



**FINAL MEETING SUMMARY**

**HANFORD ADVISORY BOARD  
TANK WASTE COMMITTEE**

*August 9, 2017*

*Richland, WA*

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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**

Steve Wiegman, Tank Waste Committee (TWC) Vice Chair, welcomed committee members and introductions were made. The April meeting minutes were approved by consensus.

### *Announcements*

Ken Niles, Assistant Director with Oregon Department of Energy (ODOE), announced the retirement of committee member Dirk Dunning. Ken stated that ODOE is planning to fill the vacant position in the near future.

## **Waste Treatment and Immobilization Plant (WTP) Progress Update**

### *Agency Presentation*

Steve Wiegman provided the TWC members an introduction to the topic of the WTP Progress and Joni Grindstaff.

Joni Grindstaff, WTP Deputy Assistant Manager with U.S. Department of Energy-Office of River Protection (DOE-ORP), provided members an update on the progress of the WTP project. The presentation provided insight on the current progress and milestones for the WTP project.

Key points from the agency presentation:

- One focus of the presentation was the immobilization of the liquid waste stored in the tanks. There are 177 tanks that store 56 million gallons of waste. The waste varies, as it came from seven different chemical processing facilities that generates the waste. This has created some challenges, as WTP is not immobilizing one single kind of waste stream, but many. This is also one of the challenges in the design build, which started 16 years ago.
- The original plan for the WTP was to receive the waste from tank farms into the pretreatment facility. The pretreatment facility would split the waste into low-activity and high-activity waste streams. The low activity waste (LAW) comprises 90% of the waste in the tanks. This waste is the liquid portion of the waste. The solids or high-level waste (HLW) contains most of the radionuclides.
- When technical issues were discovered in the Pretreatment and High-Level Waste Facilities, construction was halted for those facilities to focus on resolving those technical issues. Once the technical issues are resolved, the pretreatment will begin again.
- There has been significant progress on the technical issues resolution. The full-scale mixing test of a 16-foot diameter vessel will be complete at the end of August 2017. This means that there is a good path forward with fewer, standard size vessels.
- The completion resolution of other technical issues should be completed by the end of 2017 or early 2018. Once this is complete, the conceptual design process of the fewer, standard size vessels and procurement of the construction on that facility can move forward. HLW is in a good position for receiving the vessels, of which two vessels are due to be received in the Spring of

2018. The build out can begin as soon as the vessels are received. There are some things to settle in way of the safety design strategy and the preliminary document safety analysis, which will give the authority to begin the resumption of construction. This will be expected by the end of August 2017 for HLW, which will tie together and be ready for the full mission to move forward.

- The LAW facility did not have technical concerns, as it is managing liquid waste. The Direct Feed Low Activity Waste (DFLAW) initiative has continued to move forward. The LAW & HLW facilities have two melters. The assembly of melter number 1 for the LAW facility was completed in June 2017. The construction crews are now focused on the safe assembly of the second melter, which is due to be completed by end of August 2017. Each melter is about 300 tons, which together will make about 5 canisters a day. The canisters are 11-foot tall and 4-foot wide.
- There has been significant amount of progress at the WTP. There are full power capabilities in Building 87, which is the electrical switch gear that will power the processing facilities.
- The 48-Foot Elevation where the off-gas melter is, has received their last piece of large equipment for the LAW. The vessel is from Vancouver, which was barged through the Columbia River.
- The Analytical Laboratory has hot cell capabilities, which can sample the glass and batching of the glass. There is a RAD Laboratory, has the same capabilities as the analytical Laboratory.
- We are in a phased approach to our permitting, which allows for the design build to progress.  
LAW Project Schedule:
  - LAW Construction Milestone Complete March 2018.
  - Start Cold Commissioning in Feb 2021
  - Complete Cold Commissioning June 2021
  - CD-4a is Oct 2021
  - Complete LAW Hot Commissioning January 2022
- WTP Process Flow consists of:
  - EPC (Engineering, Procurement & Construction), which is where the project has been for the last 17 years designing, procuring, and constructing.
  - As a system is completing, the startup will scope the system, which allows for testing then put onto a list to be turned over. A punch list is created which means you cannot move forward until items are fixed. A de-punch list is a list that means you can move forward for safe testing. Once testing is completed and approved, it is turned over to Commissioning Operations Organization.

- The Commissioning Operations will continue to do maintenance on equipment and when they get enough with the scope systems to perform integrated water runs and will initiate that using operating commissioning procedures, then commissioning tests will be conducted. There will be a review before cold commissioning, where DOE inspects everything the contractor has done and the process will proceed using the stimulants that looks like waste but does not have the radioactive fraction, which will make glass to ensure it meets its production rates as specified in the contract. Once DOE approves the process, it will move towards CD-4 and eventually Hot Commissioning.
- There are 190 systems that will require turned over in order to get all of DFLAW complete. 35 190 systems have been turned over to date.
- For construction and commissioning operations, federal staff are overseeing in the field. Startup engineers are onsite for walk downs. There is also new space out in the field to house more federal staff and engineering staff for direct oversight and management in preparation for operation readiness reviews.

*Agency Perspective*

Dan McDonald, Washington State Department of Ecology (Ecology), provided his perspective on the difference between what is in a contract milestone and what is in a consent decree milestone, as they may not be the same. Dan stated that there needs to be some kind of reconciliation before anyone can really understand how the process could proceed. Based on the LAW Facility Schedule, the LAW hot commission is scheduled to be complete by December 2023, but the contract end date is January 2022. Dan would like to understand how the system at large is going to work. Dan communicated that there is a huge amount of infrastructure on the site with some of it being in good shape, some not so good, and some that does not exist. Dan states that it should not be forgotten that the facilities at large is that in order to get the system working is ensuring that all of the infrastructure is in place and doing what it is supposed to be doing. Dan provided insight of the technical resolution and the difference between complete and resolution. Resolved only means that what they are dealing with at that particular point has been resolved to the point that they can move forward. Of the eight or so of the technical issues, only three of those has been resolved to where they can now go forward to the next phase. Dan also provided his thoughts on construction versus operations. Construction has been going well, but there will need to be an operations permit as well as a construction permit. In the process, DOE and the contractors will have to assign what events they have to have certifications and submit to Ecology and say its built as we design it and is ready to operate. In the process, Ecology will need to make sure, as Rob Gilbert (WTP startup and commissioning director for ORP) discussed about the punch list that the prestart punch-list is appropriate and post start punch-list is perfect. We will need to agree on that. He is concerned about the melter replacement,

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

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

*Q: “Has there been noticeable public interest in the permitting process?”*

R: “No, there has not. We had a public meeting last week and there was only one public person and one webinar attendee.”

R: “You have Listserv, notices in newspaper, and public meetings. There are a variety of venues for the public to become more engaged.

C: “Just making the venue available is really important. I think the format in which the public involvement is made possible is really dense and inaccessible.”

*Q: “What is BCP?”*

R: “Baseline Change Proposal, which is the change to DFLAW.”

*Q: “What kind of lines are they using for the transfer lines?”*

R: “They are using stainless steel pipe with an epoxy coat on the outer steel. Same for the underground piping.”

*Q: “What the lifespan on a melter?”*

R: “The melters have a 10-Year lifespan. We based this lifespan from the experience at Savannah River, which had two melter with the lifespans of 8 & 12 years, so we are planning for 10 years. We have 2 melters and a spare, as part of the contract. The spare will be in parts, but it will not be assembled under this contract.

*Q: “How much time does it take to change out the melter?”*

R: “In six months, depending on if we have an assembled melter ready to go.”

*Q: “What’s your confident level that you will get 10 years out of this melter?”*

R: “The most relevant information we have is from Columbia, Maryland on the current design melter, where they made several million pounds of glass. When they decommissioned it, they took it apart and assessed how it had performed. So, they have that performance information and are continuing to test small pilot melters with our simulant at Catholic University. The information collected is being considered, at least for the 5-year lifespan.”

*Q: “Who is operating this plant. Is Bechtel operating this plant?”*

R: “Bechtel is responsible for commissioning of the plant, as per the contract. A long-term operator of the plant has not been selected. DOE will need to put out an acquisition for the long-term.

*Q: “People working on site are asking what are the qualifications for the people operating the plant? Is there additional training they will need or can take to prepare themselves for apply for any future positions? Has it been thought out from the people developing the plan?”*

### **Low-Activity Waste Pretreatment System (LAWPS)**

#### *Agency Presentation*

Steve Wiegman provided the TWC members an introduction to the topic of the Low-Activity Waste Pretreatment System (LAWPS) and DOE-ORP Presenter Steve Pfaff.

Steve Pfaff, Project Federal Project Director, DOE-ORP provided an update on the progress of the LAWPS facility.

Key points from Steve Pfaff's presentation:

- The goal is to remove the waste out of the tanks and turn into a glass form. The cesium and strontium make up about 98% of the radioactivity in our tank waste. We want to send all of the solids to the HLW, as it has the bulk of the strontium, but also has leftover plutonium and uranium. The remaining liquid after you remove the solids and cesium is the LAW. The current LAWPS is the third go around for this project.
- All of the moving parts that go into the DFLAW as a program, it is the One System organization that is coordinating it. It is a group of people that work with the tank farm and waste treatment organizations to ensure all of the parts are on track for engineering, procurement, construction, and operations.
- The DFLAW approach will start at AP-107, which will be used as the direct feed tank. It will then go into the LAWPS and the LAW Vitrification Facility. This will eventually go to the LAW Effluent Management Facility and the Effluent Treatment Facility.
- In the LAWPS, there will be underground concrete vaults with steel plates, where pretreatment will occur. There will be three tanks with 126,000-gallon capacity with a working value of about 99,000-gallons, which will be housed underground with an above-ground maintenance area for servicing valves, piping, etc. LAWPS preliminary safety design report is completed. The design review is 60% complete. Full construction is anticipated to start by mid-FY19.
- The permitting documentation was broken up into three groupings and will be submitted to Ecology in phases. The "biggest" package of the three was delivered to Ecology in July and is in a public comment period currently. Washington River Protection Services has delivered to ORP a package of components that is needing to be built and fabricated before full construction can begin.
- The DFLAW program expectation is 20 proposed waste feed delivery campaigns with 1 million gallons per campaign. Over 6 million gallons of tank space will be generated with over 9,000 metric tons of sodium processed. This is 15% of the tank farm sodium inventory.
- Mid-Columbia Engineering built a testing facility that has cross low filtration equipment and ion exchange columns. This is at a 1/9 scale. This is necessary as part of the project management processes, which has to be demonstrated to show that what is being designed and built, is actually going to work. The progresses are broken up to improve into technology readiness levels. This process is not new, as NASA and Department of Defense has been using this, which starts off with technology readiness level one all the way up to the level where the facility is operating at normal operations.

- The testing of ion exchange beads has been done before, but to get to the next approval step it needs to be demonstrated that the system actually works, all put together. Testing of full scale of ion testing was also completed. The ion exchange beads are made in Norway. Columbia SC is where full scale column came from. PNNL tested ion exchange beads and built a testing device. PNNL has a one-foot wide Plexiglas column full of ion exchange beads for testing.
- Critical Decision (CD)-1 was approved in May of 2015 where the preliminary design phase reached 60% completion, as well as the full-scale column testing and the 1/9 scale integrated testing supporting design. The approval of the CD-3A has an anticipated approval date of October 2017 for the long lead procurement and site preparation activities. CD-2/3 approval is anticipated in February 2019 for the for the completion of 90% design phase and the results of the integrated engineering scale testing, as well as initiate the final design and begin the construction activities.

*Agency perspective*

Dan McDonald, Ecology, gave his perspective on the technical challenges of permitting, which has quite a bit to be sorted out. Ecology and DOE are not on the same page for all of the issues. The ventilation is one of the issues that needs to be worked out.

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

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

*Q: "How many system schedule reports do you have?"*

R: "We have some reports from our technology maturation testing. We have done most of our testing for the 1/9 Scale Testing."

*Q: "Is there a one system champion at headquarters who has the same vision as some of the folks here who can work behind the scenes for funding and scheduling?"*

R: "It's more than one person, but ultimately it is Jim Owendoff, who is the acting EM1 position. Jim is very interested in making sure the DFLAW program stays on track. Jim has already received information about certain things that can be done to try and accelerate the start of construction. We are making the most efficient use of our workforce in order to get things done. Jim selected Dai Chung to be in charge of the special projects office We have also received support from Ralph Holland on the acquisition side."

*Q: "What is the status of the Yakama Nation's request for extension for the comment review period?"*

R: "Kevin Smith needs to be briefed on that request. We hope to have an answer soon. For clarification, the Yakama Nation asked for an extension for the comment period that end September 15, 2017 to October 30, 2017."

*Q: "So based on your description, you're taking what's in the feeder tank and shipping it along. So how does the blending happen?"*

R: "The blending with gas foreign materials happens in the LAW Vitrification Facility, in a couple of different tanks. The characterization work of what we send to the Vitrification Facility, has to happen in the tank farms. Nowhere in this process do we have the time to comprehensively analyze what's being fed

into the LAW melters. We will do some sampling work in the melter building and LAWPS building, but those are more confirmatory samples to check a couple of things.”

*Q: “You mentioned loss of power. With a stand-by back-up diesel, how does that happen?”*

R: “So what a loss of site power would mean is that there would no longer have the pumps available to run the AP tank farm that is providing the power for the system. If we lose site power, we lose some of the site capabilities.”

*Q: “What happens when pretreatment comes online?”*

R: “We do not run LAWPS while the big pretreatment is running, which is our current operation strategy.”

*Q: “Have you had difficulty finding nuclear qualified manufactures for component, as historically it has been a problem?”*

R: “It has not been difficult.”

*Q: “Is it possible to fit the feed line, so they actually switch directions?”*

R: “There is no quick answer on reverse directions lines. I am not sure if we can create reverse directions lines. We are using Curtis wright pumps as they last longer, as well as valves that are easier to maintain. We are making sure to purchase spare pumps. Same with tank farm systems, with keeping spare pumps.”

*Q: “Are the ion exchange beads becoming waste?”*

R: “Yes. The beads will become waste and we will have to replace twice a year. What is not determined yet is whether they would be needed to be grouted or stored in a container directly into the integrated disposal facility.

*Q: “Have you thought of potential earthquake issues with EMF and AP-105 and 107?”*

R: “The waste treatment plant went through a seismic evaluation in the 2005 to 2007 timeframe and dug deep bore holes and analysis. We are piggy-backing on their analysis.”

*Q: “Is the cesium returned to AP-105? Is it big enough to take whatever your campaign is for a long time?”*

R: “We can stick 10 years’ worth of cesium in AP-105 and safely store it.”

*Q: “So cesium is still considered high level waste?”*

R: “It is, but I don’t get to play in the circles that get to define it.”

*Q: “Where are you getting all of the EIS coverage from?”*

R: “The Environmental Impact Statement (EIS) was realized in 2012, which analyzed the pretreatment facilities. The analysis part is covered in the EIS.

*Q: "When will the system plan be available for us to read?"*

R: "It is due by October, which will be the best system plan we have had."

*Q: "How much diversity is there of the liquid in the tanks?"*

R: "Our tank waste varies from tank to tank with chemical contents. In our testing program we have developed a process of testing different solids and what we found is we can't clog our filters. We have been testing at different molarities of solids."

*Q: "Can any of the melters lose power?"*

R: "We have loss of power testing that we will be doing. There is a two hour window to get people out of the building for a safety perspective. That is a critical issue for the safety of the workers."

### **C-105 Retrieval Efforts**

#### *Agency Presentation*

Steve Wiegman introduced the topic of the C-105 Retrieval Efforts and Doug Greenwell.

Doug Greenwell, Manager of SST Retrievals, Washington River Protection Solutions (WRPS) provided the committee members an update on the C-105 Retrieval Efforts. Before Doug started the presentation, he announced that WRPS would be preparing to start sludge retrieval on Thursday, August 10, 2017.

Key points from Doug Greenwell's presentation:

- Doug provided a historical overview of C-Farm. C-105 is 1 of 16 single-shell tanks in C-Farm, which was built in the war era. C-Farm operated between 1943 and the 1980s primarily for uranium recovery and PUREX processing waste. In the 1990s the interim stabilization for liquids from all of the single-shell tanks were removed. Retrieval at C-Farm started as a demonstration to figure out how to retrieve the waste from all the single-shell tank farms. So far 15 of the 16 tanks have been retrieved and C-105 is the last one. C-105 has a history of being identified as a suspect leaking tank. Characterization was done between C-105 and C-104 in the area of the suspected contamination, which was found in that specific area. There was no definitive conclusion that the tank leaked. Between 2014 and 2015 the Mars-vacuum was deployed on the tank. The operation retrieved about 92,000-gallons of waste out of the tank.
- The vacuum equipment was used until it broke. A lot of lessons learned through the process, so an engineering evaluation was performed and concluded that a move to a sluicing technology would be more effective in order to complete retrieval. Retrieval start is August 10, 2017.
- It is believed that about 30,000-gallons of waste remain. The retrieval of the waste has been physically challenging as it has aluminum compounds in the waste that will be difficult to break up. With the experience of this kind of waste, it has helped with the process plan, which will be a slower retrieval.

- Process control plan is a sequence of activities that will need to be done in order to retrieve waste. There will be 50-hours of sluicing to start, which recycled supernate from the double shell tanks will be used. There will be series of steps over the next couple of months to help loosen up waste and mobilize it.
- The retrieval systems use a High Resolution Resistivity (HRR) system where they have boreholes that surround the tank in the vadose zones that they have detectors in and they induce a very low electric current around the tank. It is monitored to see if the resistivity of the soil changes. This system has been tested on a mockup of a leak to determine what the signature of a leak would look like. The state of the art system to monitor the probability of a leak has improved. There is a lot of data to review. This system will be working in C-105. There have been some enhancements while working with Ecology to look at specific areas where there has been leaks before.
- There are briefings with the HAB and other stakeholders, as well as will the workforce on site. They conduct daily progress project reports and the industrial hygiene data.
- The retrieval will start on nights and weekends only, starting on August 10, 2017. They are prepared in the event that something happens that is not expected.

#### *Agency Perspective*

Jeff Lyon, Ecology, gave his perspective on the retrieval progress of C-105. Jeff stated that WRPS has been in communication with Ecology regarding the retrieval process and progress. WRPS invited Ecology on site visits every week and are briefed on the detection system. It is very good compared to what they had before, as it will detect leaks. We have a great working relationship with these folks.

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

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

*Q: "When you look at the waste now, what is the appearance of it now? Is DOE doing an independent review of what is a "critical spare part?"*

R: "We do have fair amount of rock like material in there now. We were able to break through the crust and found peanut butter like consistency intermixed throughout. The sluicing plan should help mobilize and break down the rocky like material."

*Q: "Was this a tank that had garnet introduced in it?"*

R: "No. There were two tanks that had the hole on top and this one was not, as it was more of a core barrel."

*Q: "How often do you do the HRR detection process?"*

R: "Every 8 seconds it is collecting data. We don't have an engineer looking at it every 8 seconds, but the information is reviewed daily."

*Q: "You mentioned that sluicing can take 50 hours, so do you have a sense of time for all other steps?"*

R: "We do, all the steps vary and can be anywhere from days to weeks."

*Q: "Your hope is to complete retrieval by winter is my understanding?"*

R: "Our agreement with Ecology under the consent decree has specific criteria that determines what is complete."

*Q: "Where in your steps is sampling going to take place? On step 7, I am not sure everyone understands what decant means."*

R: "We have three sampling plans which may occur after step 3. The Decant, which is the chemistry within the tanks, matters because if it becomes saturated it could become defective."

*Q: "How much do you think will be able to be retrieved using this technology?"*

R: "They think we will be able to get all the volume out or below the 300 (cubic feet) marks."

### **AY-102 Video Inspection Briefing**

#### *Agency Presentation*

Steve Wiegman introduced the topic of the AY-102 Inspection along with video of the inspection findings and Jordan Follett.

Jordan Follett, Retrieval Processing Engineer, WRPS provided committee members an update on AY-102, including two videos showing the progress.

Key points of Jordan Follett's presentation:

- The AY-102 supernate removal of about 550,000-gallons was completed March 3, 2016. After running sluicers in April 2016, while removing the remaining 112,000-gallons of supernate, the liquid level in the annulus increased. There was eight inches liquid measured in the annulus. There was no indication of leaked waste to environment.
- The sluicers were effective at mobilizing waste. During one of the last shifts, the focus was to clear solids from suspected leak sites. The high-pressure water was followed by supernate sluicing.
- The presentation slides displayed the areas of the suspected leak sites. When sluicing shut down the liquid in annulus receded and evaporated. Weld errors were found in primary tank base. Pre-inspection found weld seams and determined it needed more cleaning to remove solids materials in order to inspect certain spots.
- Videos displayed bubbles during high pressure wash on the welding paths, which indicated a failed weld. High Definition (HD) cameras were installed in June 2017. The photos from the camera gives visual of solids and liquid layers as well at weld seams. There were two confirmed

leaks sites about 2-4 inches in diameter. The HD video displayed clear image of leak location and actual floor.

- A corrosion test was conducted and pitting corrosion was determined that it was not localized. There is still have about 10 inches of waste in the annulus, as can be seen in the HD video.

Jordan Follett gave the next steps for the project. WRPS will fulfill the requirements of the Washington State settlement agreement and complete the inspection to determine the cause of the leak. These results will help in deciding whether to repair or close the tank.

#### *Agency Perspective*

Jeff Lyon, Ecology gave his perspective on the AY-102 inspection and results. Ecology has been informed regularly on this inspection process. WRPS has done an exceptional job communicating with Ecology the plans and expectations.

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

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

*Q: "When you say you have 10 inches of waste, that is predominately liquid not just solids, correct?"*

R: "Yes. We had a visual of that when we shut down before. We estimated about three inches of solids and the rest liquid."

*Q: "Can you elaborate on the flow rate to the annulus?"*

R: "We were able to estimate the flow rate from the primary tank to the annulus by looking at the annulus level change."

*Q: "Why does the air flow up through the liquid waste when there is a hole?"*

R: "We are pulling a slight vacuum in front of the tank."

*Q: "When you stop sluicing the liquid absorb into the refractory, so is the refractory simply concrete?"*

R: "It is actually a K-Light material, which does absorb liquids."

*Q: "How long will it take to get the analysis of AY-102? What is the ability to be able to use it again?"*

R: "It is currently in the inspection phase, so once that is complete, a report is due to Ecology within 60 days. The report will contain all the information and findings from this inspection.

*Q: "Can you tell me about the Fit for Service testing?"*

R: "It is an ASME test."

*Q: "Are you going sample the primary and the annulus? Will those be liquid or solid samples?"*

R: "We did an annulus sample during the retrieval phase. We sampled the solid material in the annulus. This sample will be in the primary and it will be a solid sample."

*Q: "Where did the early waste come from and where did it go?"*

R: "AY-102 was built and planned as an aging waste receiver. In preparation to that, water was added to the tank and heated up. It held the heated water for five years in preparation for receiving small waste transfers."

R: A few years ago, Ecology received a report from a contractor who had looked at the tanks and the number of tanks that were susceptible to weld failures. These tanks were not built to meet regulations. They are starting to figure out how to make them more efficient. They have expert panels that look at all this stuff, nationally. The system plan will determine how the mission will go."

*Q: "What is the cost to be doing all the evaluations and inspections?"*

R: "The retrieval itself is estimated to cost more than 10 million."

*Q: "Can you determine a scale?"*

R: "We can determine an approximate scale. We do have benchmarks to compare."

*Q: "How thick is the floor plate?"*

R: "About 3/8ths thick."

*Q: "Where is the leak in the curvature of the floor?"*

R: "This is a flat bottom tank, so there is no curvature."

### **EM SSAB Request/Budget Advice Review**

Steve Wiegman introduced the topic of the draft Budget Advice Review and the EM SSAB Request.

#### *EM SSAB Request*

At the June Board meeting, Susan Leckband, HAB Chair tasked each committee with discussing the charge from the EM SSAB. Shelley Cimon, HAB Vice Chair opened the discussion of the EM SSAB request providing members further background into the request.

"Recommend methods for how our sites can more effectively reach out to the local communities to educate them about our work and ultimately expand our base of informed stakeholders. We need creative and cost-effective ways to reach out to stakeholders who are not already involved in our program (for example, greater social media presence, field managers speaking at schools, etc). Beyond our advisory boards, what are other methods for the site to communicate with the community?"

During an open discussion, the following suggestions from TWC committee members were made:

- Use plain language (IE: nuclear waste) in the announcements.
- Ask younger staff how they ended up coming to Hanford.

## *Budget Advice*

Jerry Peltier, Budget & Contracts Committee (BCC) chair, provided the TWC members an overview of the BCC draft advice and open the discussion for suggestions.

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

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

*Q: “How far do you want this advice to go to, or who do you want it to go to?”*

*R: “I would like it to at least go up to Jim Owendoff, the acting EM 1.”*

*C: “I agree, but I also think it is the matter of shifting priorities. Today is the 70<sup>th</sup> anniversary of the Nagasaki bombing and were still talking about tank waste. The office of Environmental Management was not created until the 1990s, as waste was not a priority in this process. We need this to be a priority.”*

*C: “My concern is that we got ourselves in a position where we have projects that can be done and we are not doing anything about it. I do not feel comfortable asking for money, when we should be focusing on the stuff we are doing and the stuff we should be doing.”*

*C: “I would ask the government, what is the path forward because we are just dumping money down a rat hole.”*

## **Attachments**

**Attachment 1:** Waste Treatment and Immobilization Plant Update

**Attachment 2:** Low-Activity Waste Pretreatment System Update

**Attachment 3:** C-105 Retrieval Update

**Attachment 4:** AY-102 Recovery Project Update

## Attendees

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

Ken Niles (phone)	Pam Larsen	Rebecca Holland
Shelley Cimon	Susan Leckband	Phillip Lemley
Shannon Cram	Charles Johnson	Richard Bloom
Alex Nazareli	Kristen McNall (phone)	Tony Umek
Jerry Peltier	Jean Vanni (phone)	Dan Solitz (phone)
Amoret Bunn (phone)	Steve Wiegman	

### **Others:**

Dieter Bohrmann, North Wind/DOE-ORP	Steve Pfaff, DOE-ORP	Dan McDonald, Ecology
Jeff Lyon, Ecology	Ginger Wireman, Ecology	Tom Rogers, DOH
Rob Gilbert, DOE-ORP	George Rangel, Bechtel	Dustin Stewart, DOE-ORP
Jeremy Johnson, DOE-ORP	Dawn MacDonald, DOE-ORP	Jordan Follett, WRPS
Mark McKenna, WRPS	Joni Grindstaff, DOE-ORP	Jeff Rambo, DOE-ORP
Ruben Mendoza, WRPS	John Britton, WRPS	Sharon Braswell, Self
Chris Kemp, DOE-ORP	Lindsay Strasser, ProSidian	Melissa Orona, ProSidian