



**FINAL MEETING SUMMARY**

**HANFORD ADVISORY BOARD  
TANK WASTE COMMITTEE**

*May 16, 2019*

*Richland, WA*

**Topics in this Meeting Summary**

Opening..... 2

Glass Formulation Advice Review ..... 2

Debrief from Hanford Site Tour ..... 4

Open Forum/Committee Business ..... 5

Attachments ..... 6

Attendees ..... 6

*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 Tank Waste Committee (TWC) Chair, welcomed committee members and introductions were made. The March 2019 meeting minutes<sup>1</sup> were approved by consensus.

### *Announcements*

Lindsay Strasser, Hanford Advisory Board (HAB/Board) facilitator reminded members, Agency liaisons and contractors to sign in prior to leaving the meeting.

## **Glass Formulation Advice Review**

Bob Suyama, TWC Chair, introduced the topic of the Glass Formulation Advice Review. After providing members time to read the proposed draft advice, Bob turned it over to Jeff Burrigh, Oregon Department of Energy to provide further context to the development process of the draft advice.

Jeff shared that this advice was generated after the March presentation by Albert Kruger on glass formulation and the testing methods Department of Energy (DOE) is working on. With lots of ideas after the March meeting, Jeff wrote his conceptual ideas down in the advice format and sent it over to Bob and Steve Wiegman for feedback. Jeff communicated to the committee that what was on the paper is just an idea. He was very curious to hear the feedback of other committee members to determine a path forward. The main ideas Jeff was hoping to communicate were to accentuate the positives and the importance of knowledge transfer when people retire.

### *Agency Perspective*

Jim Lynch provided DOE's perspective on the draft advice on glass formulation. Jim thanked members who were able to attend the Hanford Site tour. Jim recommended members take a look at the testing that is currently in progress and pair that with what Al shared in his March presentation. Jim proposed to management that in FY2020 to encourage a wider Board effort to look at best practices in workforce training. Jim feels that the idea behind the advice is great but would like to see additional detail.

Dan McDonald provided Washington State Department of Ecology's (Ecology) perspective on the draft advice on glass formulation. Dan shared that he feels the advice has a lot of "stuff" in it and is unsure of what the committee is looking to get from it. He communicated that he can see the committee request to continue both the glass scientist position and the support required. The glass work that is occurring to date reflects possibilities at lab scale. However, it is unknown until DOE begins processing glass whether or not it can be extrapolated to production scale. Jim Alzheimer has reminded Dan on more than one occasion that we don't know what we think we know about what is in the tanks. For each batch that goes forward, sampling and characterization will be required to ensure what we have is amenable to the glass formulation process. There will be the need for marrying the glass formulation process with the waste that is coming out of the tanks. All of that will need to be done at the production scale. Dan shared that what is being done at lab scale shows the possibility of encapsulating waste in a glass form. However, we need to look at whether or not we can reduce the number of canisters and time will be predicated by how well we

---

<sup>1</sup> [March 2019 Tank Waste Committee Meeting Minutes](#)

sample and characterize the waste. Then in knowing what is in the waste, processing the waste. At this particular point, there is a general 70% total operating efficiency (TOE) that is anticipated for High-Level Waste (HLW) and Low-Activity Waste (LAW). Dan shared that there are a variety of contributors to be able to run at TOE. All of that needs to be considered and worked out prior to knowing whether the mission can be reduced. Advice asking for words like “promise” or “assurance” might not be appropriate. There is much to do in the way of science and technology to get us to the point of knowing whether we can reduce the mission. The glass is not the only contributor of concern to the combination of things that are required to reduce the mission.

***Committee Member Questions (Q), Responses (R), and Comments (C):***

*Note: This section reflects individual questions, comments, and Agency responses.*

C: “I think Jeff’s idea is perfect timing but I think the TWC needs to understand that this is step one of a very important unit of people. We need not only a glass specialist but a team of support people around him and a laboratory that manages the feed that is going into the melter. We have talked before that our feeds at Hanford are uniquely different than feeds across the country. Ours are highly variable and there are a lot of surprises that are waiting for us there. Jeff’s advice should be focused as it is now and not be expanded to the rest of the Hanford plateau. I support keeping the focus narrow as step one and moving forward to see how DOE responds to it.”

C: “I think what I recommend is that we look at two things. We want to see continuity of the program. We want to see our programs have continuity and robustness so they can go forward in the face of losing people. If we were to make a statement that spoke to programs and not specifically to tanks and describe that need, and then go into for example and speak specifically to the glass program. I think we are mixing too many things in here. I think it would be good to pull out some of this and really focus on the need for continuity.”

C: “I agree we should focus on programs and not personalities or specific positions. There is a difference between scientists and engineers. The science supports the engineering which in turn supports the operations. The area that needs focus is the budget. The budget determines whether or not the program lives or dies.”

C: “I think there needs to be long threads from our science and technology and our ability to deliver. Those are the building blocks. Can we do this and see it to fruition? That is tied to the budget. Our ability to fight for those is dependent on solid science and technical lift that will bring a successful program. There needs to be a way to say that separately from the idea of a robust program.”

C: “Al is doing something of immense value if it works. I think we should support the concept of doing that and make that work. Succession planning and laboratory operations is very important but that is a different question in my mind and I don’t have the answer to that right now. We want Al’s mission to be finished so we can reap the benefits of what he started.”

*Additional Thoughts from Committee Members Include:*

- Focus should be on program instead of personality. The program must be robust to the loss of personnel.

- There is a need for a specialist as well as a support team with dedicated capacity to keep the work going and respond to problems.
- The Agency should keep chasing the possibility of getting to the moon with only one rocket. The potential reward of keeping this effort alive is a lot of time and money saved.
- Should the Board fold in lessons learned from the tour? Should the TWC write a separate letter?
- Science-based improvement is separate from engineering/contracting and is just as important. There is a need to preserve that capability. There is an alternate perspective that the two are critical to keep integrated.
- Cross-site education on glass science needed.
- Should there be a recommendation for a wider HAB effort on succession planning? Is there a potential for future advice on how to recruit and preserve capacity?
- Support of the program ultimately comes down to budget.
- Beware of being too optimistic re: "promising". The variability of the waste and the multiple dependent factors related to production all affect total operating efficiency.
- Communication between the lab and production is critical. The cross-function communication system has historically not worked so well (would need to be more specific, not sweeping), so improvement in integrated communication is key, especially as the new contract changes over. Need to be able to communicate with the constant change in administration, contractors, and regulatory requirements.
- Longer-term perspective with science basis role needed.

**Next Steps:** An Issue Manager team was formed to draft a letter thanking DOE for the Hanford Site tour and incorporate kudos for Albert Kruger. The Issue Manager team consists of Bob Suyama, Jeff Burright, Paige Knight, Steve Wiegman, and Shelley Cimon. As Lead Issue Manager, Bob Suyama will take the lead on drafting a letter thanking DOE for the HAB tour. This letter will also provide kudos on the glass formulation progress. The proposed letter will move forward to the June Board meeting.

### **Debrief from Hanford Site Tour**

Bob Suyama, TWC Chair, introduced the topic of the Debrief from the Hanford Site Tour. Bob shared that the tour began with Brian Vance speaking with members. Bob anticipates a lot of progress at the Hanford VIT Plant and recommends a tour in the future. Bob shared that the group was able to see Albert Kruger's glass labs in the 325 Building and in the Applied Process Engineering Laboratory (APEL). The group was also able to see the site at the AP Tank Farm for Tank-Side Cesium Removal (TSCR).

Bob transitioned the discussion from the Hanford Site tour to a discussion regarding TSCR. Bob provided members an overview on lines of inquiry regarding TSCR that he captured in a draft advice format. Thoughts and observations from the TSCR presentation provided at the previous TWC meeting were incorporated into the draft advice. Bob feels it is too late for the TWC to weigh in on TSCR design as it is 90% complete. However, there are many items he feels the committee should look at. One of the proposed items the TWC should review is lessons learned from Tank Closure Cesium Removal (TCCR) at the Savannah River Site.

***Committee Member Questions (Q), Responses (R), and Comments (C):***

*Note: This section reflects individual questions, comments, and Agency responses.*

C: “I remember the original system having a lot of infrastructure to move that waste around. The infrastructure allowed for waste to be stored and sampled.”

C: “That is correct.”

*Q: “Is there a date where you expect the pre-treatment plant to be available?”*

R: “According to the Consent Decree, HLW facility should complete hot commissioning in December 2033. By December 2036, the complete functional pretreatment plant should be running.”

C: “One thing I would like to add to this conversation is that the reason we do the System Plans is that it’s a lot of modeling and a lot of assumptions. What we learn from that will help inform those models. As we continue to model and those results, we will have a discussion with Ecology. The Consent Decree and the Tri-Party Agreement (TPA) have mechanisms within it to adopt and change milestones as needed based upon what we learn and what we discover as we operate. I like to remind people that it is a living document and it not a problem to go in and have those discussions if we see something that is better. If the TBI process is better and seems promising, we will go in and talk about that. We will talk about some of these other things that help inform those long-term milestones. A lot of things we drive for is to keep the focus in the near-term so we can learn those things.”

**Next Steps:** The committee will continue to follow progress on TSCR. Items of interest include:

- Continue to follow the potential for orphaned waste.
- Is there a contingency plan if TSCR does not work?
- Request for process flowsheet that reflects the waste that is generated and where it is going.
- The Double-Shell tanks are at full capacity. How will waste move around?

**Open Forum/Committee Business**

Bob Suyama introduced the topic of Open Forum/Committee Business. He explained to TWC members that the open forum provides an opportunity for members to discuss topics that may not

be on the agenda or on the HAB's work plan. Members utilized time to have a robust open dialogue.

To allow for additional time for open forum, committee business items were deferred to a future TWC meeting.

### *3 Month Work Plan*

Bob Suyama will work with Lindsay Strasser and JoLynn Garcia to determine items ripe for discussion for a proposed August committee meeting.

Items of interest were noted as the following:

- System Plan 9 Scenarios Briefing
- One System Follow-Up Presentation
- ArmCorps of Engineers Parametric Analysis
- Nuclear Regulatory Commission (NRC) Questions on Waste Incidental to Reprocessing
- National Academy of Sciences Meeting Debrief
- Test Bed Initiative Briefing
- Waste Treatment Plant Update
- 242-A Evaporator Update
- Update on the proposed change to the definition of HLW
- Closure Plan for Waste Management Area C

### **Attachments**

- **Attachment 1:** Hanford Glass Scientist: Kudos & Continuity Investment Draft Advice
- **Attachment 2:** Tank Side Cesium Removal System (TSCR) Draft Advice

### **Attendees**

#### **Board Members and Alternates:**

Dan Solitz, Alternate	Phil Lemley, Alternate	Mike Korenko, Alternate
Steve Wiegman, Member	Bob Suyama, Member	Shelley Cimon, Member

Chuck Torelli, Member	Emmett Moore, Member	Gerry Pollet, Member
Paige Knight, Member	Tom Carpenter, Alternate (Phone)	Jeff Burrigh, Alternate (Phone)
Vince Panesko, Alternate (Phone)		

**Others:**

Lindsay Strasser, ProSidian	Dan McDonald, Ecology	Jim Lynch, DOE
Sherri Schatz, ProSidian	Jim Alzheimer, Ecology	Ginger Wireman, Ecology
Rob Hastings, DOE-ORP	JoLynn Garcia, DOE	Abi Zilar, Northwind