

FINAL MEETING SUMMARY
HANFORD ADVISORY BOARD
TANK WASTE COMMITTEE

November 7, 2012
Richland, WA

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<i>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.</i>

Opening*

Tank Waste Committee (TWC) Chair Dirk Dunning welcomed the committee and introductions were made. The committee approved the October meeting summary.

Update on Double-Shell Tank AY-102

Dirk Dunning provided an introduction on Double-Shell Tank AY-102. The double-shell tanks were built at the Hanford Site 42 years ago (1970). The series of tanks are at the end of their design life. Tank AY-102 is experiencing the beginning of a leak. The primary tank is leaking into the annulus. The committee has asked the U.S. Department of Energy (DOE) to speak on the current status of the AY-102 leak and DOE’s concerns as cleanup moves forward.

Agency Presentation

Dennis Washenfelder, Washington River Protection Solutions (WRPS), provided a presentation on the Tank AY-102 leak assessment, including history of the tank’s construction, probable leak conclusion, and

*Please see Attachment 1 – Transcribed Flip Chart Notes for key points/follow up actions recorded during the committee discussion.

recommendation for changing the leak integrity status of the tank from “Sound” to “Assumed Leaker – Primary Tank.” Dennis presented an abbreviated summary of all the work that went into the assessment to be able to understand the path forward. WRPS is expected to release the entire report the week of November 12, 2012 and post it to the external website for public review. The report is currently in legal review.

Regulator Response

Jeff Lyon, Washington State Department of Ecology (Ecology), thanked the committee for the Hanford Advisory Board (HAB) advice that was recently adopted (HAB Advice #263), and was appreciative of what Dennis Washenfelder and the WRPS team had done to investigate cause of the leak. The leaking tank poses safety concerns. Ecology will participate in a DOE workshop with the intent to encourage pumping of the tank as soon as possible. Jeff noted that this leak was detected early as a result of ongoing conversations and monitoring. Jeff commented that treatment milestones may need to be moved out a couple of decades, and there still remains a lot of risk and uncertainty moving forward.

Q: [Ecology] Were weld inspections conducted on the secondary container floor?

R: [WRPS] WRPS did conduct weld inspections and radiography on the secondary container floor, but I am not sure what the findings were.

Committee Questions and Response

Note: This section reflects individual questions, comments, and agency responses, as well as a synthesis where there were similar questions or comments.

Q: What is meant by mechanical impact?

R: [WRPS] In 2005, a core-drill string was dropped into the tank, and in 2006 the tank was emptied and refilled with supernate. The core-drill string is still stuck in the waste. In 2009 a vertical corrosion probe was inserted into the tank and hit the tank bottom. WRPS does not believe mechanical impacts have influenced the integrity of the tank. The tank has a foundation, secondary liner, and primary liner. Testing takes place inside the tank and the sidewall. WRPS does not have information about what takes place on the bottom of the tank. Research indicates that the refractor became ten inches thick, and it is required to have a minimum thickness of five inches. Some of the bulges from the welding were as high as eight inches.

Q: What do you mean by a “subtle” leak?

R: [WRPS] Subtle leaks are leaks that begin to accumulate. The annulus is the space between the two walls of the double-shell tank. The annulus leak has always been thought of as the tank

splitting open. This kind of leak was not anticipated in this seeping way discovered during the leak assessment.

Q: Was this leak caused by a failed weld or a failed wall?

R: [WRPS] The leak may have been caused by pitting that began inside the primary tank. It may also have been caused by a small crack in the tank. It is not clear at this time what happened in the bottom of the primary tank. Results from the assessment were not definitive. The assessment did show liquid level changes. Supernate has been evaporating since it was put in the tank at a rate of 77 gallons per day.

Q: If the water in the primary tank is evaporating, then the amount of material could be much greater than what was estimated. Is the waste coming out of the tank hot?

R: [WRPS] Dry volume estimates of material coming out of the tank are estimated at one tenth of the amount coming out of the tank. The estimate of the amount coming out of the tank was based on this number.

Q: When you looked at this did you look at thermal expansion and contraction of the tank?

R: [WRPS] Thermal expansion and contraction of the tank were not examined in developing estimations for how much material is coming out of the tank. Temperature records only go back to 1995. Temperature of material in tank AY-102 increased after C-106 tank waste was introduced. The tank was originally designed for much higher temperatures and was tested at 250 degrees Fahrenheit. High temperatures would not have compromised the integrity of the structure. It is more likely that the liners warped when they were welded in extremely cold weather during tank construction. The bulges formed and did not go away. The entire liner was a quarter inch thick. This was the last tank farm with quarter inch thick liners. Findings from the leak assessment suggest that the contractor accepted the bulges in the welding and moved on with the work.

Construction records indicate a 36% plate reject rate for AY-102, and notes suggest the contractor had trouble finding all of the places in the welding that did not meet the standards. The construction report also indicates the contractor used a dim light bulb to find the reject areas and inspect the bulges. Each of these spots passed radiography, but the report shows that there was a lot of trouble with this particular tank. In addition to the bulges, the construction reports indicate that there was a rainstorm during construction that soaked the refractory. When the contractor started to heat-treat the tank, it took two days to get the tank above 210 degrees Fahrenheit because of the amount of steam coming out of the tank. The rejection rate for AY-102 compares with a rejection rate of 10% for AY-101. AY-102 was actually the first tank to be installed and served as a prototype.

Q: There was coincidental evidence in 1976 that the bulge in the tank bottom collapsed and lost 2.5 inches. Increased vacuum in the annulus could imply a loss of ventilation. This was associated with a refractory failure. Have there been any measurements on the tank bottom?

R: [WRPS] Engineers and inspectors have not been concerned with the condition of that refractory. When the tank was pumped out, a thin pool of liquid was visible on the primary tank bottom, and a shallow pool of water left over could be seen after a hydrostatic sheet test was conducted. This was taken to mean that the refractory could be damaged or has little strength. If it bridged as the weight of hydrostatic load was put on it, it could have cracked on the spot. This likely happened because there are bulges in the liner with not support beneath them.

Q: Given that this was the first tank and during construction everyone knew this had a lot of problems, why is AY-102 being used as the feed tank for the Waste Treatment and Immobilization Plant (WTP)?

R: [WRPS] AY and AZ tanks are the only kinds of tanks that can accommodate the kind of heat that could be created in a feed tank. AY-102 ended up as the one chosen as the feed tank. Prior to the beginning of research for the leak assessment back in August 2012, it was understood that AY-101 was the prototype tank built before AY-102. It was not until after research that WRPS realized AY-102 was built first and had more construction problems. Construction records show that the welding crew on AY-101 recognized the construction crews working on AY-102 were less experienced and less skilled. Chemistry tests showed that AY-102 could accommodate the material a feed tank would need to contain.

Q: It sounds like AY-102 was chosen as the feed tank because of what was in it and not because of the integrity of the tank itself. I am concerned about the integrity of the concrete. Doesn't concrete have a structural limit of 300 degrees Fahrenheit?

R: [WRPS] The insulating refractory itself is sometimes referred to as refractory concrete, but is actually a ceramic. It is used to provide insulation between the primary tank bottom and the structural concrete and has radio grooves cut in it. WRPS looked recently to see what other tanks might be implicated by the same processes, and turns out that all of the tanks operate at fairly similar temperatures. The highest temperatures in the sludge is 160 degrees Fahrenheit, and that is one of the worst. AY-101 is at 70 degrees Fahrenheit. The structural concrete is seen as safe.

Q: How was the assumption developed that the double-shell tanks would last forever?

R: [WRPS] Care given throughout the tank's life is recognized as making a difference to extend the tank's lifespan. Measures including corrosion control programs and waste compatibility help expand the life of the tanks. The tank was originally designed with the intention to stand and

contain the waste. Designers did not anticipate leaving bumps and unsupported bulges in the bottom of the primary liner.

C: Designers were supposed to use Section 3 to determine the life cycle of these tanks. The tanks were built to Section 8 standards. It seems the analysis would favor the life of the tanks to use the Section 8 analysis. Section 3 standards have made the assumption that this tank is to higher integrity than Section 8.

R: [WRPS] That is worth looking into. WRPS used Section 3 because that was what was estimated during the structural analysis itself. American Society for Testing and Materials (ASTM) was not used for tensile strengths. The 1968 document indicated 500 times higher allowable cycles than what we saw. WRPS checked this against the current code, which shows that we have increased the number of allowable cycles.

C: [Ecology] Ecology plans to hold a kickoff meeting on November 7 for Ecology, DOE, and the contractor to identify next steps. Next steps will include increasing monitoring frequency of the annulus to make sure things are not changing and to make sure similar tanks are monitored.

The committee assigned issue managers to track this topic and will review the AY-102 Leak Assessment Report (Document #RPPASMT53793) when it is available. The committee decided an update on this issue should be included on the January committee meeting agenda. January discussion can include how lessons learned are communicated and how that relates to other projects at Hanford Site.

Update on Single-Shell Tank Retrievals

Dirk Dunning introduced Joni Grindstaff (DOE-ORP) and Kent Smith (WRPS). The committee invited these speakers to provide an update on single-shell tank retrieval status and the progress of related activities.

Agency Presentation

Joni Grindstaff, Federal Project Director of the Single-shell Tank Retrieval and Closure Project, provided an update on the retrieval process, progress made, and upcoming activities. Joni brought a visual aid depicting the schedule for retrieval at all C-Farm tanks. The presentation focused on C-Farm retrieval through 2014. The Consent Decree signed in 2010 outlines tank retrieval through 2022.

Joni noted that the Induction Simulated Reactor (ISR) is a radiological survey used to ensure procedural conditions are safe enough for workers to do replacements of high-level waste in upper containment areas. Joni explained that DOE is able to apply lockdown to reduce containment levels on the Mobile Arm Retrieval System (MARS) equipment used to implement retrieval. Lockdown is a mineral oil based material applied to prevent exposing workers to readily removable contamination. Joni noted that the MARS arm poses a challenge because it has been in the waste. The MARS arm also has the advantage of

allowing the team to remotely retrieve radiological data from the tanks and provides the ability to repair equipment remotely.

Joni noted that the team is able to limit the amount of liquid in the tank at a given time by controlling the amount of liquid versus the amount of vacuum used. The team is looking into the optimal rate to retrieve waste. The team has been conducting operator testing for a year to try to get the optimal ratio. Most of the waste is not homogenous in physical properties. This means that at various times the material is the consistency of mud, and at other times the material is the consistency of rocks. Joni's presentation included a video of the MARS vacuum arm in testing at Columbia Energy and Environmental Services above the Waste Accumulator Tanks.

Regulator Perspective

C: Jeff Lyon, Ecology, noted that the team is getting more experience with the equipment and getting better at testing in the field. The schedule for the project is tight, and the more difficult tanks are to undergo retrieval towards the end of the schedule. The leak on the nozzle at C-107 caused the team to discuss next steps and how to best handle it. Field decisions today include discussion of uncertainty and outcomes of potential decisions. The limits of technology need to be discussed within the context of completing retrieval by 2014. The team discusses the risks and benefits with as much information as is available. From Ecology's perspective, it would be a waste of money to get any more waste out of the tank with a fixed nozzle. Ecology is looking at waste in C-108 within the manageable scope of the Environmental Impact Statement (EIS). Ecology is making decisions based on the amount of waste in the tanks.

Committee Questions and Response

Note: This section reflects individual questions, comments, and agency responses, as well as a synthesis where there were similar questions or comments.

Q: How old is the rotary union?

R: [DOE] The rotary union is less than 18 months old. It went through testing prior to operation. Failure was not anticipated. The design and specifications for the MARS vacuum system were changed based on lessons learned from MARS sluicing.

Q: There are 140 single-shell tanks left to empty. There is an understanding that the Tri-Party Agreement (TPA) requires all tanks to be emptied by 2031. DOE must empty tanks at a rate of more than seven tanks per year to make the "deadline." It seems that if we increase the number of tanks we are emptying right now, we would avoid having to increase our rate of retrieval as we near the deadline (e.g. empty 12 per year to "catch up"). What is the plan to increase rate of emptying tanks to a rate that will achieve that milestone?

R: [DOE] Future plans include emptying more than one tank at a time. C-farm is pilot farm for retrieval to develop tools. Once the tools are developed, it is a function of money and space in Double-Shell Tanks (DST). Available DST space assumptions are questionable. The retrieval process needs to factor in recent discoveries at AY-102.

C: DOE should not sluice tanks. Sluicing tanks will mean using tank space faster than using dry processes. There is no place to put the waste.

Q: Sluicing uses supernate, not water, is that correct?

R: [DOE] Sluicing uses both water and supernate. There is a system for work conducted on tank farm projects in retrieval and closure, and this work needs to integrate with that. For final activities in tanks, DOE has used under 30,000 gallons of water. Space is a premium and is a basis of decisions.

Q: Residual samples are being taken in order to examine what is left in the tanks after retrieval. Is anyone using those data to conduct a risk analysis on what is left, and how many tanks do you anticipate using the MARS system in for retrieval?

R: [DOE] There are 67 assumed leakers. This generation of MARS equipment requires a large hole to be cut in the middle of the tank. Single-shell tanks do not have any of these holes cut in them. DOE needs to find a system that can go off-center or a system to easily put a hole in the tank. It is likely that the system used will be a different system than the current system used. MARS is currently the only available vacuum method. C-Farm is advantageous because all of the tanks are domed tanks. Most of the single-shell tanks are flat-bottomed. These are million gallon tanks. The current MARS systems are designed for 550,000-gallon tanks. DOE continues to develop tools.

Q: What kind of monitoring is being done on C-108 to make sure the waste is monitored?

R: [DOE] That tank remains in active retrieval. DOE collects data hourly to make sure there is no leakage. This will be the same for all tanks until certification.

Q: Should the committee look into providing additional advice to deal with the C-Farm before it is empty? I am worried that if the tanks are emptied, they could sit empty for a long time before it is decided what will be done with them.

R: C-Farm closure is part of a TPA milestone. This is on hold because of lack of funding.

The committee thanked Joni for the briefing and will continue to track single-shell tank retrievals, particularly how retrievals are impacted by the issues at DST AY-102.

Committee Business (Part 1)

The committee discussed the 3-month work plan and decided to request a joint call or webinar regarding Tank Closure and Waste Management (TC & WM) EIS in December 2012. Work planning discussion included timeliness and scheduling of the following topics: new MARS equipment, what it means to have 1% removal, how to deal with leakers in the general in terms of retrieval, and what to do with closed farms.

The committee agreed that January was timely for a DST AY-102 update; discussion of the gamma dose and concrete integrity at the Waste Encapsulation and Storage Facility (WESF) (this topic with a RAP committee lead); single-shell tank integrity milestones; and groundwater modeling (this topic with a RAP committee lead). The committee agreed that it would be important to discuss site-wide waste transfer system as a joint topic with the Health Safety and Environmental Protection (HSEP) committee in February. The committee also decided that pretreatment should be paired with a discussion of System Plan 7 in March.

Tank Sampling, Treatment Mixing, Blending Efficiency (DST Integrity Follow-Up)

Committee member Vince Panesko introduced the topic of tank sampling, treatment mixing, and blending efficiency. Vince noted that in 1980, he was transferred to 222-S to be engineer chemist supporting tank farms. This lab analyzed tank samples. At the time Vince was transferred, sampling was a challenge. Each tank did not have risers, which made sampling challenging.

Vince explained that DOE maintained tank chemical data, and each tank was characterized based on the data and in a timely manner to meet certain milestones set out by DOE. The task presented a challenge, as Hanford Site tanks are unique across the complex. Different types of waste overlap in the tanks. Funding and access to tanks was limited. To bolster the data, statisticians recommended frequency and location of tank sampling in numbers and frequency more than would be fiscally possible to obtain.

The issue today is more complex than it had been. Waste is being removed from single-shell tanks and put into double-shell tanks. Some of the waste is going through the evaporator. Without cold samples of different specific gravity solutions, it is difficult to show that the layers of waste do not want to mix. This issue framed the basis for the presentation that follows.

Agency Presentation

Steve Pfaff, DOE-ORP, and Mike Thien, WRPS project manager, presented an overview of the Defense Nuclear Facilities Safety Board (DNFSB) Recommendation 2010-2 and an update on the mixing and sampling demonstration program. Steve noted that the homogeneity of tanks cannot be easily maintained, so DOE samples over a period of time to ensure they get representative samples. DOE runs the mixer pumps and the transfer pump and takes feed tank samples approximately six months prior to sending the sample to the waste treatment plant (WTP).

Steve also noted that DOE is able to send particles up to two-eighths of an inch in diameter to WTP. DOE is conducting studies to determine if the smaller scale tanks really represent the larger tanks. DOE plans to do testing in full-size. DOE determined that past tests did not include enough instrumentation to determine if the small tanks behave in the same way as the large tanks. A similar design is being explored to use in the future for double-shell tanks. The design is not yet completed.

Steve explained that DOE has not had core sampling capability over the last four years. Liquids in the tank consist mostly of a single convective layer, which causes the tank contents to circulate. Several double-shell tanks had air lift circulators. AW-102 is the only one with this now. If necessary, DOE can run a transfer pump to circulate caustic in the tank.

Regulator Perspective

C: Jeff Lyon, Ecology, added that core sampling involves taking individual samples at one particular location. That type of mixing in the double-shell tanks is almost non-existent right now. The mixing process is slow, and it is not guaranteed to be universal. The double-shell tanks are mixing to get chemicals homogenous. The chemical and radiological issues are different in these.

R: [DOE] DOE does have some established models to simulate what kinds of chemicals are in the tanks. DOE can verify this with individual samples that are not representative of the tanks.

C: Dan McDonald, Ecology, provided a WTP perspective and noted that the interface control document includes the feed tank location and where waste will go. What had been planned in the initial conceptual design (ICD) 19 is not going to happen. It would be difficult not to do interim pre-treatment in blending if the waste is going from direct feed to the Low-Activity Waste Facility (LAW).

Q: What is DOE's focus, and what does DOE think can be accomplished? Will there be a direct feed to LAW?

R: [DOE] DOE has four large tanks set up to feed liquid on the top of the tanks over to the four main tanks. The slurries in these tanks would go to the high level waste feed receipt tank. The process has not yet fully been determined. Secretary Chu put together team of experts to analyze the process. DOE is waiting for the results of the team's efforts before determining next steps.

Committee Questions and Response

Note: This section reflects individual questions, comments, and agency responses, as well as a synthesis where there were similar questions or comments.

Q: Is there anyone else involved in determining next steps in the process other than DOE and the contractors?

R: [Ecology] Ecology is involved primarily with DOE in terms of test facilities. Ecology has toured the facility and is keeping up to date on the topic. Ecology needs to work on the issues in order to inform WTP. Ecology is not directly involved with the Defense Board.

Q: Why is the sampling so expensive and who does the sampling?

R: [DOE] A lot of the precautions that go into sampling tank waste are to protect the workers. The sampling is of radioactive, hazardous chemicals. When DOE pulls a simple grab sample, DOE needs to stage a lot of equipment. DOE has to install a glove bag assembly over it. Some of the equipment used is one-time use only. DOE also needs to train operatives so they are experienced at the job. The setup takes several days for grab samples, and those are the easiest. When DOE conducts core samples, much of the equipment is not reusable. Sampling one location in a tank can cost up to a few hundred thousand dollars. It is expensive to provide the appropriate amount of equipment and training to do the job safely. WRPS has operators devoted specifically to the sampling effort. Advanced Technologies and Laboratories International (ATL) does the laboratory analysis.

Q: Is large-scale mixing testing continuing?

R: Yes, large-scale integrated testing is continuing.

Q: There is a scientific study about what it takes to understand mixing of these fluids. What have we learned about the testing parameters?

R: [DOE] That's a big issue that the committee would need a separate briefing from the WTP side of DOE-ORP. DOE will not look at the sample as DOE goes through the process at large. The sample itself could change. These issues are being dealt with by WTP.

Q: Where solids are found in the waste, is there success with simulants that mimic waste? Is there concern about the simulants being used?

R: [DOE] Part of testing is determining the limits of the simulants' capability. DOE has used glass beads in testing. Three formulas have been used for solids to demonstrate performance of

the systems across the spectrum. Remote sampling demonstration testing found that one objective of defense board work is to push systems beyond what would be expected to be found in the tanks. DOE found preliminary data showing that iso-log sampling systems tend to plug closer to the one-eighth inch glass bead size. The majority of the particles at the Hanford Site are sized at 10-15 micron.

Q: Will an in-line sampling system be installed on all double-shell tanks to take samples whenever you need to? It might be more cost effective to install the equipment permanently instead of setting it up and taking it down each time sampling needs to be done. A permanent setup would also allow for more frequent sampling and could save the labor and cost of setup and takedown.

R: [DOE] DOE is working on the conceptual design of the tanks. The sampling equipment is not planned for all double-shell tanks. There are 28 double-shell tanks, and DOE has mixer tanks planned for 14 of those. Not all of the double-shell tanks have much in the way of solids. The plan is not to ultimately feed from individual double-shell tanks to WTP. DOE will have waste sent to double-shell tanks, staged and then move waste from the staged tanks to WTP.

Q: If WTP starts up tomorrow and the process is ready to begin vitrification, does DOE have a waste stream ready to start vitrification?

R: [DOE] There is plenty of tank waste to choose from. Pre-treatment will begin in two to three years. Vitrification would be able to begin before pre-treatment begins. Interim pre-treatment is needed. Without interim pre-treatment, it is unlikely to process waste through LAW.

Q: Is not the glass form and ability to put waste into glass form the driver for what size particle would go through the plant?

R: [DOE] The glass form is likely not the driver. There are issues with mixing in WTP related to attempts to build a WTP with a number of tanks that will last the design life with no moving parts. Particle size becomes important. Particles cannot be suspended and then pumped out. Particle size drives the design of the equipment. The waste constituents mix to end up in an optimal place to go through all of the system components. Once the waste gets to the melter, it is not certain if different glass formulations can accommodate different waste form constituents that will come out.

Q: In January or February the committee would like to see the core sample results. Were the results the same through the different samples, or is the material in layers, and what data is available show that this concept works?

R: [DOE] The material in the tanks is layered. Our teams have the ability to mix vertically and horizontally using powerful mixers with vertical and horizontal components. Data indicates this

mixing occurs, like at AZ-101, for example. The mixer pumps affect the temperature of the material in the tank. The waste in the tanks is not the same, and it varies from tank to tank. The plan is to group the waste into envelopes of waste compatibility. There is not enough tank space to move the waste and not have any of the waste touch a different kind of waste. It is a question of which waste can be put into staging tanks to get it to WTP. This is a constraint. Chemical compatibility of waste is important. The waste acceptable criteria are bounded, and DOE needs to be sure that blending and mixing of waste are within the parameters.

The committee determined that this topic is worthy of follow-up but is not time-sensitive. The committee will revisit the topic in spring 2013.

Process for Selection of Technologies for Supplemental Immobilization

Agency Presentation

Steve Pfaff (DOE-ORP) made a presentation to the committee to provide a status update on the process and selection of technologies for supplemental immobilization. Steve noted that if DOE were to consider a different treatment technology, DOE would need a Hanford Site waste supplemental treatment technologies report. A second LAW vitrification facility would need to be included as an option. DOE pursued a data report and created a draft document.

Regulator Perspective

Q: Jeff Lyon, Ecology, asked when the final data would be provided to DOE to write the report.

R: [DOE] Some data will come in mid-2014. DOE will work hard to incorporate it.

C: [Ecology] Ecology's position is that an insoluble waste form is needed, and 'as good as glass' is the standard. This position has been indicated in a letter to DOE. Ecology wants to know what will be different in this upcoming report. Ecology believes spending money on technology development seems to be a waste of valuable time and money.

R: [DOE] DOE understands Ecology's position. DOE wants a waste form that is protective of human health and the environment. DOE cannot definitively say that glass is the only waste form that is going to do that. DOE looks forward to the final EIS to learn more. The upcoming report will include cost estimates for different technologies. DOE will want to make sure that all the costs are set out for the different technologies, including the different technologies' lifecycle costs.

Committee Questions and Response

Note: This section reflects individual questions, comments, and agency responses, as well as a synthesis where there were similar questions or comments.

Q: DOE noted that steam reforming was a few percentage points cheaper than glass but may not be as effective. Thus far nothing has been demonstrated to be less expensive and as effective as glass. Is there any hope of finding another method that will be more effective and less expensive than glass, and is there a point to waiting two more years to determine this when glass is already known to protect human health?

R: [DOE] DOE wants this evaluation done. DOE has been reviewing the draft EIS and looks forward to the final EIS.

C: A realistic schedule considering cost is needed. Also, DOE has built a steam reforming plant in Idaho that was intended to be decommissioned this winter. Cost for steam reforming should be based off of the costs in Idaho. A few months ago the Nuclear Regulatory Commission (NRC) said they no longer concur with DOE's work report that the resulting waste from the steam reforming process is low-level waste. When NRC ran the model, results indicated the process was inadequate in protecting the public.

Q: [Ecology] DOE recently sent a letter expressing concerns about the Consent Decree milestones for WTP. This is a TPA milestone. The Consent Decree comes first and the TPA second. If DOE cannot achieve the Consent Decree requirements, why is DOE starting to focus on the TPA milestones that will take resources away from or change the priorities?

R: [DOE] It would be ideal to list all of the priorities in order from top to bottom and achieve one at a time, if that were possible. While DOE agrees with the concept that the Consent Decree milestones are a higher priority than TPA milestones, DOE must work on both consecutively. Deadlines for each are challenging on a daily basis. While WTP will continue to use money to meet milestones, DOE has tank farm money to achieve the Consent Decree.

C: [Ecology] The draft TC&WM EIS went through a rigorous quality assurance process. Ecology asks that the team producing the final EIS use the same standards, criteria and evaluation on the data set so there is a way for readers to compare the data and be able to consider it something similar to what is shown in the draft EIS.

Q: [Ecology] Will a supplemental EIS be required if supplemental information obtained is more detailed than that in the final EIS? Will there be a supplemental analysis to see if the information modifies some of the assumptions in the final EIS? This might need to happen before negotiations take place.

R: [DOE] A preferred alternative on supplemental treatment will not be made in the final EIS. When DOE is ready to make the ROD, DOE will need to look at what decisions need to be made

and compare that with what was analyzed in the EIS. According to the National Environmental Policy Act (NEPA), a supplemental analysis may or may not be required.

Q: [Ecology] Did the draft EIS use Idaho data for costing out the price of technology?

R: [DOE] The Army Corps of Engineers helped DOE to develop the cost estimate. The cost estimate took into account facility location and brought them up to the cost increases seen in other similar facilities. In general, seismic and shielding increased costs. Seldom did the “widget inside the facility” drive up costs of a particular technology.

Q: It sounds like there are several people who are keen on alternative waste forms. What would it take to convince DOE that glass is the best answer for supplemental treatment?

R: [DOE] DOE has no answer for that.

C: The committee and the regulators have a clear stance on this issue. This is a good example of when it appears no one at DOE is listening or no one cares about the committee’s concerns. This disconnect continues to exist even when the regulators are really clear. This is not the only issue and will not be the only issue where this is the dynamic.

C: Alternative processes do not produce a product anywhere near glass in terms of protection of health and safety for humans and the environment. Bulk vitrification drives waste into the environment. Steam reforming has problems, as was demonstrated in Idaho. There may be advice here for how to terminate projects so that they do not go on forever and to recognize when projects fail. Capital costs make the projects look like a bargain at the outset, but other costs brings the total cost up to be about the same as producing glass. There is a provisional agreement between NRC and DOE that glass could be delisted as high level waste and could be buried near the surface. Getting the glass into deep repository is now the biggest cost. Getting the waste to LAW is good because saves a lot of money; it does not have to go to repository.

C: The problems we are talking about are not the makings of the local DOE office. The people who changed the preference alternatives are in Washington, DC, and the committee will not get the opportunity to speak with them. The dilemma is in the committee’s inability to talk to people who have made the decision to continue the study.

The committee determined that the next steps for this issue are to track the report, which is due out in 2014. The committee agreed that early spring would be a good time to discuss the potential of producing policy-level advice on this process and on terminating failed projects. The committee will also address what they would like to see in the report.

Committee Business (Part 2)

The committee finished the 3-month work plan and decided not to meet in December but will request a webinar to discuss the TC&WM EIS. Issue managers will determine the path forward.

The committee decided to have a joint topic update with the Public Involvement Committee (PIC) on double-shell tank AY-102 at the January meeting. The committee agreed on the need to see if there will be any next steps coming out of the update. The committee will need to get a sense of the integrity of the six tanks that have the potential to be leaking. Issue managers will work to determine if/when additional HAB input is needed. The committee also tentatively agreed to discuss Waste Incidental Processing (WIR) in January, along with groundwater modeling (joint with RAP)

Performance Assessment Integration in Waste Management Area C, site-wide waste transfer systems, WESF concrete viability, and single-shell tank integrity milestones were tentatively scheduled as a February discussion topics. Pretreatment, System Plan 7, and tank sampling and mixing follow up were tentatively scheduled as March discussion topics.

Attachments

Attachment 1: Transcribed Flip Chart Notes

Attachment 2: Tank AY-102 Leak Assessment Presentation

Attachment 3: C-Farm Update Presentation

Attachment 4: Mixing and Sampling Update Presentation

Attachment 5: Supplemental Low Activity Waste Immobilization Presentation

Attendees

Board Members and Alternates

David Bernard	John Howieson	Jerry Peltier
Al Boldt	Steve Hudson	Dick Smith
Shelley Cimon	Pam Larsen	Bob Suyama
Dirk Dunning	Liz Mattson	Jean Vanni
Harold Heacock	Vince Panesko	

Others

Ellen Mattlin, DOE-ORP	Dan McDonald, Ecology	Melanie Meyers, Hanford Non-Union
Jeremy Johnson, DOE-ORP	Jeff Lyon, Ecology	Alex Nazarali, CTUIR
Joni Grindstaff, DOE-ORP	Ginger Wireman, Ecology	Sharon Braswell, MSA
Steve Pfaff, DOE-ORP		Hillary Johnson, EnviroIssues
		Abby Chazanow, EnviroIssues

		Susan Eberlein, WRPS
		Kayle Boomer, WRPS
		Rob Boxburgh, WRPS
		Dennis Washenfelder, WRPS
		Steve Killay, WRPS
		Mike Thien, WRPS
		Andrea Hopkins, WRPS

THREE MONTH WORK PLANNING

December

- November TWC call time = IM call to determine path forward TC & WM EIS
- Potential webinar on TC & WM EIS

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January

- DST AY-102 update (Dirk)
 - Assumptions/ communication, lessons learned (PIC)
- TC & WM EIS
 - Were previous HAB comments addressed? Do we need new advice? How to prepare for ROD(s)?
- Waste Incidental to Reprocessing (WIR)
- GW Modeling (RAP lead)

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February

- PA Integration WM Area C
- Sitewide Waste Transfer System (w/HSEP)
- WESF – Concrete, dose, viability (RAP lead)
- SST Integrity milestones

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March

- Pretreatment (paired with System Plan 7)
- System Plan 7
- Tank sampling, mixing follow-up – Spring (Vince)

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Holding bin/ Follow-up

- Follow-up on SSTs
 - Closure plan?
 - New MARS?
 - Retrievals & AY-102
 - Policy on 1% removal
- Cathodic protection WTP
 - IM = Rob, Dirk

- Follow up to WA letter to Secretary Chu
- WTP technical issues (formally called “Follow-up to Gary Brunson’s Memo”)

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Process for Selection of Supplemental Techs Follow-Up

- Report in 2014
- Policy issue here?
- [Committee follow-up] early Spring 2013
- IM = Dick*, Al, John, Melanie

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Tank sampling, mixing, etc. Follow-Up

- What is the impact of particle size on the glass product? – DOE find answer for committee
- Mixing data AZ-101 & demonstration – can DOE provide? IM – Vince
 - IM tracking – update Spring 2013, not time critical

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DST AY-102 Follow-Up

- Send out AY-102 Leak Assessment Report, Doc # RPPASMT53793
 - January update
 - IM = Dirk, Dave, Becky (HSEP), Liz (PIC)

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