



FINAL MEETING SUMMARY

**HANFORD ADVISORY BOARD
RIVER AND PLATEAU COMMITTEE
HEALTH, SAFETY AND ENVIRONMENTAL PROTECTION COMMITTEE**

January 8, 2019

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

Jan Catrell, River and Plateau (RAP) Chair, welcomed committee members and introductions were made. The August 2018 meeting minutes¹ were approved by consensus.

Announcements

James Lynch, U.S. Department of Energy (DOE) Office of River Protection (ORP) and Deputy Designated Federal Officer (DDFO) informed members of the partial government shutdown affecting the Tri-Party Agreement (TPA) Agencies. Department of Energy has funding for the fiscal year. However, the Environmental Protection Agency (EPA) is furloughed and not in attendance.

Kristen Holmes, U.S. Department of Energy Richland Operations Office (DOE-RL) provided members information on a federal travel restriction that affects the Hanford Advisory Board (HAB/Board). While the government shutdown continues, federally funded travel will only be authorized in the interest of national security. In addition, Kristen shared the closure of the Federal Register Office. In order to hold a Board meeting, a notice must be entered in the federal register 30 days prior to the meeting. If the government shutdown continues, there may be a delay of the February Board meeting.

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

Plutonium Finishing Plant (PFP)

Jan Catrell RAP Chair introduced Tom Teynor, Federal Project Manager for U.S. Department of Energy, Richland Operations Office (DOE-RL). Key points from Tom's presentation² included:

- 300 tons of debris have been size reduced and moved to the Environmental Restoration Disposal Facility (ERDF).
- The current schedule estimates size reduction completion by the end of January 2019.
- Depending on weather, it is anticipated that lower-risk demolition will begin in early February 2019.
- Per the current schedule, May 23, 2019 is the projected completion date of 234-5Z, lower-risk demolition.
- There will be a one-week pause prior to the start of higher-risk demolition. This pause will address lessons learned and ensure that all controls set are sufficient.

¹ [August 7, 2018 RAP Committee Meeting Summary](#)

² [Plutonium Finishing Plant](#)

- Expected completion of Remote Mechanical A (RMA)/Remote Mechanical C (RMC) lines is between the end of May and the middle of July 2019.
- After the completion of the RMA and RMC lines, the Plutonium Reclamation Facility (PRF) rubble pile will be addressed.
- A sampling characterization campaign of the 242 and 236-Z slabs is anticipated in Fall of 2019.
- DOE has its own stop work on completion of the higher-risk work.
- DOE will be briefing Ecology and EPA on the findings of the management assessments. Requested documents will be provided to Ecology and EPA when ready.
- Upon startup of size reduction and load out, DOE has been regularly checking the installed monitoring system. There has been no spread of contamination outside of the high-contamination area.
- PFP update reports are posted weekly on Hanford.gov. PFP updates are located at https://www.hanford.gov/page.cfm/Updates_on_Plutonium_Finishing_Plant/PFPRecoveryUpdates .

Agency Perspective

Stephanie Schleif, Washington State Department of Ecology (Ecology) provided Ecology’s perspective on the Plutonium Finishing Plant (PFP). Ecology and EPA issued a stop work letter in early 2018. DOE responded by providing information requested to resume low-risk work. Additional information was also requested prior to resuming high-risk work. A stop work is currently in place on resumption of high-risk work. There is information that both Ecology and the Department of Health would like to see prior to resuming high-risk work. This information includes the corrective action plan put in place to resume low-risk work. The corrective action plan must be demonstrated to be effective. Ecology has established a timeline of early May 2019 to lift the stop work.

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

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

Q: “Are there still tanks in PRF that have to be remediated during all of this?”

R: “All tanks in PRF were removed prior to starting demolition. Pressure washing of the boulders on the pencil tanks was completed in an effort to get the debris out. We also applied fixative to the interior of what was left. All that is left of PRF is a rubble pile and some stub walls on the south side. Everything else is gone.”

Q: “Have you run across any other unexpected contamination as the surveys are performed?”

R: “Since we have resumed demolition, no.”

Q: "I thought I heard you say 20% of the workers were wearing lapels. Is that correct?"

R: "Yes, that is correct."

Q: "Thank you for your presentation Tom. I noticed you started excavating from the south side. Is that creating a wind problem like you had with PRF?"

R: "We have seen nothing come from that area."

Q: "What extra training are you giving all of the new workers before you go in and resume high-risk work activity?"

R: "What Becky is referring to is that at the end of November, we lost 25 trained workers. Knowing that was coming up, new employees were hired. These employees are currently finishing their training. New workers will be integrated with seasoned workers for a two week cross training. CH2M Hill Plateau Remediation Company (CHPRC) senior management has been working with Washington River Protection Solutions (WRPS) and DOE-RL has been working with DOE-ORP to ensure there is a transition. That is one of the reasons things have been going a little slower than we originally scheduled. We want to ensure controls were in place and that workers are comfortable with the controls."

Q: "You made reference to a high wind event that I expect caused a few non-work days. I am wondering if you have had any other days where you couldn't work and how that might affect your projected schedule into the new year?"

R: "With regards to safety first, if we lose a day, we lose a day. We have not been doing excessive overtime like we have done in the past because it would tire the workforce out more quickly. Also because we don't have the skilled labor set right now. We are down about 25 bodies so we have less workers to do the work. We are working through it the best we can. We do have schedule and we are starting to see the efficiencies as workers get comfortable with the procedures."

Next Steps: It is anticipated Tom Teynor will provide a PFP update at the next RAP meeting.

Waste Encapsulation and Storage Facility (WESF)

Jan Catrell, RAP Chair introduced Glenn Konzek, U.S. Department of Energy, Richland Operations Office (DOE-RL). Key points from Glenn's presentation³ included:

- The project currently has three major parts identified. These include:
 - Cask Storage System (CSS)
 - Capsule Storage Area (CSA)
 - WESF

³ [Cesium/Strontium Capsule Project](#)

- When moving capsules from wet storage to dry storage it is essential to emulate industry's best business practices.
- CHPRC put out a request for proposal for a design contract. MAC International was the successful bidder of this contract. MAC International was identified as having a lot of experience with spent nuclear fuel casks. In addition, MAC brings mature design modeling of thermal and radiation effects for long-term dry storage. This aspect of the project is in the final design phase.
- The current operation of WESF is the wet storage of 1,936 cesium and strontium (Cr/Sr) capsules.
- WESF was built in 1974 and must be retrofitted. Electrical and HVAC upgrades are required to accommodate new, one of a kind equipment.
- A mock-up test facility will be constructed. The mock-up facility will be similar to the 324 building and the K-Basin sludge project. In January, Meyer Engineering was awarded the design contract for the mock-up test facility.
- Universal Capsule Sleeves (UCS) are able to hold up to six cesium and strontium capsules. As capsules are not mirror images of one another, they produce different heat and radiological characteristics.
- A deliberate loading plan will be established for the cesium and strontium capsules. Each capsule will be serialized with a set position.
- The maximum storage of a Transportable Storage Canister (TSC) is up to 132 capsules. Depending on loading plan, it is estimated there will be roughly 17-24 casks in dry storage.
- A cask transporter will be used to transport TSCs to the Cask Storage System (CSS).
- The maximum capacity of the planned storage configuration is 25 casks.

Agency Perspective: Stephanie Schleif (Ecology)

Stephanie Schleif, Washington State Department of Ecology provided Ecology's perspective on WESF. The new capsule storage area will be a new Treatment, Storage, Disposal (TSD) facility requiring a permit from the State. Permit applications were submitted to Ecology in late 2017. A 60-day public comment period was held in early 2018. Ecology requested additional information from DOE. DOE provided the requested information in May of 2018. Next, Ecology will be providing a detailed technical review of the new dry storage facility and the modifications to WESF. A milestone change package was done to milestone M-92. There is a milestone to now transport the capsules to the dry storage facility by 2025.

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

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

Q: "Is the CSA the end state of these capsules? Is that where they will stay forever?"

R (DOE-RL): "No, everything that I have seen in the literature so far is to provide an interim state. There are target milestones associated with the new change package that say DOE will periodically address the final disposition state."

R (Ecology): "There is a milestone out there that says starting in 2022 DOE will need to provide us a report that looks at six different disposal pathways. We also did interim milestones for DOE to do final disposal of the Cr and Sr capsules by 2040."

Q: "Do you have any concerns regarding the ability to get nuclear quality manufacture in the United States?"

R: "The MAC International contract for design also includes an option to provide fabrication. MAC is certified to do that. We have no concerns that the material suppliers will not be able to meet the specifications at this time."

Q: "Is this capsule storage area near the canister storage building?"

R: "Yes, it is on the east side."

Q: "What is the total cost to move the Cr and Sr capsules to dry storage?"

R: "The cost is broken down by a range. For the construction of the capsule storage area, the estimated cost is \$6.5 million dollars. That is not a total project cost. That does not include the design, operation, or the project or management oversight. In total, I have been told that the total effort could \$120 - \$210 million dollars between now and August 2025."

Q: "Has there been any non-invasive/non-destructive assessment to quantify the degradation?"

R: "I have only heard from my nuclear safety department that the answer is yes. I do not know any details. I do know that there was an effort to reorganize the 1,936 capsules within the basin to put less gamma radiation dose on the concrete to extend the life of the concrete. That was based upon an analysis of not only the thermal radiation output of each of the capsules but also the configuration you can use in multiple pool cells to minimize exposure to the concrete."

Q: "Are there any prototypes of these casks made yet?"

R: "No there are not."

Q: "What was the thinking behind storing these outside as opposed to inside of a structure?"

R: "I don't know the answer to that. An outside, dry-storage cask system was amenable to long-term interim storage. This is similar to spent nuclear fuel from industry experience. That is the only logic I can pick up in literature to answer that question."

Q: “From a vulnerability perspective, is having those things outside, subject to extreme heat/cold, and a possible target for a small plane; are you confident they can withstand these types of hits?”

R: “I know there is a preliminary document safety analysis that will take the final design inputs. However, it has already been reviewed as we have gone through conceptual and design activities. The outside storage aspect I don’t believe anyone has brought up any issues related to that. In regards to susceptibility to catastrophic incidences, that is no different in regards to the spent nuclear fuel storage that we have above grade already outside of the canister storage facility as well as commercial facilities. I am not sure we are doing anything different or making it more vulnerable than what is already common out there.”

Next Steps: It is anticipated Glenn Konzek will provide the next WESF update in August 2019.

K Basin Sludge

Jan Catrell, RAP Chair introduced Mark French, U.S. Department of Energy, Richland Operations Office. Key points from Mark’s update included:

- The first sludge shipment was completed in June 2018. Since then, there is roughly one shipment completed every three to four weeks. DOE just finished filling Sludge Transport Storage (STS) container number eight at the basin and it will be shipped up to T Plant on Monday.
- There have been no operational issues or system failures. The crews have performed extremely well. Overall, the system has worked incredibly well.
- There is a sequence for emptying the six, engineered containers underwater storing the sludge. Each of the engineered containers contains a different kind of sludge or waste stream.
- As the operators reached the bottom of the engineered container, there was a little more sludge left than they had originally planned. This was due to the fact that engineered containers have an egg crate pattern at the bottom. Operators will now take the lids off when they get to the bottom so they will be able to see what is there. This will also allow the operators ease in navigating the tool needed to remove the sludge.
- DOE-RL anticipates hiring additional workforce to complete work at the K Basin. Implementation of additional shifts will allow additional efficiency.

Agency perspective:

Due to the government shutdown, Laura Buelow from the Environmental Protection Agency (EPA) who has the lead on the K Basin project was unable to provide EPA’s perspective.

Kelly Elsethagan, Washington State Department of Ecology provided Ecology’s perspective on the K Basin Sludge project. Ecology has been tracking progress on the project and it appears that it has been

going really well. There are no ongoing treatment/storage activities inside the plant. There is some general waste accumulation inside the plant but this will not impact the sludge project.

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

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

Q: “Do you have any sense of what percentage they have completed?”

R: “We are about 30% complete.”

Q: “What is the estimated completion date?”

R: “The schedule shows us completing the project in December 2019.”

Q: “Do you anticipate any issues getting funding to continue this project till the end?”

R: “Yes, every year it is the same drill.”

C: “I recommend the River & Plateau committee keep this on their agenda to continue to follow. I also recommend that we include this in our FY2021 budget advice.”

Q: “What is the final disposition of the sludge?”

R: “The sludge will be processed at T Plant or another facility to take the STSCs out. They have to develop the process on what they will do with the sludge. The current plan is that it will go to the Waste Isolation Pilot Plant (WIPP).”

Next Steps: It is anticipated Mark French will provide the next K Basin Sludge update in August 2019.

Committee Business and Open Forum

Jan Catrell, RAP Chair introduced the topic of committee business and open forum. Open forum provides an opportunity for members to discuss topics that may not be on the agenda or the HAB’s work plan.

3 Month Work Plan

The River & Plateau committee members discussed updates to the RAP’s 3-month work plan. Updates included the following:

- Hold Canyon Interim Actions discussion
- Request for Agency support of a review of the CRESR report

The Health, Safety & Environmental Protection committee members discussed updates to the HSEP’s 3-month work plan. Updates included the following:

- Addition of a PFP update to quarter 3

- Addition of the Traffic Safety topic and potential advice in quarter 3 and quarter 4

Further discussion and updates to the 3-month work plan will continue on the next committee call.

FY2021 Budget Priorities

Members of both the RAP and HSEP committees took the opportunity to provide input on FY2021 budget priorities. These budget priorities will be incorporated in the FY2021 budget advice put together by the Budgets & Contracts committee.

324 Building

Jan Catrell, RAP Chair introduced Ben Vannah, U.S. Department of Energy, Richland Operations Office. Key points from Ben's presentation⁴ included:

- In 2010, a waste site with contaminated soil was identified beneath the 324 building. The waste site is contained purely underneath B Cell.
- Equipment installation has begun in the 324 Building. An excavator arm was successfully installed in the 324 Building. There were no issues with installation. Workers are currently training to use the equipment. The excavator arm will assist with debris removal in B Cell.
- Installation of cameras and lights has begun. All new lights and cameras are being installed so workers can look on screen to review the equipment they will be operating and the debris that will be removed.
- Grouting debris removal is one of the project unknowns and concerns. Workers are practicing debris removal at the mock-up facility. This is an evolution and simulation that workers have not been through before.
- DOE is reaching a combustible limit in B Cell limiting the amount of equipment that can be put in. In order to overcome this, debris will need to be removed.
- In 2019, training will continue at the mock up facility to ensure the workforce is comfortable with the task.
- Structural modifications to the 324 Building will be required in 2019. With the removal of contaminated soil, concrete piles with grout will be placed to support the facility. The

⁴ [324 Building](#)

design for the concrete piles is near completion. Installation of the concrete piles is anticipated to be complete in 2020.

- Removal of B Cell grout and debris is expected to be completed in 2019.
- A readiness assessment will independently verify workers are trained and they can successfully complete the operations at the mockup. This will provide confidence of completion at the 324 Building. The readiness assessment will also verify that the equipment is ready prior to excavation of B Cell.
- 2020 will be a big year for the 324 Building. In 2020, removal of the floor and soil will begin. When complete, it will be backfilled and demolition of the 324 facility can continue.

Agency Perspective:

Due to the government shutdown, Ben Simes from the Environmental Protection Agency (EPA) who has the lead on the 324 Building project was unable to provide EPA's perspective.

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

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

Q: "I believe the current milestone for excavation changed earlier this week?"

R: "Yes, the current milestone for completing the remote excavation of the highly contaminated portion is currently due in September 2019. According to our current schedule, we are about a year off. That is mainly due to the difficulties of working at an aging facility. A lot of our designs were based on as built. We are discovering that the as built is not accurate. We can't just go into the hot cells and start measuring. A lot of interferences or holes were not built to specifications. In addition, a lot of the previous radiological surveys missed some hot spots. As soon as we discovered those, we decided we needed to have a better understanding of the contamination. That was another big delay to the project."

Q: "Has the manipulation of the arms been an issue? It looks like it takes a lot of practice."

R: "Those are typical joy sticks for that kind of movement. To be honest, I have not heard of any concerns but I can definitely ask about that. Those guys are going to be training on equipment for months. They will then be using the same equipment for months. Management is very receptive to any issues the workers may be having."

Q: "Is this the first time you are going to have to dig underneath a building? If so, is that something you can apply similar concepts to other areas onsite?"

R: "I wouldn't say that it is a new thing. The company that we have has done this before. In terms of applying it at Hanford, I haven't heard if we have done that here before. I would assume it is pretty new; having to put in micro piles into a facility. Those are not being installed from the outside. There is a small drill rig going into the facility. It will be drilling a hole through the floor and the soil. We have independent reviewers on the contract side. DOE has hired an independent reviewer to determine if the process is good. So far the comments have been pretty positive on the review."

Q: “Is the remote handling going to originate inside the 324 Building?”

R: “The control trailer for the remote excavator arm is actually outside of the facility. Even there are screens on the inside of the facility; there is a control trailer with a number of other screens and joysticks. It is a non-contaminated environment so those guys will not be suited up. They will be in a comfortable, safe space while operating the equipment. In the terms of the cranes they have to operate inside the facility, in that case they will be in Personal Protective Equipment (PPE). This will be the same with the manipulator arms inside the hot cell.”

Next Steps: Follow up on the 324 Building project will be required in two months.

Emergency Preparedness/Take Cover

Rebecca Holland, HSEP Chair introduced Steve Sanders, U.S. Department of Energy, Richland Operations Office. Key points from Steve’s update included:

- The main goal is to protect people. Regardless of the severity of an event, a “lessons learned” or hot wash is always completed.
- Feedback is requested from those who were affected by each event.
- DOE has taken on a different process than they have done in the past. They have taken advantage of the different RadCon resources on Site. A procedure was put in place that allows a point of contact to get in touch with the contractors.
- During a take cover, communications with employees is sometimes done through all employee communications. Other times, communication is provided to the building emergency director who will talk to those employees in his or her facility.
- Radio station 530 AM provides notification of a Hanford related emergency.

Agency Perspective:

Stephanie Schleif, Washington State Department of Ecology provided Ecology’s perspective on the topic of Emergency Preparedness/Take Cover. PUREX Tunnel 2 is in Ecology’s dangerous waste permit. There is a contingency in place that DOE implemented when they saw the steam. They were not expecting to see anything come from Tunnel 2. As it was unexpected, the take cover was a great conservative method. Communication went really well. Both phone calls and emails were received that morning communicating to Ecology what was happening. Subsequently 15 days later, a report was received with information on what the expected cause of the steam was and a corrective action plan. Overall, Ecology is happy with how things have gone.

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

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

Q: “One of the things that happen when people are in a take cover is that they are not supposed to eat. Is there a way to allow people to eat?”

R: “Yes and the goal of that is to make sure people don’t ingest something. We have always had a process for people who are sick or who are on a medication. We have always had that allowance. We have had the ability for the protection action coordinator to receive calls from the facilities identifying those who have special needs.”

Q: “Is the emergency command center located in the Federal building?”

R: “The emergency command center is located in the Federal building.”

Q: “Is there a designated incident commander for all of these things? Or is there a separate team for each site?”

R: “The incident commander comes from the Hanford fire department. When the 911 call goes in from the facility, the responding vehicles from the fire department will be the commander.”

Q: “Who is the public information officer at the incident command center?”

R: “The public information staff could be any number of people. Typically they are folks from DOE-RL and DOE-ORP who are trained to fill those positions.”

Next Steps: The HSEP committee has requested the hot wash report associated with the most recent take cover. The committee would like time at the next meeting to review the hot wash report.

Attachments

Attachment 1: Plutonium Finishing Plant

Attachment 2: Cesium/Strontium Capsule Project

Attachment 3: 324 Building

Attendees

Board Members and Alternates:

Jan Catrell, Member	Rebecca Holland, Member	Kate Griffith, Alternate
Richard Bloom, Alternate	Susan Leckband, Member	Emmett Moore, Member
Mike Korenko, Alternate	Tom Galioto, Member	Pam Larsen, Member
Tom Sicilia, Alternate	Helen Wheatley, Alternate	Bob Suyama, Member
Shelley Cimon, Member	Tom Carpenter, Alternate (Phone)	Liz Mattson, Member (Phone)
Ken Niles, Member (Phone)		

Others:

Dana Cowley, MSA	Benjamin Caleca, DNFSB	Kelsey Shank, The Edge
Tom Rogers, WDOH	Mark Heeter, DOE-RL	Kelly Elsethagen, Ecology
Kristen Holmes, DOE-RL	Dieter Bohrmann, CHPRC	Mark French, DOE-RL
Jim Lynch, DOE-ORP	Jennifer Copeland, CHPRC	Lindsay Strasser, ProSidian
Annette Carey, Tri-City Herald	Glenn Konzek, DOE-RL	Sherri Schatz, ProSidian
Stephanie Schleif, Ecology	Tom Teynor, DOE-RL	Jodi Wilson, BPS
Ben Vannah, DOE-RL	Linda Maiden, CHPRC (Phone)	Jennifer Colborn, MSA (Phone)
Ginger Wireman, Ecology (Phone)		