MEETING SUMMARY

HANFORD ADVISORY BOARD

RIVER AND PLATEAU COMMITTEE MEETING (RAP)

DATE: *Tuesday, November 12, 2019*

Richland, WA

TOPICS IN THIS MEETING SUMMARY

The following meeting summary represents topics and presentations covered during the Hanford Advisory Board River and Plateau Committee Meeting (RAP) on Tuesday, November 12, 2019, from 09:00 a.m. - 2:35 p.m. in Richland, WA. This meeting took place at the Richland Public Library. This is only a summary of the issues and actions discussed at this meeting. The following represents a summary of the topics corresponding with the meeting agenda with annotation of Questions (Q), Response (R), Announcements (A), Comments (C) and may not represent the fullness of represented ideas or opinions, and should not be used as a substitute for actual public involvement or public comment on any particular topic unless specifically identified as such.

Opening

Janice (Jan) Catrell, Public-At-Large, River, and Plateau (RAP) Committee Chair, welcomed committee members and introductions were made by the RAP Chair, Board/Committee Members and Alternates, and other participants (including on-line participants).

Previous Month(s) Meeting Minutes

The September and October 2019 meeting minutes were not available for review and approval as they were still being worked on by the facilitator and pending review of the Washington State Department of Ecology (Ecology) and The U.S. Environmental Protection Agency (EPA) Hanford Project Office.

Announcements

Jan Catrell, RAP Chair made an open call for announcements and updates: James Lynch (Deputy Designated Federal Officer (DDFO) for the U.S. Department of Energy (DOE) Office of River Protection (ORP) and Richland Operations Office (RL) provided a high-level rundown of the calendar and agenda items for the RAP and Tank Waste Committee (TWC). Also noted, was that the Public Involvement and Communications (PIC) Committee meeting is scheduled for December 3rd, the full Hanford Advisory Board (HAB) on December 4-5, 2019. Further announcements included the scheduled HAB 25 Anniversary celebration on Wednesday, December 4, 2019, at the Best Western Plus Columbia River Hotel & Conference Center 1515 George Washington Way, Richland, WA 99354. JoLynn Garcia the DOE-ORP and RL HAB Federal Advisory Coordinator, made an announcement to review topics related to safety measures on the Hanford Complex, in the community, and over the holiday season.

100 B/C Proposed Plan – Draft Advice

- Jan Catrell introduced the draft advice for the 100 B/C Proposed Plan
- Working Title: Supplemental Advice on 100-B/C Proposed Plan
- Issue Managers: Tom Sicilia (Oregon Department of Energy), Gerald Pollet [Heart of America Northwest (HoANW)], Shelley Cimon, Regional Citizen, Env. & Public Interest Org., Columbia Riverkeeper Liz Mattson (Hanford Challenge, Marissa Merker (Environmental Director / Nez Perce Tribe Representative, Washington State University), and Jan Catrell RAP Chair.

The issue manager team provided an overview of the draft advice then followed by committee review. Due to the sequencing of developing draft advice, the facilitator utilized the latest updates provided by Gerald Pollet, as a based document for final consensus review. Tom Sicilia served as the lead drafter of the advice and provided an overview of the objectives and background for the 100 B/C Proposed Plan draft advice. References were made to a previous HAB consensus advice #296 stating preferred recommendations and noting that the preferred alternative has not changed since its issuance in June 2018.

Clarifying questions and comments were posted as committee members took the time to review and suggest language and structural edits to the draft advice document.

Jan Catrell offered that members should read through the document paragraph by paragraph and then concur on edits or accept language and structure before proceeding to the next paragraph/sections of the document.

James Lynch stated that the draft advice addresses preferred cleanup and noted that there is an open comment period through the comment period which ends on December 9, 2019. Members agreed on changes needed for the draft and it will be moved forward for as draft advice.

In the concluding statements of the 100 B/C Proposed Plan draft advice, The RAP advises the Tri-Party Agreement (TPA) Agencies to:

- Fully respond to the timing of the HAB Consensus Advice #296
- Remediate areas adjacent to the Columbia River. Institutional controls with monitored natural attenuation should only be utilized in areas that are not likely to attract significant tribal and public usage
- Calculate the projected cost of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) 5-year reviews and long-term management for more monitoring for a timeframe in excess of 30,000 years, the Preferred Alternative would require more than the current 150-year estimate
- Include documentation of treaty and shoreline management considerations (Revised Code of Washington Chapter 90.58) in the Record of Decision
- Utilize a tribal exposure scenario
- Include the public in the development of monitoring and maintenance plans for institutional control and monitored natural attenuation periods; including frequency (near-term), duration, and parameter lists
- Work with the HAB PIC and advise the National Parks Service to provide placards for Institutional Controls which will be stationed within the museum footprint, describing the challenges and successes of remediation, including the ways that risk is reduced
- Plan for groundwater, surface water, and biological monitoring down-gradient of waste sites to manage uncertainty for (vadose zone) deep soil contamination, and for discharges along or into the Columbia River. Monitoring will serve the additional purpose of confirming that monitored natural attenuation is performing as modeled and that potential human and/or ecological receptors are being protected
- Have published, enforceable plans to prevent intrusion, exposure, removal of soil, or use of water without impacting Treaty or NHPA rights and are consistent with restrictions on water withdrawals and access to the Hanford Reach National Monument

Plutonium Finishing Plant (PFP) Update

Tom Teynor, DOE-RL Federal Project Director for Plutonium Finishing Plant Closure Project offered a presentation[1].

Illustrations were provided of the Plutonium Finishing Plant (PFP) west face (dated October 10, 2019) with a discussion on progress, demolition strategy, schedule, and key takeaways. The presenter stated that at the March 2019 stage of work, the PFP demolition team was not able to complete the removal of the remaining debris in the ground due to prevailing weather conditions. Further, once the weather improved the demolition team was able to continue with the work as scheduled. The images shown illustrated progression from August 2016 through March 2019. The stated strategy to complete demolition remains the same as the demolition team transitions from lower-risk to higher-risk areas (lower-risk completed October 2018 time frame).

Ref: Slide #2 of the presentation

[1] Plutonium Finishing Plant Transition To Final Demolition Activities

Other illustrations included the demolition progress of the site with snapshots from August 2016, March 2019, September 2019, and November 2019 (Ref: Slide #3 and Slide #4). The presenter also reviewed the current "Strategy to Complete Demolition" and discussed risk based on material at risk and surface contamination configuration showing locations A, B, C, and D (with a compilation of waste collected across the Site). Illustrations covered the 234-5Z Main PFP Processing Facility and the PRF (Plutonium Reclamation Facility). Containerized Waste Super Sacks (60% - 1835g) and other (30% - 912g) with a subtotal containerized waste of 90% - 2747g.

Q: "What is the cloud formation surrounding the demolition cranes"

R: "This is water mist used as a safety mechanism to abate dust and other of particulates in the air caused by demolition debris."

Q: "Do you think the levels could match/exceed contamination under the slab on 324?"

R: "Statements regarding The Project Team reflected that the contamination levels have very minimal data because of lessons previously learned at 324 demolition. We didn't want to get into a position where we were getting ready to take slabs up and then see something is there."

Q: "The term tunnel is something we've not really heard in relation to PFP. Is it more of a trench?"

R: "Concrete formation and drain pipes run along the wall. This project is not to remove the tunnels but bring everything down to slab-on-ground."

Q: "You characterized the tunnel walls?"

R: "Yes, we did."

Q: "If slab-on-grade it goes to a different contractor?"

R: "We divide our work through Project Baseline Schedule (PBS) which is demolition. Just different funding."

Q: "Regarding milestones in the future will there be RIFS (Remedial Investigation/Feasibility Studies) in the future?"

R: "Yes, Remedial Investigation/Feasibility Studies will preced remedial action."

Schedule Of Demolition Progress:

- Completed 234-5Z lower-risk demolition October 30, 2019
- Started 234-5Z final phase demolition November 7, 2019
- December 2019, complete 234-5Z demolition
- January 2020, Resume 236-Z demolition and debris load out
- March 2020, complete 236-Z demolition; PFP slab on grade

Plutonium Finishing Plant Demolition Key Takeaways

During summary and key takeaways review for the PPFP demolition project, the presenter noted that activities during the March working dates entail physical fieldwork; and sample characterizations. Charley Kronvall (City of Pasco) mentioned that budgets were discussed and asked, "how comfortable are you with wrap up timeframe and budget?" The presenter answered that The Project Team has not asked for new budget authorizations and that they have been using carryover funds with the utilization of roughly $30 million (with some being a plan carry over). Budgets are assessed monthly and when more funds are needed, The Project Team will submit a formal request.

Further opportunities were provided for Questions (Q), Response (R), Comments (C) from the meeting participants:

Q: "What percentages in (plutonium) grams?"

R: "The gram quantities based on nondestructive data, super sacks (in blue) percentage is based on what we thought was left. The current grams show the percentage of what was remaining (grams of plutonium). In R/C all gloveboxes have been removed except for two. Tunnel #4 took out the first potential grammage and will continue southward and continue northward based #5. The demolition team has seen some contamination – mostly the shears and decontamination."

Q: "For new and existing debris fields, were there any brown surface capturing in place or was it remaining on the ground as it had been?"

R: "Yes, as a removal action, and it won't be transported outside the site for CRCLA. The Project Team is monitoring groundwater nearby and not seeing any contamination moving through the evolution of work and anywhere that soil is disturbed, soil fixatives will be applied. Where there is a break or inclement weather coming up, The Project Team will apply fixatives to minimize the future risk. Fixatives are applied at least twice a day, including during extended holiday time."

Q: "What is underneath the D Area; like a mud bath?"

R: "Pad left behind, grouted over and uneven surface and concrete pad itself."

Q: "Regarding roll-on/roll-off, are they stored at the Environmental Restoration and Disposal Facility (ERDF)? Where are they stored?"

R: "Yes, they are (ERDF) containters. High-level waste is either removed or left behind with high visibility. We place the waste into certifiable containers called "Roll on/roll-off" with low-level sampling performed before pulled off the line. Once complete, the intermediate area is re-surveyed again in a very controlled environment and intensively mitigated."

Q: "Susan Leckband (WA League of Women Voters): no plutonium from ERDF being transported?"

R: "This has been identified and to the best of our ability's plutonium is kept separate."

Agency Perspectives

Theresa Howell, Washington State Department of Ecology (Ecology) | | Emerald (Emy) Laija, Environmental Scientist, U.S. Environmental Protection Agency (EPA) Hanford Project Office,

Theresa Howell noted that Ecology worked jointly with EPA on control procedures. Further, DOE has kept Ecology apprises of everything going on through project manager meetings on a monthly basis, and Department of Health is really involved in air sampling as the work proceeds. We feel DOE has taken a lot of steps to make sure work is controlled in the best manner at this point. Tom [Teynor] spoke to minimizing number of cans for example and that is a different approach than what happened in the past. This can help with the process moving forward.

Emy Laija stated we echo EPA and can state appreciation for the work DOE does keeping us up-to-date and up-to-speed. The Project Team is looking forward to continuing that approach and meeting the finish line around the springtime.

Board Member Questions (Q), Repsonses (R), and Comments (C):
Note: This section reflects individual questions, comments and Agency responses.

Q: "This has been one of our major concerns because it is arguably one of the most contaminated in the whole EM complex. Seeing it come down in a safe manner makes us really happy to see that and moving forward in a much safer manner. The Project Team is also very concerned about what is underneath? What are the next steps as far as characterization?"

A: "Let me clarify, the protective cap is a 20 year cap and is last step The Project Team will be doing. The Project Team is working to possibly do monthly sampling reviews. The Project Team is not going to be reducing boundaries any time soon. What's next- we expect the unexpected."

A: "Once PFP is removed, it will be characterized as west area."

Q: "For example, if there was plutonium, have those been remediated, waving 200WA1? And what would be the timeline?"

A: "The contamination was low-level and did apply fixatives to the buildings. The plan is to take down the trailers though that is not part of the current project."

Q: "The Northeast has pretty significant contamination in the soil [plutonium spread that happened during demolition], at what point will that be remediated not just the lower levels that spread, referring to lower area. It has been airborne in the past, my concern is when you are going to do something about that because as I understand that there has not been remediation done."

A: "Once we get done with demolition, The Project Team will clean up the hotspots. The cap will be over the slabs. The Project Team will clean up what we find. The Project Team is planning for it, it's just a matter of what we find."

C: "Thanks for the interesting presentation."

C: "Once agencies work together to get completed, we work off the checklist, and have data characterization to consider. It will go into phase 1 and continue to address remediating options."

<u>Site-Wide Groundwater Update</u>

Mike Cline, DOE-RL Pump and Treatment Facilities Manager presented the topic of the "2019 Groundwater Update[2]" with a focus on the groundwater in the 100-BC:5 groundwater proposed plan out for public comment till December 7, 2019, with the expectation to perform a responsive summary and ROD issued next summer.

Hanford Groundwater Highlights

- Removed nearly 90 tons of contaminants, treated +2.4 billion gallons of groundwater
- Completed modifications & upgrades to existing equipment
- Installed chlorine disinfection system for well lines
- Achieved 2,500 gallon/minute sustained operation at 200 West pump-and-treat (P&T)
- Removed 1 million pounds of nitrate since 2012
- Successful soil flushing technology test for chromium removal

Sr: Slide #2 Of the presentation

The 100-BC: 5 Groundwater Project completed RIFS and Proposed Plan in 2019 with the Proposed Plan currently out for public review.

Reactor Area P&T Systems include KR-4, KW, and K with a total system design capacity of 1,560 gallons per minute across 57 wells (Operating Wells: 39 extraction and 18 injection). The project plan between 2011 and 2018 covered work that processed a combined 4.8 billion gallons of water and removed approximately 360 kilograms of hexavalent chromium. The 100K Reactor Area P&T systems team also initiated the Soil Flush Treatability Test in 2019. The key takeaway regarding the discussion of the K Reactor P&T Systems were that the amount of hexavalent chromium is moving down as the years go on.

An illustration of the 100 K Reactor Area plumes was provided showing a comparative 2011 vs 2018 illustration of the 100K Reactor Area sites. This illustration highlighted progress with "Qualitative River Protection Status" showing areas that are not protected [red spots], protected (action may be required) [yellow spots], and protected areas [green spots]. The illustration also showed the prevalence (in comparative between 2011 and 2018) of Hexavalent Chromium Plumes across the Primary Facility, the Main Waste Site, and the former Operational Boundary

100K Reactor area plumes illustration(s) described:

- 2011 indication contamination in the river
- 2018 shows the plumes are pretty much gone along the river, no more red dots, most green and a few areas that are still being worked on (yellow dots)
- Yellow is above the drinking water standard; blue is below the drinking water standard. Along the river in early 2000s, issued RODs put together quickly to allow us to get out there to do something. Currently, The Project Team is going to assess more completely so final status shows what we did and what is left to be done. Statements regarding The Project Team reflected that they have increased operational capacity drastically.

Sr: Slides #3, #4 and #5 of the presentation

Board Member Questions (Q), Repsonses (R), and Comments (C):

[2] 2019 Groundwater Update

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

Q: "What caused concentrations to go up around 2011-2018(100 K area)?"

R: "There are continuing sources there The Project Team will talk more about it. There are some more sources in K-West than in K-East. There's also active remediation that probably drove some down. We also have a lot more wells now than we did in 2011."

Statements regarding The Project Team reflected that they have more data now to see the extent of where the plume was.

Q: "Based on monitoring well data?"

R: "Between 2011-2018, removed K east fuel pool, was there some water suppression?"

R: "There was quite a bit suppression and was mainly the driving force."

References were made to a KW Soil Flushing Treatability Test fact sheet[3]. This fact sheet showed KW hexavalent chromium [Cr(VI)]plume progress (2007 to 2017) with specific site plume illustrations of low river stage in 2010 compared to low river stage(s) in 2015, 2016, and 2017.

A sampling analysis depicted results from he 2019 KW Soil Flushing Treatability Test with statements that the goal of soil flushing is to remove Cr(VI) from the deep vadose zone where it presents a continuing source of groundwater contamination and capture it with the active P&T system. Key bullets noted that in the first phase of flushing, flow rates ranged between 230 to 260 gallons per minute (gpm). For the second phase, rates range from 90 to 110 gpm. Further, from June 1 to September 30, the KWest P&T Cr(VI) removal efficiency increased with approximately 12 kg of Cr(VI) removed relative to a monthly average of 0.5 kg. Lastly, as of October 21, over 4.5 million gallons of water have been sent to the infiltration gallery.

Sr: KWest Soil Flushing Treatability Test fact sheet

Call-outs from the fact sheet overlaid a graph of the 2019 KWest Soil Flushing Treatability Test onto an illustration of the actual 100K Reactor Area Soil Flushing Test Site. The presenter stated that The Project Team discovered that previously the KWest head house found a 1-acre infiltration field that was installed when workers started flushing the soil above contamination. They subsequently took injection wells and placed them in the field. The test showed a huge spike of contamination – The Project Team tested again and got a slight peak – now the contamination plumes have leveled off to ~80-90 parts per million. Currently, there are about 8 million gallons, proposed to run straight through the winter with The Project Team expected to review the site again in the spring. At this point, they can only evaluate the site and make appropriate remediation/prevention decisions and actions once they have adequate data.

Q: "The source of water is from the pump and treat system?"

R: "Yes."

Statements regarding The Project Team reflected that they haven't changed anything except the elevation at which The Project Team is injecting.

[3] KW Soil Flushing Treatablity Test

100 N Reactor Area – Sr: Page 7 of the presentation

When discussing the 100-N Reactor Area, the presenter noted that The Project Team is working on proposed plans (including support from Ecology).

- Remedial investigation/feasibility (RI/FS) study prepared in 2019 to support final remedy decision for the 100-N groundwater plumes
- Currently in discussions with Washington State Department of Ecology and U.S. Environmental Protection Agency

The current proposal being reviewed includes work to strengthen the barrier along the river that will serve a key purpose of absorbing the strontium-90 and nitrates to prevent seepage into the upper Unconfined Aquifer

Q: "You were restricted from putting (apatite barriers)?"

R: "The apatite barriers are along the river. We look at the sampling and we do want to do some initial injection."

Q: "Are you getting closer to do those injections?"

R: "The Project Team is waiting for a determination from the final ROD."

100 DH Reactor AreasP&T Systems – Sr: Page 8 of the presentation

When comparing 100 DH Reactor Areas Pump and Treat Systems (P&T) from 2011 to 2019, The Project Team noted that DX and HX P&T systems had a total system design capacity of 1,675 gallons per minute across 106 operating wells and 88 extractions and 28 injections. Between 2011 and 2018, a combined 5.1 billion gallons of water was processed and removed approximately 1,800 kilograms of hexavalent chromium in compliance with the ROD signed in July 2018. The Remedial Design / Remedial Action Work Plan is currently in under discussion with Ecology and EPA.

100 D Reactor Area Plume Maps – Sr: Page #9 and #10 of the presentation

100 D Reactor Area Plume Maps comparing 2011 vs. 2018 showed that in 2011 there were larger plumes by the river. Yet by 2018 a majority of the area of concern had been protected. There is one area in the 2018 illustration where a RED Dot (area not protected) is indicated, but almost all plumes are gone. The blue water is illustrated symbolizes volumes meeting drinking water standards. The Project Team stated that they are trying to show a correlation between contamination levels in soils and distance traveled to the river. The Project Team is trying to meet the standards stipulated by the ROD.

Q: "How do you get the data point along the river?"

A: "It's not an exact data point, there is some interpretation based on close to the shore. Tubes collect water at groundwater point."

R: "Are there opportunities for rebound studies?"

A: "Yes, in every area it is part of the process."

Similar illustrations and comparisons were discussed with 100 H Reactor Area Plume Maps showing that in 2011 there were many areas with yellow dots (protected – action may be required) and red dots (not protected). In comparison, in 2018, two single red dots exist and four yellow dots with all areas meeting parameters within drinking water standards.

100 F Reactor Area – Sr: Page #11 of the presentation

The graphic presented and discussions highlighted that this area (100 F Reactor Area) does not have many sites close to the river, though there are a few plumes. 100 F Reactor Area has a direct reference in the ROD signed in 2014 and there have been efforts to perform monitored natural attenuation of groundwater plumes. The Project Team has completed the installation of the monitoring network in 2019.

300 Area Groundwater – Sr: Page #12 of the presentation

Illustrations of the 300 Area groundwater compared two areas over different time frames. The 300 Area groundwater has a direct reference in the ROD signed in November 2013 and required phase injections which were completed in October 2018 with core samples obtained in spring 2019. The Project Team is currently evaluating core samples for leachability.

Central Plateau Groundwater – Sr: Page #13 of the presentation

An illustration was presented for removal (Log Scale) of the cumulative contaminant mass by the 200 West P&T, 2012 through 2018 for the Central Plateau groundwater. The illustration graph showed comparisons for nitrate as nitrogen (438,105 kg at 963,831 lbs.), carbon tetrachloride (15,123 kg at 33,271 lbs.), chromium (438 kg at 962 lbs.), uranium (328 kg at 721 lbs.), trichloroethene (65 kg at 144 lbs.), and technetium -90 (665 g at 1.46 lbs.). The illustration slowed a pipe graph comparing contaminates removed from 2012-2018 (see chart for exact information).

The plan is to use one P&T installation to treat all sites on the Central Plateau – there is the adequate capacity to serve the site and The Project Team will pipe the water to the pump. There is an urgency to start treating the groundwater in the ZP-1, UP-1 and BP-5 complexes. There is an effort underway to introduce a ROD for BP-5 to pump by C and A tank farms – this effort is aimed at the objective to stop groundwater contamination from spreading further. It is hoped that by next spring 2020 the ROD will be published and The Project Team can begin installing wells by A and C tank farms.

Q: "Are you anticipating the uranium will take up a larger portion of the total?"

R: "The Project Team is pumping uranium from the hotspot and some are from B complex in perched water area, and trying to pump it out before it seeps into the aquafer while it is still concentrated."

Q: "What about the deep vadose zone?"

R: "We are looking at the characterization, treatability, report, core water extraction, uranium with ammonia gas (not right location for that, complex organics in soil that were interfering between ammonia). Right now, work is underway to develop RIFS and discuss with regulators before coming up with a proposed plan."

200-UP-1 Groundwater – Sr: Page #14 of the presentation

The presentation stated that The Project Team did identify (dark brown) chromium plumes in the 200-UP-1 groundwater (2018 plumes) and those areas will get more monitoring to determine its origin. However, these plumes did not appear to be moving very fast compared to established standards for materials fluid flow. Tests show that there is a channel underground that chromium plumes are trickling and dissipating into.

200-BP-5 Groundwater– Sr: Page #15 of the presentation

The presenter reviewed 2015 to 2018 uranium comparisons:

- Uranium concentrations have decreased by almost 48%
- The 30 μg/L plume area decreased by nearly 65%
- The 300 μg/L plume area decreased by 93%
- Currently developing a combined BP-5/PO-1 interim ROD with Ecology and EPA

The graphic illustrated six sites for 200-BP-5 extraction wells (extraction wells are red areas). The presenter noted that there may be a few more extraction wells coming in with the pending ROD.

200-PO-1 Groundwater– Sr: Page #16 of the presentation

The presenter stated that next summer it is expected that there will be new wells installed and possibly pumping so as to achieve the interim actions noted in the planned ROD regarding extraction wells planned to abate groundwater contamination.

Key Takeaways From The "2019 Site-Wide Groundwater Update"

- Process improvements increase contaminant removal in groundwater, shortening the period required to meet cleanup goals
- DOE and CH2M HILL Plateau Remediation Company (CHPRC) are seeking more efficient and cost-effective ways to improve the performance of the groundwater treatment network
- **Ultimate Goal:** Protection of the Columbia River

An opportunity was provided for Questions (Q), Response (R), Comments (C) from the meeting participants regarding The "2019 Site-Wide Groundwater Update"

Q: "You identified the weight of all these various contaminates."

R: "Once it passes the test at the lab, we ship resin on-site to ERDF, it's no longer mobile. We ship it to ERDF in wood boxes that are lined with plastic. And de-water the boxes. It's a dry resin at that point. The carbon tech goes through a process, for activated carbon. There are 2 containters in series and we test which containter to assign. We also have two in a row so we can sample and send off to the lab. For nitrate, we suspend nitrate treatment, this also goes to on-site landfill at ERDF in containers, three containers every week, stabilized with lime to prevent off-gassing and any biological activity."

Q: "These all accept disposing on-site from ERDF?"

R: "Yes."

Q: "When thinking about interim numbers you are negotiating for pumping on the river and thinking about numbers to EPA and how that will differ from the Record of Decision (ROD), is this a required document administered by EPA under CERCLA?"

R: "The final ROD The Project Team is looking closer to 10."

Agency Perspectives

Stuart Luttrell, Ecology and Laura Buelow, EPA gave comments:

C: Stuart Luttrell said "Ecology really appreciates efforts DOE makes, an example of remediation and worked quickly to put another well online. Ecology was able to review the annual report in the June/July time frame. It is an online administrative record. Slide 10-shows concentration in uppermost acres, areas in around evaporation ponds so those do exceed drinking water standards and the extraction wells are in place."

C: Dr. Laura Buelow (Project Manager, EPA - Hanford Project Office), "we support active cleanup that has been going on and work with DOE to get a finalROD get in place."

Board Member Questions (Q), Responses (R), and Comments (C):
Note: This section reflects individual questions, comments and Agency responses.

Q: "What is the process for taking actual monitoring data and feeding into models to improve P&T injections? How does sampling/monitoring well data relate to what is captured by resins at P&T to show where measuring x contaminate x level, we capture x amount in resins moved to ERDF. It's helpful to think of where the contaminates are. How are decisions that are not formed on a ROD, formed on cleanup remedy lifespan into P&T facilities?"

C: "These are complex questions that may not have time to answer at this time."

Q: Future questions to think about:

- *"What is the process for taking actual monitoring data and feeding it into models to improve the model for future P&T projections?*
- *How does sampling/monitoring well data relate to what is captured by resins at the P&T to show that we were measuring x contaminant at x level, we captured x amount of the contaminant in resins which was moved to ERDF. Wondering because it is helpful to think through where the other contamination is that is not captured by resins.*
- *How do decisions that have not yet been formalized in a ROD that will rely on the pump and treat for a long time as part of the cleanup remedy are factored into the lifespan of theP&T facilities?"*

<u>Waste Encapsulation Storage Facility Discussion</u>

Gary Pyles, DOE-RL Waste Disposal Project Manager presented the topic of The Cesium/Strontium Capsule Project across the Waste Encapsulation Storage Facility (WESF) as an update to The HAB RAP and Health Safety and Environmental Protection (HSEP) committees. Referencing a similar presentation given last January 2018 (previous WESF), the focus of the discussions centered on the planned storage configuration(s) with three versions for a) The universal capsule sleeve (UCS); b) transportable storage canister (TSC), and c) TSC – loaded maximum capacity: 132 capsules.

This presentation[4] was listed as an update from a presentation by the previous DOE-RL Waste Disposal Project Manager, Glen Konzek and provided an update based on the last slideshow shown in January. Glen retired end of May 2019 and currently, Gary Pyles occupies the role.

Definition: WESF provides safe and compliant underwater storage for 1,936 highly radioactive capsules containing the elements cesium and strontium. In the 1970s, radioactive isotopes of the chemical elements cesium and strontium were removed from waste tanks at Hanford to reduce the temperature of the waste inside the tanks. Both elements were ultimately placed in sturdy, stainless steel containers at WESF for safe storage and monitoring.

Illustrations were provided of the planned storage configuration (specifically the Cask Storage System – costs and the Capsule Storage Area (CSA). DOE-RL Waste Disposal project teams view this project as subprojects (WESF Modifications And WESF Decontaminators).

WESF Modifications (transfer of capsules | capitol line project | critical decision points | design, construction and operations).

- Critical decision (CD)-0 approved Nov 2015, CD-1 2018, currently CD-2/3 in approval. Working on getting documentation approval and hope to have by the end of September 2020. Some included in the CD-2 package: updated safety analysis, update to permit medications (working with Ecology on), the defined baseline for the cost, schedule, and scope of the work.
- All documentation has been put together, The Project Team hopes to have documentation presented to DOE in April f and have DOE approval by September.

WESF Decontaminators (activity in tanning area)

- Hoping end of the calendar year to have downgraded to the radioactive area so people can walk in and see what has been done
- Repair and maintenance on the crane which will be used in future operations
- Refurbishing G cell window
- Refurbishing of the manipulators used in G cell
- Completed preliminary safety analysis
- Awarded subcontractor that will construct the facility, and hope to start March 2020 in completion May 2021

Q: "Where does construction fit in with permitting?"

R: "There is a potential for temporary authorization. A permit should come first before CSA starts. It's looking like permitting may be in place before concrete needs to be poured but it's borderline. We're currently in public comment period November 4 - December 20, 2019. So, things are lining up well."

Mandy Jones, Ecology noted that in the WESF Capsule Storage System (CSA) The Project Team is transferring equipment fabricated specifically for the site. One WESF module will be a test module with the other configured as the WESF Operational Module. The test will be used for mock-up and the operational module will be installed in mass when completed.

[4] Cesium/Strontium Capsule Project

- There is a standard audit of the subcontractor to make sure costs are certified because it's an expensive part of the project and this is the critical path because it will take some time for items to be fabricated.
- The portions of the project planned to be fabricated in December are still being evaluated with budget folks.
- The vertical path transport, used to transport vertical concrete to cast storage area is subcontracted to an assembly company and upgrades to it will be finished up in the next year.

Key Components Of The Waste Encapsulation Storage Facility Large Scale Mockup currently in place

- Large Scale Mockup Currently in place
- The final design has been completed. Massive maintenance and storage facility.
- Building structures off-site
- Anticipate the construction started off-site, planning in December on starting the installation, completed by April 2020 mockup.
- Installation of the equipment and test articles, expected April 2021.

Q: "Fabrication starts as early as next month? Is material-specific enough?"

R: "The WESF modification of it, the preliminary safety analysis goes into great detail of capsule storage, some questions how they will verify the welding but The Project Team is working through those."

Agency Perspective

Matt Williams, Ecology: Permitting for capsule storage area is pretty well done and almost complete, there shouldn't be too much trouble. The Project Team is in the public comment period. The Project Team is not foreseeing any significant hurdles getting a permit in a timely manner. Are working on WESF modification and approaching that in a similar manner.

Q: "Opportunities for advice? Are there milestones?"

R: "Yes, milestones for getting all in capsules out of WESF pool into long term storage by end of August 2025."

Q: "All requirements for certain permits to be issued?"

R: "Yes, for capsule storage and for WESF facility. WESF submitted late in 2017, revising the application, addressing Ecology and public comment issues. There are some physical changes being authorized by that modification and making certain, to have authorized trucks for shipping capsules out. Making sure statements regarding The Project Team reflected that they have a good plan for transferring capsules, packaging, truck port authorized by the technical support team and Defense Waste Management (TST and DWM) unit because capsules will be transferred through there as they're packaged. Will only be surface changes. Don't foresee any impact as long as budget and support procedures go well."

Board Member Questions (Q), Responses (R), and Comments (C):
Note: This section reflects individual questions, comments and Agency responses.

Q: "In Budgets and Contracts Committee (BCC) discussions, the analysis of the integrated priority list shows that $46.8 million will be necessary for fiscal year (FY) 2021. Between 46-50 million. What can be shared with us for funding projects for FY 2021 in getting this done?"

R: "My understanding is FY 2020 is above the line. As far as the capsule storage area this is already funded and should start working in the next couple of months and start doing construction. Make sure contracts can be funded from a year-to-year basis."

Q: "In terms of operation funds it's $11 million? FY 2020? If we can be updated it would be appreciated because it would help identify a significant concern of ours."

Q: "The critical path getting fabricated is not guaranteed year-to-year. Can have a little bit of slack throughout the process rather than all at once?"

Jan Catrell RAP Chair closed the session and thanked the participants.

Committee Business

Cumulative Impact Evaluation (CIE) Framing Questions

James Lynch, Yvonne Lavardi Information Management Lead, DPE - Hanford Site participated in discussions during the discussions for Cumulative Impact Evaluation (CIE) framing questions. Topics reviewed included submissions of presentations, regulator guides and board operations, open forum discussions.

RAP committee members and meeting participants utilized portions of meeting time established for CIE framing questions to finish consensus reviews of the draft advice for The 100 B/C Proposed Plan

Q: "Is the draft advice for The 100 B/C Proposed Plan ready for the committee?"

R: "Yes, it is ready for the HAB meeting in December 2019 (pending final edits and wordsmithing). Minor edits will need to be proofread and sent back to committee chairs."

Framing Questions & Topics Table Review:

RAP committee members and meeting participants also worked to update and annotate additional items and framing questions on the RAP Topics Table.

- Gable Pond on topics table for January 2020
- ERDF: The status of characterization of the pond? (1 hr. Tom Sicilia, issue manager
- Gable Pond Cap: (1 hr.) (Shelley Cimon, issue manager,
- 324 Building: Pam Larsen, issue manager, Richland… (45 min) take off Jan Catrell for December due to term limits?
- WESF: budget on WESF for spring?
- Canyon status: The issue manager will review the issue manager list in committee files for canyon status
- 618-11: status on milestones (30 min)

Committee Calls Planned For December 2019

C: "Committee of-the-Whole and BCC should be included in committee calls planned for December 2019."

C: "Hoping 5-Year Plan looking at priorities possibly provide advice in February that could help be used in future roll-out of budgets."

Q: "Are there annual reports for groundwater?"

A: "Yes, there are annual reports."

C: "Statements regarding The Project Team reflected that they have 3.5 hours and open forum, maybe make better sense of the groundwater."

Q: "Is Phoenix update more in real-time?"

A: "Yes, the Geographic Information System shapefiles of the plumes - still have to compile data."

Q: "Do you think those will be used for certain remedies?"

C: "Add to the topics table: groundwater."

C: "Also add Z-Plant underground."

Open Forum

Discussions in open forum reviewed time allotment for agenda items and the importance of providing adequate time for presentations, agency perspectives, and committee/participant questions, response, announcements, comments. Two follow up questions members had for DOE:

- 324 dust suppression water's impact on groundwater (PNNL report)
- Whether surface soil contamination related to the DDDD at PNNL would be addressed as a part of DDDD Demob, or as a separate, follow-up action.

Yvonne Lavardi participated in discussions during the open forum.

C: "The standard process (per the HAB Process Manual) should be: committee identifies topics in the topics table and amount of time for each topic and framing questions, facilitators puts it into draft agenda form, sends it back out to committee chairs and agency liaisons, agenda is finalized via email and then gets sent out to the full committee. No surprises for anyone."

Adjourn

At adjournment, Jan Catrell stated that the meeting was a success, underscored by the achievement of a completed advice for the 100 B/C Proposed Plan, for consensus. Jan thanked meeting participants for efforts and achievements to date. Rebecca Holland, Hanford Atomic Metal Trade Council, posed an invitation to members to attend the joint HSEP/TWC meeting on November 13, 2019. Jan Catrell called the meeting to closed, meeting adjourned.

Attachments

Document attachments represent presentations, literature, images, and exhibits distributed and covered during the RAP meeting on Tuesday, November 12, 2019.

Attachment 01: Plutonium Finishing Plant Transition To Final Demolition Activities

Attachment 02: 2019 Groundwater Update

Attachment 03: KW Soil Flushing Treatability Test

Attachment 04: Cesium/Strontium Capsule Project

Attendees

Board Members and Alternatives:

Jan Catrell, Member	Dawn Wellman, Member	Tom Galiato, Member
Shelley Cimon, Member	Bob Suyama, Member	Charlie Kronvall, Alternate
Marissa Merker, Alternate	Gerry Pollet, Alternate	Pam Larson, Member
Susan Leckband, Member	Rebecaa Holland, Member	Tom Sicilia, Alternate
Liz Mattson, Member (Phone)		

Agency, Contractor, and Support Staff:

Tom Rogers, WA-DOH	Sam Torres, DOH	James Lynch, DOE-ORP
JoLynn Garcia, DOE-ORP	Lynne Hood, EPA	Laura Buelow, EPA
Steve Balone, DOE-RL	Michael Cline, DOE-RL	Ginger Wireman, Ecology
Theresa Howell, Ecology	Stuart Luttrell, Ecology	Tom Teynor, DOE-RL
Dieter Bohrmann, CHPRC	Jennifer Copeland, CHPRC	Crystal Mathey, WDOH
Dana Gribble, MSA	Gary Pyles, DOE-RL	Mandy Jones, Ecology
Matt Williams, Ecology	Lindsay Strasser, North Wind Solutions (Phone)	Ashley Herring, Faciliation Team, ProSidian
Emy Laija, EPA (Phone)	Ruth Nicholson, Facilitator, ProSdian	

Members of the Public:

Sally Preston (Phone)	Annette Carey, Tri-City Herald	