



FINAL MEETING SUMMARY

**HANFORD ADVISORY BOARD
TANK WASTE COMMITTEE**

November 2, 2016

Richland, WA

Topics in this Meeting Summary

Opening..... 2

Siting, Construction, and Operation of the Low-Activity Waste Pretreatment System Facility..... 2

Regulatory Input/Permitting Processes 8

FY 2016 White Paper Debrief 12

Draft Budget Advice Review (Joint w/BCC) 15

Open Forum 15

Committee Business..... 18

Attachments 19

Attendees 20

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, Tank Waste Committee (TWC) chair, welcomed committee members and introductions were made. Committee members approved the October 2016 TWC meeting summary.

Announcements

Dieter Bohrmann, U.S. Department of Energy – Office of River Protection (DOE-ORP), announced that the public comment period for the secondary containment of the Effluent Management Facility (EMF) will open in early November. The permit requires two public comment periods and a public meeting. The first comment period is 60-days. The public meeting is tentatively scheduled on the evening of December 7, 2016 at the Richland Public Library.

Siting, Construction, and Operation of the Low-Activity Waste Pretreatment System Facility

Agency Presentation

Sahid Smith (DOE-ORP), provided TWC members with a presentation on the Low-Activity Waste Pretreatment System (LAWPS) Facility. The LAWPS facility is necessary to support the vitrification of low-activity waste as early as 2022. LAWPS will remove radioactive cesium and solids from some Hanford tank waste. LAWPS will require a permit from the state of Washington before construction activities can begin. The facility will be permitted as a dangerous waste management unit. In April 2016, DOE-ORP submitted a “Notice of Intent” to apply for a permit with the Washington State Department of Ecology (Ecology).

DOE-ORP is required to provide notification to the state, local communities and the public that the siting of the dangerous waste management facility is under consideration. Sahid asked TWC members for feedback on his presentation before he presents the information at a public meeting. Sahid said the goal of his presentation to the public is to introduce LAWPS and how it supports the cleanup mission of Hanford tank waste. Key points from Sahid’s presentation¹ include:

- The original baseline approach was to send waste from the Tank Farms to the Pretreatment (PT) Facility. Construction was halted at the PT Facility in 2011. DOE-ORP developed a Direct Feed Low-Activity Waste (DFLAW) program that altered the tank waste treatment approach.
- The DFLAW approach sends pretreated tank liquids directly to the Low-Activity Waste (LAW) Facility, enabling treatment operations as early as 2022. The LAWPS Facility is needed to support this approach.
- Other facilities that will support LAWPS include the Integrated Disposal Facility (IDF) and EMF. IDF construction was completed in 2008 and DOE-ORP is currently working on facility operations. EMF construction is expected to start in 2019.

Attachment 1: Low Activity Waste Pretreatment System (DOE-ORP, 11/2/16)

- The DFLAW program is estimated to generate 6.3 million gallons of tank space, process 9,600 tons of sodium (15% of sodium in the Tank Farm inventory) and produce 12,000 containers of immobilized LAW within a ten-year period.
- The LAWPS Facility will have a weather enclosure, personnel trailer for workers to change, an electrical equipment center, reagents handling area, treated waste lag storage, inter-facility waste transfer lines, and building, vault, and vessel ventilation systems.
- Two additional tanks that recirculate gas out of the ion exchange system were added to the primary pretreatment system, after program testing.
- Several transfer lines were built, connecting Tank Farms to LAWPS and LAWPS to the Waste Treatment and Immobilization Plant (WTP). The LAWPS Facility has three pipelines that host the transfer lines, ranging from 1,200 to 2,400 feet in length.
- DOE-ORP obtained a Critical Decision (CD)-1 in May 2015 that initiated the preliminary design phase of the LAWPS Facility. The project is currently between 30% - 60% in design. DOE-ORP expects to have the preliminary design reviewed in February 2017 and submit an environmental permit application to Ecology in July 2017.
 - The environmental permit application is a Class 3 permit that will require two public comment periods; one 60-day public comment period, followed by a public meeting led by DOE and one 45-day public comment period, followed by a public meeting led by Ecology.
- CD-3A will allow for the procurement of lead equipment and to perform full scale tests. CD-3A approval is anticipated in late 2017 or early 2018.
- CD-2/3 is when the final design will be initiated and construction activities will begin. CD-2/3 approval is anticipated in August 2018, with a construction start date in late 2018.
- The LAWPS Facility's target date for completed construction is 2021.
- DFLAW operations requires the integration of various organizations including Department of Energy – Richland Operations Office (DOE-RL), Washington River Protection Solutions (WRPS), Bechtel National, Inc. (BNI), Mission Support Alliance (MSA), CH2M Hill Plateau Remediation Company.

Agency Perspective

Suzanne Dahl, Ecology, provided additional information about the Notice of Intent public meeting process. DOE-ORP and Ecology are combining two separate public meetings into one meeting. The purpose of the meeting is to notify the public of a new facility prior to submitting the permit application. Ecology will also inform meeting attendees about the Citizen Proponent Negotiation (CPN) process. Ecology is required to send letters to cities and counties, explaining the intended path forward unless a CPN is requested. CPNs are not widely used but they do provide an opportunity for public input. Should a CPN be requested, Ecology will provide the required documents and information.

Committee Questions and Responses²

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

Q. Will DOE-ORP extract supernate from the tanks and treat it first? What high level waste (HLW) constituents are in supernate?

R. [DOE-ORP] Correct, the supernate will be extracted and treated from the tanks first. Cesium and Transuranic (TRU) waste are constituents in supernate. Cesium will be sent back to Tank Farms because the high-level waste facility is not operating yet. TRU contaminants will be collected in the solid capture of waste.

R. [Ecology] For the LAW stream, except for sludge, cesium in liquid needs to be moved via ion exchange systems. There is a filtration process to capture potential TRU particles in supernate. This is the same definition and treatment method that was used in the planning of the PT Facility.

C. There are outstanding regulatory issues. The definition of LAW remains undefined. It is important to define LAW from HLW now to prevent future holdups after these facilities are online and ready to begin treating waste.

R. [Ecology] There is not a single tank on the Site that is LAW; all tanks are managed as HLW per DOE and the State of Washington. Removing cesium and leaving solids from the supernate is the same treatment method that was going to be used in the larger Pretreatment Facility. It does not change the definition of LAW.

C. This is a complicated project that seemed flawed from the beginning. It feels unfair to future generations to tell them it will be figured out later or run on hope that all systems will fall into place correctly.

R. [Ecology] There are Tri-Party Agreement (TPA) milestones in place and all agencies are striving to meet those milestones.

R. [DOE-ORP] The system modeling is overly conservative for the estimated number of glass models. The LAW-Vit Plant needs to be operated to have a better understanding of what is necessary to move forward. There will likely be improved glass and pretreatment processes in the future and the next generation of LAW melters will have a more efficient throughput to produce glass canisters. Operations need to begin to help define and provide clarification on the path forward.

Attachment 2: Transcribed flipchart notes

C. The entire WTP process is based on a gamble. The initial idea was to separate waste into two streams to lower costs. It is a legal and financial gamble to continue because there are definition problems that have not been resolved. The agencies ought to look at the capability to change their minds later in the process because flexibility in the system is important. The LAWPS Facility is fed to one tank. There is good reason to believe that double-shelled tanks (DSTs) will fail over time, like AY-102 did.

Q. Are liquids on top of the cesium stream?

R. [DOE-ORP] Yes, but the stream will be coming from EMF. The residual liquids that cannot be processed will be sent back to the Tank Farms and eventually processed at the HLW Facility.

Q. What Tank Farms will material be sent back to?

R. [DOE-ORP] Material that cannot be processed will be sent to the AP Tank Farm, with all waste going through AP-107. AP-105 can also be used. DOE-ORP is in the process of developing a waste feed delivery plan that will be shared with the public for consideration.

Q. DOE-ORP is estimating 12,000 full canisters over a ten-year period?

R. [DOE-ORP] DOE-ORP estimates treating 2 million gallons of waste per year, which will produce about 12,000 canisters on an annual basis.

Q. Is the LAWPS Facility built to only last ten years?

R. [DOE-ORP] LAWPS is built to operate for forty years. DOE-ORP is preparing to use LAWPS for ten years to complete the DOE Initiative to vitrify LAW as early as 2022. LAWPS can continue to process supernate waste after 2022.

Q. When is the Low-Activity Waste (LAW) Facility and the PT Facility expected to begin operations?

R. [Ecology] The LAW Facility will begin operations in 2022. The PT Facility will begin running in 2033, as will the rest of the WTP facilities.

Q. How much of the total tank waste will be treated by the DFLAW facilities?

R. [Ecology] Fifteen percent of the Tank Farm inventory will be treated by the DFLAW facilities. WTP will treat the remaining 85% of the tank waste. New glass work may change the estimated amount of remaining waste to treat. It is possible for a reduction in LAW immobilization if a greater quantity of waste can be loaded into the glass.

C. Al Kruger's work on glass technology focused on dissolving aluminum, which changed the concentration of sodium dramatically. The quantity of waste is based on sodium inventory.

Q. Has the price of the LAWPS Facility increased?

R. [DOE-ORP] The team is learning new thing as the design progresses, which does increase costs by approximately 5%. The footprint increased to accommodate changes to the facility and DOE-ORP's initial productivity factors may have been too low at the first cost projection. The project cost range is between \$220 million and \$470 million. A more defined project cost will be announced when the project is officially established in 2018.

Q. Can DOE-ORP use existing equipment from the PT Facility at LAWPS?

R. [DOE-ORP] A preliminary analysis on using existing equipment at PT for LAWPS was conducted six to eight weeks ago. The functionality of the equipment is different. The tanks at PT do not fit the needs at LAWPS.

Q. Is the LAWPS Facility designed to have contingency tanks?

R. [DOE-ORP] The LAWPS Facility is only providing feed to the LAW Facility. There is a total of three tanks that are designed for the LAWPS Facility; two are contingency tanks.

Q. Is a built-in redundancy system not required for the LAWPS Facility?

R. [Ecology] Redundancy is typically built from nuclear waste regulation drivers. There are a few other facilities that have redundant tankage. The ion exchange system in the LAWPS Facility is different and does not require a redundant system.

Q. Are the transfer lines part of LAWPS? Will they be operated by the Tank Farms later?

R. [DOE-ORP] The supernate feed line and solid return line and the cesium return line are part of the LAWPS Facility. A portion of the DFLAW feed line is part of the LAWPS Facility. The other portion of the DFLAW feed line and the WTP effluent return line are part of WTP operations. LAWPS will be owned by Tank Farms because the control room for LAWPS is in the Tank Farms.

R. [Ecology] All the necessary lines have been identified and assigned to a regulator who will operate the permit.

Q. Are the transfer lines in concrete-lined trenches or are they hose-on-hose?

R. [DOE-ORP] The transfer lines are within double-contained steel pipes below ground.

C. The CPN process could be an additional burden for the Hanford Advisory Board (HAB or Board).

R. [DOE-ORP] The CPN is not asking the HAB to do anything specifically. It is a process to communicate information to the public and let them know that information is available to those that want to initiate a negotiation. The CPN for LAWPS is asking people "Should we site the LAWPS Facility where DOE-ORP is designing it?"

C. I was not sure if a CPN began a process for additional public meetings. My sense is that most citizens think that public policy is the only place where DOE and the HAB intersect.

Q. Will questions about permitting at the upcoming public meeting help inform Ecology's process?

R. [Ecology] Yes, it would inform the permittee, DOE-ORP, as they continue to develop design concepts. Ecology can respond to questions the public may have about how Ecology will permit the facility in the future.

Q. Concerns about diverted funding and schedule delays for Vit-plant operations has come up in the past. How does LAWPS impact the schedule for WTP?

R. [DOE-ORP] The phased startup of WTP was developed by former Secretary of Energy, Dr. Steven Chu and current Secretary, Dr. Ernest Moniz. They declared LAWPS as the best path forward to prepare for operations at WTP. This project is not cheap but if funds are diverted from WTP or there are significant delays, it isn't necessarily because of LAWPS.

Q. How can DOE-ORP submit a permit application in 2017 but not reach complete design of the LAWPS Facility until 2018? When will the permit be issued to DOE-ORP? Are there anticipated permitting issues if the design is incomplete?

R. [Ecology] Ecology does not want another non-phased permit. When DOE-ORP says, they are "x%" complete, they are referring to facility design concepts and not dangerous waste permit requirements. It is Ecology and DOE-ORP's intent that the first permit application will have most dangerous waste permit design requirements. Ecology is confident that DOE-ORP will have the correct components in the design submittal to complete the permit application correctly and timely. Construction will not begin until testing is complete.

R. [DOE-ORP] The LAWPS Facility is not phased the way most others think about phased permitting. Submitting the permit application does not mean DOE-ORP has all the IQRP certifications in place.

C. The results of the integrated testing have the potential to change the design of the facility significantly. A RCRA permit should not be issued if that is the case. This feels similar to what happened with the PT Facility.

R. [DOE-ORP] When real system components are built, they will be tested. DOE-ORP expects to have answers about the design as testing progresses. We have performed specific tests on the pre-engineering pretreatment platform, including crossflow filters and the ion exchange system.

Q. Where can people send comments to?

R. [Ecology] Comments are collected at the public meeting because this is a Notice of Intent meeting and not a public comment period. However, the public can send any comment to the agencies at any time. Please send comments to Suzanne Dahl (Ecology) or Mary-Beth Burandt (DOE-ORP).

TWC members gave specific feedback on Sahid's presentation, as he requested. The feedback included:

- Alter the scale of the sites or provide an estimate of the distance between facilities in the DFLAW Facility Overview slide.
- Provide accessible background materials to the public prior to the meeting to showcase the types of ideas and quality of information they are expected to receive from the presentation.
- Provide an introduction slide that explains the bigger picture beyond the LAWPS Facility. Most of the public is not aware or involved about the project or mission.
- Create a timeline to visually show where DOE-ORP is currently and present that information earlier on in the presentation. Speak to what the delays and challenges have been thus far and why.
- Reduce confusion by avoiding the use of acronyms.
- Integrate content from the slides about the baseline treatment approach and the DFLAW Facility overview. Present the DFLAW Facility Overview slide earlier on in the presentation.
- Flow diagrams are unclear about the objective of each facility.

Sahid thanked the TWC for their input on his presentation, in preparation for the public meeting.

Regulatory Input/Permitting Processes

Dirk Dunning, issue manager, provided context on the regulatory input and permitting processes to support DFLAW. Dirk encouraged a committee discussion to ask questions about permits and activities necessary to support DFLAW.

Agency Presentation

Mary-Beth Burdant, DOE-ORP, and Suzanne Dahl, Ecology, provided TWC members with two documents that track DFLAW permitting actions and regulatory approvals. One displays the permits by a timeline and contractor and the other displays the permits by permit type/category. Key points from their presentation³ include:

- The Secretary of Energy approved DFLAW, which requires new permits and modifications to existing permits. Thirty-one potential permit modifications have been identified.
- DOE-ORP hired additional staff to work on the various permit applications to support DFLAW.
- No DFLAW-supporting facility has an operations permit in place.

Attachment 3: DFLAW Permitting Activities Schedules (DOE-ORP, 11/2/16)

- DOE-ORP needs to apply for operating permits for the Analytical Laboratory and LAW facilities.
- WTP is under a construction permit currently. WTP will require an evaporator, which will look similar in design to the evaporator for the PT Facility.
- IDF can currently accept up to fifty boxes of bulk vitrification.
- The public can sign up to receive emails about upcoming public comment periods. There are several comment periods in 2018 and 2019.

Committee Questions and Responses²

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

C. The provided documents are a wonderful start in understanding the overall permitting processes. The Board can use this in the development of work plan topics and Board-issued products. It would be nice to see public involvement opportunities clearly outlined in the permitting activities schedule.

R. [DOE-ORP] It is a challenge to show a greater level of detail on the schedule, while making it accessible at the same time. Each facility has a separate permit but they will all connect to one another eventually. You can expect to see additional permit modifications as we work to find the connections between facilities.

C. It could be helpful to create another visual that describes what is known about the facility permits and how they connect as a system.

C. There are quite a few public involvement opportunities over an eighteen-month period. It would be helpful to know which permits have formal or informal comment periods and public meetings. This topic would be helpful for the Public Involvement Committee (PIC) to be involved in.

R. [DOE-ORP] Another challenge is determining who the audience is for each permit. It is difficult to figure out a logical grouping of comment periods or meetings if the interest from the public is not universal.

R. [Ecology] Air permits do not require public involvement opportunities.

C. The PIC can contribute to the conversation and provide DOE-ORP with more insight about who the audience is.

Q. Are there some permits that rely on other permits to be approved?

R. [Ecology] Some permits have precursors. For example, the final EMF Facility needs to be completed prior to the operations permit for all facilities at WTP.

Attachment 2: Transcribed flipchart notes

Q. How many public opportunities are there?

R. [DOE-ORP] Approximately fourteen permits in a year and a half period. There are miscellaneous permits that are in addition to the Class 3 permit modifications. For example, there are environmental performance tests, a compliance schedule for the WTP, and a permit modification request to match the Consent Decree.

Q. Would it be possible to schedule semi-regular public meetings that cover multiple permits?

R. [Ecology] It may be possible to combine public meetings but it is challenging because the audience has different interests. Comment periods could be combined if the comment periods overlapped and did not affect construction schedules.

Q. Which permit has the potential to impact other permits or impact the start of construction or a design effort? Is there a critical permit that is the main focus?

R. [DOE-ORP] There is a difference in opinion among DOE-ORP staff about priorities and criticalities of permits. From a construction point of view, the permit for the EMF facility has more attention and effort than other permits. The attention for permitting a facility will likely shift over time as agencies proceed.

Q. Is there a subsystem of the One System group that meets to talk about the permits that impact one another?

R. [DOE-ORP] DOE-ORP uses One System on a higher level. The One System allows DOE-ORP to define what connections there are between contractors, contractor agreements and operators.

C. It would be helpful for Ecology to explain the permitting process from their point of view. The RAP committee has thirty-seven permits in the Central Plateau, excluding WTP. The public may understand the permitting process more clearly if it was explained by each part of the permit. Integrating comment periods for different permits make sense because there are lots of comment periods soon. Ecology should display the permit schedule for each facility. I would encourage Ecology to make decisions and keep the permitting schedule on track.

R. [DOE-ORP] There is a lot of permitting happening on the Hanford Site. The permits we are discussing today are about operating, which is much different than working on trying to permit an old facility that was built before regulations were in place. Agencies are working on the permits one piece at a time and doing their best to balance their workloads.

R. [Ecology] Ecology has a tremendous amount of work to do. The Rev. 8C permit needs to be kept up to date; each new facility will have permit(s) or permit modifications; the Rev. 9 permit needs to be renewed every ten years. Ecology released a permit that received over 8,000 comments and DOE-ORP determined the permit incorrect, which involved rework for Ecology. There are currently thirty-seven permits at Hanford. Ecology plans to be complete with Site-wide permits by 2019. It is challenging to put together a comprehensive permitting schedule between all the permits.

C. The schedule documents are a nice list but if it was represented in the form of a critical path project schedule, it could be better managed. The permitting list looks chaotic. I would urge the agencies to put the permitting activities on a critical path schedule.

R. [DOE-ORP and Ecology] The permitting activities are on a critical path schedule.

C. A critical path schedule is not displayed in these documents. A critical path schedule would display interaction between permitting activities. Link the permits listed to the project and provide context to show how the individual parts make a whole.

R. [DOE-ORP] DOE-ORP is communicating when the permit applications are going to happen with this schedule.

C. Perhaps DOE-ORP can point out the critical points in the permitting process. If TWC had a critical path summary that integrated the permit activities, we might be able to provide input or support to the agencies.

C. One could create a modified chart and show the critical path related to the permit, for the public to better understand the work flow and timing of the project.

R. [DOE-RL] The LAWPS Facility and EMF are the show-stoppers in the critical path. Those facilities need to be designed, funded, permitted, constructed, and operated by 2023. Waste cannot be treated until those facilities are operating. Because these projects are on a critical path, there is support from DOE and Ecology.

C. It makes sense to combine public meetings because the same group of people will not attend every meeting. Representatives from all the appropriate agencies should be present at the public meetings and share their perspectives on the permit(s) being discussed. The dates for permitting activities are likely to change. These permits need to be driven by events and the public needs to understand why DOE-ORP and Ecology are doing this work and what to expect.

R. [DOE-ORP] Would it be helpful for an agency to brief the TWC before a public meeting about a permit(s), ask for feedback on the content and how well DOE-ORP is sharing the information? DOE-ORP can use the HAB as a tentative audience to provide feedback on the effectiveness of our presentations before we hold a public meeting.

C. Share the presentations with PIC too. There are technical and non-technical capabilities on the Board who can provide input.

Q. The WTP at Hanford will have unique features. There is another Vit-plant in the United States. Has DOE-ORP or Ecology looked at that permit as a reference?

R. [Ecology] Savannah River permits through the Clean Water Act. Ecology examined the facility designs and where there was overlap with WTP.

R. [DOE-ORP] There isn't another facility in the United States that is like WTP.

C. The permitting activities visual helps us to be on the same page. There is flexibility built into this process because there will be unknowns. It's a nice idea to group public meetings together but it could be very chaotic and too much information explained to the public in one sitting. The Board probably needs a full presentation that describes what the agencies plan to present at public meetings and incorporate the Board's input to set the agencies up for success and manage expectations.

C. It is challenging to not see the interactions between permits on the visuals handed out. Having a critical pathway tends to keep people focused on the work and decrease the chance for chaos. I advise the agencies to spend their time on the permits and complete the process correctly the first time, to avoid re-work. Agencies can benefit from TWC and PIC providing feedback on the content they plan to share with the public.

TWC members thanked Mary-Beth and Suzanne for their presentation and perspectives. Issue managers and PIC plan to discuss the path forward on permitting processes at the next PIC meeting in December.

FY 2016 White Paper Debrief

Bob Suyama, TWC chair, provided committee members with a brief background on the white papers completed in Fiscal Year (FY) 2016. TWC wrote a white paper on cesium management for DFLAW and communications approaches for WTP. TWC struggled to determine what the TPA agencies wanted to see reflected in each of the white papers, which created a lengthy process by the Board to complete and approve the white papers. Bob shared a series of lessons learned from writing the white papers with committee members. He asked for their feedback and whether the lessons learned document should be shared with the full Board. Key points from Bob's document⁴ included:

- Technical and non-technical white papers are useful tools for the Board and TPA agencies.
- A white paper is usually a longer document and requires a different Board approval process than advice or a letter.
- Determine what TPA agencies are asking for early in the writing process and who the audience is.
- Determine if TWC has the appropriate knowledge and skills to write a white paper on the subject matter.
- Assign the appropriate issue managers to writing the white paper.
- The method of the Board approving a white paper is challenging. Two days is not enough time for the Board to provide consensus and two months between Board meetings was too much time for efficient review. Look for methods that will enable efficiency for the Board to approve future white papers.

Attachment 2: Transcribed Flipchart Notes

Committee Questions and Responses²

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

C. Thank you for taking the time to write the lessons learned from this experience. I think it is important that future white papers focus on issues that are not time-sensitive. Both white papers served a purpose to inform and instruct the path forward and helped Board members understand the difficulty in decision-making processes that the agencies go through. TWC does not need to rely on agencies to suggest topics for white papers; the committee can form ideas about potential white paper topics and bring those forward. The approval steps for a white paper could be included in the Board's process manual.

C. The issue managers should be self-selected instead of selected by committee. Is there an ability to streamline the writing process? Perhaps allotting time in a committee meeting for issue managers to work on white paper development would be helpful.

R. Creating a framework before the writing process is critical. Once issue managers had a framework, the process moved more quickly. What issue managers struggled with was determining how to obtain the right information and knowing who the audience was.

C. The white paper development process could be modified into a flowchart.

C. It would be helpful to include a few sentences about how a white paper is a unique tool. Provide a distinction between letters, advice and white papers in the lessons learned document.

C. The HAB is, fundamentally, a policy board. A white paper often relies on technical knowledge. Board members who are technically qualified to speak to the subject matter should be the issue managers for the paper. It would eliminate the amount of input and rounds of edits before it went to the full Board if there were fewer issue managers working on a white paper. While it is fortunate that there are technical people on the Board, it can limit other Board members from understanding the product. Technical white papers should be written by people with a technical background and written for a public audience.

R. The HAB is a policy board. Is policy constrained? It is important to think about where policy originates.

C. White papers that are requested by agencies are technical. The HAB should remember that a white paper is serving us and that it can inform membership of past comments and discussions. The Board's goal is to share information with the community, at large. The HAB should self-volunteer to write white papers for the Board and the public.

C. Other boards are not expected or requested to write technical white papers.

R. Correct; the HAB is privileged to be asked to write technical white papers.

Attachment 4: White Paper Development Lessons Learned (Issue manager: Bob Suyama, 11/1/16)

C. In my experience, I would write a white paper when I didn't want to share certain information. It was a method to request new information without sharing the information I had. Would it be helpful to establish a more traditional white paper that includes background, analysis, decision, and a conclusion to remove ambiguity?

Q. What is the status on the two white papers TWC wrote in FY 2016?

R. [DOE-ORP] The white papers were used to defend what local DOE staff suggested as the path forward. DOE Headquarters was unsure if DOE ORP's standard was an acceptable answer for the public. The white papers were used to communicate with DOE Headquarters, representing a public perspective that agreed with DOE's path forward.

C. The process was frustrating and seemed never ending as a non-technical committee member. The technical issue managers should draft the white paper and seek input from non-technical committee members. Non-technical committee members can help shape the paper into a higher-level product to share with the HAB.

C. One issue that came out of working on the cesium management paper was limited access to data. Committee members need the same type of information that DOE-ORP has, to inform the white paper appropriately. It is difficult to do because some committee members have limited access to information, limited time, and lack of technical skill needed to complete the assignment.

C. Everyone on the Board is qualified to participate in a white paper. The right people need to be identified when DOE requests a white paper. A white paper can be linked to a fundamental Board value or cleanup decision or work plan item. It would be nice to see how a white paper ties into a policy-level decision or work plan item in the future. Other boards for nuclear cleanup sites have an immense respect for the HAB and their capabilities. They look to the HAB as leaders and skilled writers. The Board should be proud of that and not deny future opportunities to write white papers.

C. TWC should critically challenge what DOE is asking of the committee to make sure the committee understands the agency correctly. Technical people should write the white paper, if it is technical in nature, and non-technical people should challenge for common language and readability. The history of the HAB is to focus on policy because it is a sector that everyone can contribute to.

C. The white paper on the communications approach for WTP was frustrating because the goal of the product kept changing. There needs to be clearer expectations in the future. It would be a good idea to have an issue manager who worked on the white papers in FY 2016 to advise new issue managers on white paper development.

C. It is frustrating when the goal of a product continues to change but that is the nature of this cleanup project. The lessons learned document is a great idea but it is important to not advertise it as a rigid process for writing white papers. Issue managers should decide how they want to approach the white paper, whether the product is technical or policy-focused. Any committee member who wants to be an issue manager on a white paper should be allowed to participate. It would be helpful to have a non-technical committee member advising the technical white papers.

C. It is important to consider the resources used for white papers if the Board decides to take on white papers or write them at the request of DOE.

Bob thanked TWC members for their feedback and participation in the committee discussion. Bob will incorporate the feedback and distribute the lessons learned document to the TWC and Executive Issues Committee. The document will be used as a resource for future white papers.

Draft Budget Advice Review (Joint w/BCC)

Jerry Peltier, Budgets and Contracts Committee (BCC) chair, provided a brief background on the development of the draft budget advice in preparation for the December Board meeting. The Board established priorities in budget advice for FY 2017. DOE's response to the Board's advice (#288) did not speak in detail to the Board's funding priorities. Given this, the BCC decided to create a product reminding DOE of the Board's priorities.⁵ BCC struggled to produce a meaningful product due to a lack of information from DOE. DOE-ORP cannot discuss their budget due to ongoing litigation and DOE-RL is not producing a lifecycle cost report for FY 2017.

Jerry explained that the RAP committee met on November 1, 2016 and the suggested path forward is to modify the document in the form of a letter. The committee discussed how additional budget advice would be a repetition of advice (#288). Jerry said that the letter had not been drafted yet but the product is time sensitive. The letter should be completed before the new budget cycle is released and administration changes. Jerry announced that BCC is planning on introducing the letter at the December Board meeting.

Committee Questions and Responses²

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

C. The Board should attach the letter with advice (#288) and place it in the transition book, so that new DOE-Environmental Management staff can view the Board's budget priorities before administration changes take place.

C. Please send out a draft letter for committee review shortly.

Open Forum

Bob Suyama, TWC chair, explained that open forums provide an opportunity for committee members to bring up topics that have not been discussed or are not included in the work plan.

Attachment 2: Transcribed Flipchart Notes

Attachment 5: HAB: BCC Draft Letter FY 2018 Budget and FY 2019 Budget Request (v.1, 11/1/16)

Mike Korenko provided committee members with a brief overview of his reasoning for having a discussion regarding safety basis for the Vit-plant. Mike explained that the biggest risks to the Hanford Site are the Waste Encapsulation Storage Facility (WESF), and transferring waste from the surface to tanks. The Health, Safety, and Environmental Protection (HSEP) committee requested a briefing on the Vit-plant safety basis from DOE-ORP. The response HSEP received was a process for safety basis rather than specifics. HSEP was interested to know what accident scenarios DOE-ORP is considering and what the consequences are. HSEP would like confidence that the safety basis for the Vit-plant will be assessed. Mike recalled that Stacy Charbonneau stated that one of DOE's priorities was to increase public access and achieve end states. There is now an interest in how DOE performs a safety basis analysis, with public access in mind.

Mike requested to have a conversation with Kevin Smith, DOE-ORP manager, about safety basis for the Vit-plant. Meeting with Kevin Smith is not possible at this time. Mike proposed to have a joint HSEP and TWC work plan item and request a presentation from DOE on the Vit-plant and safety basis. The presentation would speak to and define accident scenarios and an exclusion zone analysis of the Vit-plant.

Committee Questions and Responses²

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

C. The TWC received a presentation on safety basis several years ago. The people who were working on it before had an exclusive attitude, which enabled me to raise a concern to DOE-RL about the lack of engagement between DOE-ORP and DOE-RL.

Q. Is there a documented safety basis analysis approach?

R. Yes, but it is outdated.

C. Safety basis is an old topic. In 2005, the Vit-plant was early in construction and the rising costs caused a schedule delay and significant safety systems were overlooked. Part of that result was to change the exclusion zones. DOE-ORP pushed away the safety boundary to the river to reduce the cost of the Vit-plant. DOE-ORP and DOE-RL were not communicating effectively. DOE had a technical team analyze each plant and identify an array of problems. It would be great to engage DOE-ORP on this topic and determine the appropriate conditions for exclusion zones.

C. Access to the Hanford Site while the Vit-plant is operating is a real public policy issue that needs to be addressed.

C. [DOE-ORP] Safety basis at WTP is a narrow discussion. Should this topic be a Committee of the Whole? There are related issues that are likely to come up. DOE-ORP and DOE-RL have disagreed on public access in the past but it is important to include DOE-RL in this discussion.

Attachment 2: Transcribed flipchart notes

C. TWC should form a joint topic with the RAP and HSEP committees and request a presentation on safety basis from DOE-ORP.

C. The power plant needs to be operated, regardless of the path forward. Energy Northwest has a standard safety scenario license, which is something to take into consideration.

Mike Korenko, Dirk Dunning, and Don Bouchey volunteered to be issue managers and will request a presentation from DOE-ORP on safety basis of the Vit-plant for TWC, RAP, and HSEP committees.

Committee Business

TWC 3-Month Work Plan²⁶

The TWC will plan to hold a committee meeting in January 2017 that will tentatively include the following topics:

- Permitting process (Joint w/PIC)
- WMA-C performance assessment
- WTP technical issues resolution update
- Critical infrastructure presentation on DFLAW and Tank Farms
- EMF secondary containment

In February 2017, TWC will tentatively meet to receive an update on the status of the WMA-C performance assessment, an update on the Tank Integrity Program, an update on the 242-A Evaporator and discuss the cathodic protection report for WTP.

In April 2017, TWC will tentatively meet to discuss the safety basis approach (joint w/RAP and HSEP) and receive an update on tank vapors (joint w/HSEP).

Committee members announced that Scott Sax, President at Washington Closure Hanford (WCH), is providing Board members with an overview of the work WCH completed on the Hanford Site. The Board is providing a congratulation and thank you letter to WCH for their success at the December Board meeting.

Attachment 2: Transcribed Flipchart Notes

Attachment 6: TWC 3-Month Work Plan

Attachments

Attachment 1: Low Activity Waste Pretreatment System (DOE-ORP, 11/2/16)

Attachment 2: Transcribed Flipchart Notes

Attachment 3: DFLAW Permitting Activities Schedules (DOE-ORP, 11/2/16)

Attachment 4: White Paper Development Lessons Learned (Issue manager: Bob Suyama, 11/1/16)

Attachment 5: HAB: BCC Draft Letter FY 2018 Budget and FY 2019 Budget Request (v.1, 11/1/16)

Attachment 6: TWC 3-Month Work Plan

Attendees

Board members and alternates:

David Bernhard (phone)	Mike Korenko	Phillip Lemley
Don Bouchey	Pam Larsen	Jerry Peltier
Shelley Cimon	Susan Leckband	Bob Suyama
Dirk Dunning	Liz Mattson (phone)	Jean Vanni
Steve Hudson	Patrick Mills	Steve Wiegman

Others:

Dieter Bohrmann, North Wind/DOE-ORP	Suzanne Dahl, Ecology	Todd Nelson, BNI
Russ Brown, DOE-ORP	Steven Lowe, Ecology	Patrick Mills, CTUIR
Mary-Beth Burandt, DOE-ORP		Samantha Herman, EnviroIssues
Dawn McDonald, DOE-ORP		Ryan Orth, EnviroIssues
Steve Pfaff, DOE-ORP		Shintaro Ito, PNNL
Sahid Smith, DOE-ORP		Michael Turner, MSA (phone)
		Kelsey Shank, SN3
		Mark McKenna, WRPS