



MEETING SUMMARY

HANFORD ADVISORY BOARD

Tank Waste Committee (TWC) Meeting

January 13, 2021

Virtual Meeting – Teleconference and GoToMeeting

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This is only a summary of issues and actions discussed at this meeting. It may not represent the fullness of represented ideas or opinions, and it should not be used as a substitute for actual public involvement or public comment on any particular topic unless specifically identified as such.

Opening

Bob Suyama, Benton County and TWC chair welcomed meeting participants.

The TWC adopted the meeting summary for its November 2020 virtual meeting.

Stan Branch, US Department of Energy (DOE), announced that this meeting was being held in accordance with the Federal Advisory Committee Act.

Update on Direct-Feed Low-Activity Waste (DFLAW) Critical Path Progress

Erik Olds, DOE, explained that the DFLAW program is not a single facility, but rather, is a collection of facilities.

With respect to the critical path schedule, DOE is closely watching commissioning, progress on DFLAW, and effluent treatment activities. The big activities in 2021 are the loss of power test and heating up the first melter. The program ended up in a good place at the end of 2020 despite impacts from the pandemic and the wildfire. The Tank-Side Cesium Removal (TSCR) facility is already installed on site. Infrastructure for the Integrated Disposal Facility (IDF) is being put into place. Other important operational projects include the water treatment facility and the transmission line because of the need for uninterrupted power and water for the program.

Regulatory Perspectives

Dan McDonald, Washington State Department of Ecology (Ecology), asked how DOE is watching the potential for cumulative impacts that could affect the schedule. Erik Olds responded that DOE is watching this on a month-to-month basis, and that the critical path schedule, in which all the activities are on one schedule, is an important way to track impacts and inter-dependencies.

Committee Discussion

Bob Suyama asked what can be expected with hot commissioning, specifically if that is the point when we will start to see glass formed and shipped to IDF. Erik Olds noted that some of those activities will start with cold commissioning. Erik further explained that with hot commissioning, low activity waste processing moves to 24/7 operations. Dan McDonald highlighted two considerations. First, the thought behind the cold commissioning process is to test out that all the pieces are working as they should. Erik added that with that ramp up, they gain both operational knowledge and integration knowledge so that the processes can be adjusted to get the most efficiency out of the system.

Shelley Cimon, Columbia Riverkeeper, asked about how the analysis of Basin 44 was going. Erik explained that the liquids must be removed from the basins. The current campaign is working to reduce the liquids and sample them to inform the next steps.

Liz Mattson, Hanford Challenge, asked for clarification of the critical path, WTP, and integrated waste. Erik responded that if you look at the DFLAW schedule overall, WTP is on the overall critical path for

operations for the entire program. Dan further explained that, in general, the critical path is the longest duration of activities needed to make the process stream work and be completed.

Vince Panesko, City of Richland, asked if the water treatment facility was for WTP or for the 200 Area. Specifically, he wanted to know if the water was to be transported by a new line or was depending on existing lines. Erik explained that the water treatment facility is located in the 200-West area and serves the entire 200 Area. The water lines from 200-West to the WTP are a combination of new replacement lines and older, existing lines.

Bob Suyama asked how DOE was working through COVID restrictions, including the percentage of workers on site. Erik explained that DOE has remobilized the non-portable workforce such that over 6,000 workers are on site working on a variety of projects, including WTP, TSCR, and tank farms. Pam Larsen, City of Richland, complimented Erik on his presentation. She expressed concern about the end state contracting approach for tank farms and DFLAW operations. Erik noted that DOE is working directly with the contractors during contract transitions. In some cases, the same leadership will be in place for the new contracts.

Vince Panesko asked if Hanford was getting experts in melter operations from the Savannah River site. Erik said that there are quite a few people from a variety of companies at Hanford that have melter experience.

Liz Mattson asked about how the budget for the program worked. Are the budgets for the different components of DFLAW separate? If there was a budget shortfall, what happens? Erik explained that DOE identifies funding gaps to Congress. DFLAW is a priority project at Hanford and for DOE Environmental Management.

There were no specific action or follow up items for this agenda item. TWC would like regular updates on this topic.

Tank Integrity Program

Karthik Subramanian, Washington River Protection Solutions (WRPS), explained that the purpose of the Tank Integrity briefing was to talk about the evolution of the program, including recent progress and future work. The program is a key component of the Hanford tank waste mission and is guided by the Tank Integrity Expert Panel, which makes recommendations for preventative and recovery actions.

There are 177 tanks at Hanford of many shapes and sizes. The 28 double-shell tanks (DSTs) were built between 1968 and 1986. They are largely of similar design and hold a little over 1,000,000 gallons each. Between 1955 and 1965, 149 single-shell tanks (SSTs) were built with a wider variety of designs and sizes. The smallest SSTs hold about 55,000 gallons. Mid-size SSTs hold between 530,000-760,000 gallons. The largest SSTs hold about 1,000,000 gallons. Karthik reviewed diagrams of the basic design of both DSTs and SSTs (see presentation slides 5 and 6). Inspecting tanks, including between the double-shell walls and underneath tanks is not a trivial exercise.

Ultrasonic testing and visual inspections of tanks began in 1996. Over time, camera technology has improved and become digital. Structural analysis includes monitoring corrosion and chemistry optimization. The goal is to be proactive and respond to issues.

DST integrity is integral to supporting waste-processing operations while maintaining tank waste in safe storage. The four major parts of the program are corrosion control, inspections (primary walls, secondary tank, and under-tank), structural analysis, and repair technology development. The purpose of chemistry control is to limit corrosion. The program has been built on 40 years of testing and sampling.

Structural analysis of DSTs uses engineering simulation software that considers DST operating history, current operating conditions, and seismic analysis. This provides a technical basis for DST operating parameters, such as dome load limits, maximum waste height, allowable specific gravity, and maximum temperature.

Inspections of the annulus in DSTs has increased to every three years since 2014. The annulus is the space in between the walls of a DST. Recently, in addition to primary wall and annulus inspections, DOE is now conducting under-tank visual inspections, too. This provides information on potential leaks.

New waste additions to SSTs stopped in 1980. Although they had the last pumpable liquid removed in 2004, the SSTs still contain approximately 28 million gallons of waste in the form of sludge, saltcake, and supernatant. Waste from 16 of the SSTs has been moved to DSTs. The Consent Decree calls for additional waste movement. DOE is currently preparing for SST retrieval in 241-A/AX farm.

The program elements for the SST tank integrity program include structural analysis, periodic dome deflection surveys, waste liquid level evaluations, and visual inspections. It also has a lead assessment process. The program is ramping up the pace of annual visual inspections to complete 15 tanks a year. Similar cameras are used to inspect SSTs, but supplementary lighting is often needed.

Regulatory Perspectives

Jeff Lyon, Ecology, expressed appreciation for the work DOE has and is doing. He outlined six tank integrity concerns:

- There are 4-9 tanks that Ecology considers high-risk.
- The tanks are being used for different purposes from which they were originally designed.
- Leak detection remains a concern.
- Chemistry and corrosion concerns lie in the sludge at the bottom of the tanks.
- There is a concern about the timeliness of responses to leaks.
- There is an ongoing Tri-Party Agreement (TPA) dispute regarding the potential need for additional DST storage.

Committee Discussion

Susan Leckband, League of Women Voters, noted that the quality of this presentation increased her confidence in the integrity level of the tanks. She asked what the confidence level was regarding the tanks and if they will last long enough for the mission. Karthik Subramanian explained that they are doing everything to make that happen. He noted that his confidence has increased now that they have been able to inspect the bottoms of the tanks and find evidence that tank corrosion is not as bad as some had thought it would be. Dusty Stewart, DOE, confirmed increased confidence in tank integrity.

Liz Mattson observed that it appeared that the biggest risk is tank leaks. She asked what has changed since AY-102 leaked. Karthik responded that the corrosion program has changed to better prevent corrosion through chemistry control.

Pam Larsen asked about tanks whose bottoms have buckled. Karthik explained that when they went to retrieve tanks in the A and AX farms, a couple of the tanks had buckled. Those are the next SST farms in which they are going to be working.

No action or follow up items were identified prior to the lunch break for this agenda topic. However, it came up during the Open Forum discussion after lunch.

Open Forum

After lunch, the group discussed issues around grout and an initiative to find a better, more geologically suited, long-term disposal site for radioactive and toxic waste. The question posed was should DOE be asked to expand its effort to identify such sites and not assume Hanford is the best place to leave waste. The group did not come to a conclusion on this issue and thought further discussion might be warranted.

Another question was posed if TWC should develop advice regarding the Tank Integrity Program.

Key points of the discussion included:

- The Tank Farms monthly report indicates that there are a lot of SSTs that are essentially empty but for about six inches of sludge or liquid. That means we can focus on the 28 million gallons left in other tanks.
- The walls in the tanks above the liquid levels contain holes that could let contamination through. What does it mean to close a tank? I don't know if it means that grout is the answer.
- We should have the tank farm contractor come talk to us.
- We need more information and research before we develop draft advice. Two important issues are contract oversight and grout/test bed initiative.

- In 2023, DOE must decide about needing additional tanks. We need to clarify that requirement in the TPA.

TWC created an Issue Manager team to further consider Tank Integrity issues, including the possibility of writing a letter from the HAB or drafting advice. Steve Anderson, Jeff Burrigh, Liz Mattson, and Bob Suyama will work on making a recommendation for consideration at the next TWC meeting.

Cleanup Priorities Draft Advice

Tom Galioto, Public-at-Large and Budgets & Contracts Committee (BCC) chair, reviewed the working spreadsheet that is being used by the Issue Manager team drafting Cleanup Priorities advice for Fiscal Year 2023. He specifically focused on the items with preliminary designations of Critical and Important in the tanks program. He also reviewed additional items that the IM team is considering including, such as waste reclassification.

Liz Mattson indicated that she could not support reclassification as a topic in this advice. Bob Suyama noted that one of the highest priorities in 2023 will be DFLAW and making glass. He said that he believed the group needed more information on the Test Bed Initiative and waste reclassification.

Jeff Burrigh, Oregon Department of Energy, liked the concept of grouping projects by major area (Central Plateau, River Corridor, and Tanks). He wondered if the HAB asked for a plan now for some of the items would that show impatience while the holistic negotiations are in progress.

Dan McDonald, Ecology, reminded the group that there are existing legal agreements in place through the TPA and the Consent Decree.

There was not agreement in the group about how to prioritize the elements in the draft advice. Some believed that if the HAB did not prioritize, it would not be responsive to DOE's request regarding the advice. Others indicated opposition to a ranking of projects in individual priority order but were open to considering advice that identified what projects should be funded and not fall below the available funding line.

Tom Galioto is attending all the HAB committee meetings in January to collect input to take back to the IM team.

Committee Business

In addition to the standing items on a normal TWC agenda, the committee identified the following topics for its meeting in February:

- Selection of TWC chair and vice chair – 15 minutes
- Presentation on Commissioning – 60 minutes
- Tank integrity. Possible draft letter & follow up from IM team – 30 minutes
- Input into Cleanup Priorities draft advice (BCC) – 30 minutes

TWC did not see a need to have a committee call on January 26.

Attachments

- Attachment 1: [Tank Waste Meeting Agenda](#)
- Attachment 2: [Hanford Tank Integrity Program Overview and Recent Work](#)
- Attachment 3: [DFLAW Integrated Schedule – October 2020](#)
- Attachment 4: [Draft meeting summary for TWC November 2020](#)
- Attachment 5: [TWC Committee Work Plan](#)
- Attachment 6: [HAB Issue Manager List](#)

Attendees

Board Members and Alternates:

Steve Anderson, Primary	Phil Lemley, Primary	Jeff Burrigh, Alternate
Shelley Cimon, Primary	Liz Mattson, Primary	Vince Panesko, Alternate
Susan Coleman, Primary	Jacob Reynolds, Primary	Chris Sutton, Alternate
Robert Davis, Primary	Dan Solitz, Primary	
Tom Galioto, Primary	Bob Suyama, Primary	
Pam Larsen, Primary	Steve Wiegman, Primary	
Susan Leckband, Primary		

Others:

Stan Branch, DOE (phone only)	Dan McDonald, Ecology	Larry Romine
Erik Olds, DOE	Jeff Lyon, Ecology	Lindsay Strasser, AttainX
Dusty Stewart, DOE	Ryan Miller, Ecology	Tyler Oates, MSA
Gary Younger, DOE	Ginger Wireman, Ecology	Ashley Herring, ProSidian
		Ruth Nicholson, HAB facilitator
		Karthik Subramanian, WRPS

Note: Participants for this virtual meeting were asked to sign in with their name and affiliation in the CHAT box of GoToMeeting. Not all attendees shared this information, so the attendance list reflects what information was collected at the meeting.