use and will involve the TWC as appropriate.

The committee then reviewed their upcoming work plan and proposed suggested topics and time slots for hearing these topics.

Pam asked if the committee has had a briefing on the System Plan Rev 4. Lori the issue managers are now discussing Rev 5 with DOE-ORP. Lori said DOE-ORP is working on the enabling assumptions as part of the System Plan and will continue to work with the issue managers before bringing it to the committee.

Larry asked if the leak loss assessment will be ready to present in April. Lori said it can be a placeholder.

Larry asked about a Waste Incidental to Reprocessing (WIR) program presentation. Lori said Marty Letourneau could not present this week due to Waste Management conference, but may be available to join the committee via phone in April or May depending upon his schedule. Larry said he has a document he will send to Cathy regarding the WEIR program. Pam said they want to hear about what has happened at other sites and its applicability to Hanford.

Larry said the TWC committee needs to revisit supplemental treatment technologies and to determine if DOE-ORP is ready to present to the committee. . Rob suggested getting electronic copies of the reports or presentations beforehand to review them. The issue managers could then bring forward their questions to DOE-ORP and the committee. Lori said she would check with Billie Mauss about the status of these topics.

Dick said the environmental assessment has been issued on the 242-A Evaporator upgrades. DOE-ORP could provide an update on this or the TWC could just read the report. Rob said an update would be good. Larry said possibly June.

Rob said a summary of what Ecology is doing with permitting on the WTP site and operational readiness with WTP would also be good topics for the committee to review. Wade asked if this includes the RCRA. Rob said it would be good to include all permitting on site including the regulators' involvement with this as well as Washington Department of Health.

Larry asked if the solid waste issues have been resolved. Rob said this is part of the tank farm blending issue as part of the mixing facility slated for August. Rob said the issue is the partial size that will settle in tank vessels. The Nuclear Safety Defense Board said this issue many may end up as a critical one.

Al said the necessity of tank farm blending is another issue. He said retrieval is an issue that Ecology brought up along with operational readiness of tank retrieval. Rob said there will be problems if spec waste is sent out. Rob said this could be covered as an update on M-3. Lori said DOE-ORP hopes to have the last technical issue from the WTP's External Review Team resolved this summer. Dick said he is an issue manager for tank retrieval and reviewed the Crest reports. The reports were not complimentary of the performance thus far. Sharon Braswell, Mission Support Alliance, said there will be a tank retrieval video available to help understand the issues. Dick said it is high priority and an educational opportunity. Lori said tank retrieval is the last technical issue of the 31 to be resolved.

Harold said the re-design for the safety control systems is an issue.

Rob said an update on material at risk would be good from the presentation done last fall.

Action Items / Commitments

- Dirk and Larry will request a half-day meeting in April.
- Cathy will work with Lori in confirming the topics DOE-ORP can support in the April and May timeframe.

Handouts

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

- Examples of significant quantities of radionuclides and chemicals missing from USDOE's TC&WM EIS inventory of contaminants for modeling impacts for long-term releases and contamination risk at Hanford, Gerry Pollet, Floyd Hodges and Richard Heggen.
- Single-Shell Tank Integrity Project In-Progress Review, K.D. Boomer, March 2010.

Attendees

HAB Members and Alternates

Al Boldt	Harold Heacock	Wade Riggsbee
Robert Davis	Pam Larsen	Dick Smith
Dirk Dunning (phone)	Larry Lockrem	

Others

Jodi Manley, DOE-RL	Madeleine Brown, Ecology	Cathy McCague, EnviroIssues
Lori Gamache, DOE-ORP	Jeff Lyon, Ecology	Blair Scott, EnviroIssues
Randy Nielsen, DOE-ORP		Sharon Braswell, MSA
Steve Pfaff, DOE-ORP		Kayle Boomer, WRPS
Jeff Rambo, DOE-ORP		Mike Terry, WRPS
		Dennis Washenfelder, WRPS