



FINAL MEETING SUMMARY

HANFORD ADVISORY BOARD

RIVER & PLATEAU / HEALTH, SAFETY & ENVIRONMENTAL PROTECTION COMMITTEE

January 9, 2018

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

Dale Engstrom, River & Plateau (RAP) Chair, welcomed both RAP and Health, Safety & Environmental Protection (HSEP) committee members and introductions were made. The August 2017 meeting minutes were approved by consensus.

Announcements

There were no announcements made.

Improving Worker Safety & Health

Rebecca Holland, HSEP Chair introduced the topic of Worker Safety & Health and Gail Splett. Gail Splett is the Program Manager for the DOE Worker's Compensation program. Gail provided members an update on the recent changes regarding the employee worker's compensation program and how it may impact former and/or current employees.

Key points from Gail's discussion:

- The Energy Employee's Occupational Illness Compensation Program Act (EEOICPA) is a compensation program run by the Department of Labor (DOL) for the U.S. Department of Energy (DOE), including contractors and/or sub-contractors.
- EEOICPA provides compensation and medical care for former and/or current employees (or their eligible survivors). The benefits for approved claims include \$150,000 lump sum payment and medical treatment for a covered condition for the rest of the claimant's life. An "impairment rating" is completed immediately upon the receipt of the \$150,000 lump sum, which determines if the claimant is eligible for an additional payment of \$2,500 per 1% of impairment.
- Part B of the EEOICPA covers radiogenic cancers, which is anything related to radiation exposures, as well as chronic beryllium disease.
- The records retention program was extended to 250 years. This ensures that the records will be available until the last surviving grandchild of a covered employee has perished.
- DOE is currently working with DOL on the "site exposure matrix" for chemical exposures. There is a database that links location and job category to match the disease and person. The database is currently being updated, as there has been concern that the database is incomplete. DOE's role has been to provide the records to the DOL, as needed.
- There is 1.1 million lines of indexing completed from records that have been found. Currently, 4 million pages of HR files have been digitized and a total of 12 million pages is expected to be digitized once this task is completed.
- For Hanford, there has been \$1.7 billion dollars paid to former and/or current employees, with \$284 million of that in medical expenses.

- There is a program for former Hanford workers, which entitles them to a free medical screening. There have been 350,000 flyers sent to former Hanford workers, of which only 10,000 have actually participated in free medical screening program. In the last year there have been 7 lung cancer diagnoses, in which 6 were determined to be stage one, utilizing the free medical screening program.
- The Hanford Worker Engagement Center is a new center for former and/or current Hanford workers needing assistance with information. The new center will be opening in Spring 2018.

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

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

C: “My understanding is you cannot get a white card unless you qualify for services at Hanford or for radiation exposures, which I have not seen at Hanford before.”

R: “We try to get the information out to people. You get a white card when your claim has been approved. If the person is deceased, then there is no white card given. The white card reflects what diagnosis has been accepted.”

Q: “Are you looking for a third-party administrator for the Hanford Worker Engagement Center? If so, is there an RFP out?”

R: “There is no RFP out yet. We are looking at having the RFP out by Spring of 2018 with a contractor in place by Fall of 2018.”

Q: “Can you give me an idea of what the staffing plan will look like for the new center, as you mentioned there would be bargaining and non-bargaining staff?”

R: “Currently there is a steering committee comprised of multiple agencies, including building trades, HAMTEC, DOE, Mission Support Alliance (MSA) Human Resources, and other agencies/personnel. The agencies will have designated personnel available.”

Q: “There may be some confusion with the white card. Do you get the white card if you are approved through the Worker’s Compensation program?”

R: “No. You get the white card once you are approved through the EEOICPA.”

R: “Training for the staff starts February 16, 2018 and will last about 7 weeks. The center will be staffed 5 days a week, 10 hours a day. The representatives can answer any questions you may have. The representatives will also be mobile, in the event that a person cannot make it to the office.”

C: “Hanford Challenge is very excited about this new facility.”

R: “If any of you would like to tour the facility when it opens, we would be able to accommodate that if needed.”

Q: “Can family members look into claims on behalf of former employees?”

R: “Of course. It costs nothing to try.”

Plutonium Finishing Plant (PFP) Update

Dale Engstrom, RAP Chair introduced the topic of PFP Update and Tom Teynor. Tom Teynor, Federal Project Director for PFP Closure Division provided members an update on PFP.

Key points from Tom's presentation:

- In mid-December a contamination release occurred which caused demolition at PFP to halt. The incident was taken very seriously, as the contamination spread was offsite. No demolition work will proceed at PFP until a review and analysis is complete.
- The site is stabilized and there has been no continual release of contamination. Recovery efforts are underway with crews spraying fixative, as needed. It has been confirmed that the contamination came from the Plutonium Reclamation Facility.
- The main concern is worker safety and health. There has been a total of 268 bioassay requests from workers, to date. Bioassays determine the dose, if any, received by workers. There are daily/weekly updates for PFP on www.hanford.gov, which also lists radiological surveys, samplings, and analysis' results. The Washington State Department of Health (DOH) took air samplings on December 19, 2017, as well as data from the DOH "cookie sheets" on December 20, 2017. DOE is currently awaiting the results of the data.
- There were 91 PFP-controlled government vehicles surveyed to date. Out of the 91, only 15 were contaminated. 1 of the 15 contaminated vehicles was decontaminated and returned to service. The other 14 are awaiting decontaminated and disposition. 63 vehicles had no contamination found and were returned to service. There were 12 passenger vehicles and 1 larger industrial vehicle still awaiting to be surveyed.
- Surveys were completed on 7 personal vehicles, which all were identified with contamination. These vehicles were decontaminated and returned to owners. There were 7 requested home surveys completed with no contamination found.
- The [Access Control Boundary](#) has been expanded since the incident occurred and is controlled by the shift office manager for PFP. The purpose of the expanded boundaries is to contain the spread of any contamination. DOE will be the approving authority for PFP demolition startup. There will be restricted access within the boundary lines. The boundaries are currently affecting some of the tank farm projects, groundwater projects, and MSA projects. There has been a taxi service set up for workers needing access to specific job sites within the boundary lines. All employees working in a "Red Zone" are wearing full respiratory protection.
- A barrier analysis will be conducted in order to determine the corrective actions moving forward. Experts in operations, meteorological, radiological, and engineering will be brought in to conduct the analysis.
- DOE is working with the appropriate departments for the budget and funding of this project. Funding will not be an issue, as this is a "top priority" project.

Agency Perspective

Stephanie Schleif, Washington State Department of Ecology (Ecology) provided her perspective regarding PFP. Stephanie stated that Ecology is very concerned and working with DOE to identify the corrective actions going forward. Ecology will be working with EPA to issue a corrective action, but have not made that decision yet. Stephanie stated that Ecology is also working with DOH.

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

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

Q: “How many people were out there working at the time of the incident?”

R: “There were about 30-40 people working.”

Q: “How durable and long lasting is the Fixodent?”

R: “We do get additional hits after spraying Fixodent on the soil, as the soil is uneven. We have seen that the Fixodent is still tacky after a year on concrete walls. We do reapply the Fixodent, as necessary.”

Q: “Is that sort of the rationale of any use of that area?”

R: “We will need to go back and perform a soil spray.”

Q: “Do you have employees on the recovery team? Is the team comprised of employees and experts or just experts? I would suggest that workers who are going to do the actual work be on the recovery team as well.”

R: “This is being discussed currently. Because of the incident, Doug Shoop has taken responsibility of the recovery, as the Site manager. Tom Fletcher has been delegated all the responsibilities until the PFP matter is resolved. What I can say about recovery team is that DOE is reaching out well beyond the Hanford boundaries, similar to the process done with the PUREX incident. I don’t have any names at this time but workers will be involved.”

C: “I have some concerns because there was an incident in June 2017 with contamination found at the Rattlesnake Barricade and now here we are 6 months later with another incident. I asked a question at the last meeting where we received an update and requested that CH2M and DOH reach out to the tank farm workers, delivery drivers, etc. who work out in the west area for bioassays. And now there are expanded boundary areas that do affect the tank farm workers and they should be offered bioassays.”

Q: “On the boundary map, are the yellow points the contamination spots?”

R: “Yes, all the yellow points are spots that were test and came back as contaminated spots.”

Q: “Is it true that the personal vehicles that had contamination on them, were parked in a no-parking area?”

R: “The vehicles were parked by the old radiological buffer area. This is still no excuse for the contamination incident.”

Q: “I am concerned about how this is going to be funded as there was no money in the 2018 budget for PFP, since it was supposed to be done. Where is the money going to come from to continue the PFP project?”

R: “We had \$30 million dollars of carry-over from fiscal year 2017 that had no work scope attached.”

Q: “Are there going to be impacts to certain milestones?”

R: “Currently we do not know yet, but there could be impacts to certain milestones.”

R (Ecology): “To clarify, we did add in scope for analysis and sampling of slabs and possible removal of those slabs.”

R (DOH): We have been focused on the event. We have staff out there with the teams watching the surveys and conducting spot checks. Our focus has been public safety. We do have ambient air samplers running 24 hours a day around the PFP complex.”

Q: “What is the source of the contamination and how did you figure that out?”

R: “We have confirmed that it was due to the PRF demolition. We completed demolition on December 13, 2017 and there was indication of contamination that evening. The following day on December 14, 2017, when the crew went to apply Fixodent on the stub walls and add soil to the pile, the crew found additional contamination. The contamination spread when the winds picked up.”

R: “We taking this incident very seriously. There is no excuse for what happened but we are addressing it. And will do everything we can to prevent this from happening again.”

Open Forum

Dale Engstrom, RAP Chair introduced the topic of open forum. Dale explained to RAP members that the idea behind the open forums is that it provides an opportunity for committee members to bring topics for discussion that may not be on the agenda.

Members took the opportunity to discuss a multitude of different items of importance during this time. Items discussed are reflected below.

Dale Engstrom discussed a list of suggested topics that may be of some interest for future HAB discussions.

- The Waste Encapsulation and Storage Facility (WESF) and the plan moving forward.
- Regulatory Reform and what it actually means. This topic was brought forward at a Tank Waste Committee meeting for discussion but it was determined that there was not a lot of information to share at this time.
- DOE complex integration of milestones and determining the budget and priorities of milestones.

- Code of Record and what does it mean. This topic was brought forward at a Tank Waste Committee meeting for discussion but it was determined that there was not a lot of information to share at this time.
- The 45-Day Review for quick projects across the DOE complex.
- Jim Owendoff, Acting EM-1 and his list of 12 priorities.

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

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

C: “I have seen the 45-day review list that came forward from DOE and ORP. We have asked that there be a broader conversation regarding these lists. There seems to be reluctance to talk about it from both DOE and ORP. I would assume that it pertains to an integrated priority list. Also, Jim Owendoff is no longer the Acting EM-1. There has been a person put into the position but it has not been announced. Also, Stacy Charboneau has retired.”

C: “Each committee should be talking about their priorities financially, as the budget meetings will be happening soon. The Budget & Contracts Committee should look to each of the committee’s priority list and thinking about the advice to bring forward. Also, it will assist the Executive Issues Committee going into the Leadership Workshop in May for developing the new HAB work plan.”

Plutonium/Uranium Extraction Facility (PUREX) Tunnels Update

Agency Presentation

Dale Engstrom introduced the topic of the PUREX Tunnels Update and Dr. John Marra.

Dr. John Marra, Chair, Chief Engineer for DOE Office of Environmental Management (EM) and Tom Fletcher, Deputy Manager for DOE Richland Operations Office (RL) provided committee members an update on the PUREX Tunnels.

Key points from John Marra’s presentation included the following:

- Dr. John Marra was the lead of the “Best & Brightest” expert panel that DOE put together in order to determine the best course of action for Tunnel 2. Dr. Marra’s has many years of experience, previously working as a contractor and technical advisor at the Savannah River Site.
- Dr. Marra gave a brief history of the PUREX Facility, which was used to process plutonium for the United States in the 1950s. Dr. Marra stated that the PUREX Tunnels were constructed as a way to removed failed equipment from the facility to allow production to continue.
- PUREX Tunnel 1 was constructed in the mid-1950s and filled in the early-1960s. Tunnel 1 was made of timbers and is 358 feet long, 22 feet high and 19 feet wide with 8 feet of overburden placed of top of the tunnel. Tunnel 2 was constructed similar to a “Quonset hut” type facility in the

mid-1960s. Tunnel 2 was made of corrugated steel that is 1,688 feet long. During construction there were several collapses of Tunnel 2, so the structure was reinforced with concrete beams.

- Dr. Marra briefly discussed the Tunnel 1 collapse incident on May 9, 2017. Dr. Marra that the technician who noticed something was different on that day was a very impressive catch.
- There were 11 options evaluated for stabilizing Tunnel 1. Initially the tunnel was stabilized with soil and a high-density polyethylene tarp, until a more stable option could be determined. Ultimately grouting the tunnel was the chosen as the path forward. DOE took into consideration those 11 options as possible options for stabilizing Tunnel 2. One of the suggestions DOE received from the public workshop was the use of sand/soil fill. This proved to be challenging as the granular/coarse sand does not fill the void spaces.
- In preparation for stabilization of Tunnel 1 using grout, crews used mock-ups. This process determined the grout formulation. In October 2017, the grout placement began and completed in November. A total of 521 truckloads of grout were used to fill Tunnel 1.
- An analysis of Tunnel 2 was completed. The main focus of the analysis was the “design to capacity ratio” (DCR). If the DCR is over one then it means that the structured is stressed. The DCR for Tunnel 2 was 15% above the design capacity of the structure. This indicated that Tunnel 2 has a “potential high” risk of collapse.
- The expert panel reviewed the construction drawing & photos, the structure integrity evaluation results and input from the public to assist with the evaluation for determining the best path forward. The expert panel defined the key criteria for the qualitative option analysis, which is a methodology for evaluating a number of different options on the same playing field.
- The expert panel determined that grouting Tunnel 2 is viewed as the preferred option. They unanimously determined that grout offers multiple advantages, such as flowability, cost-effectiveness, and the experience in using the same material for Tunnel 1.
- The expert panel was comprised of many different experts with a wide variety of expertise in nuclear science and environmental engineering. The members are:
 - Dr. John Marra, Chief Engineer with DOE-EM
 - Tom Fletcher, Deputy Manager with DOE-RL
 - David Kosson, Cornelius Vanderbilt Professor of Engineering, Civil & Environmental Engineering, Vanderbilt University
 - Craig Benson, Dean, School of Engineering, Hamilton Endowed Chair in Civil & Environmental Engineering, University of Virginia
 - Kathy Higley, Professor and Head, School of Nuclear Science and Engineering, Oregon State University
 - Christine Lee, Vice President, ESHQ, CH2MHill-BWXT West Valley

- Kurt Kehler, Vice President, Decommissioning & Waste Management, Canadian Nuclear Laboratories
- John Ballantyne, Chief Engineer, Nuclear Structures, CH2M-UK
- Observer: Mark Hasty, Chief Engineer, CH-Plateau Remediation Company (CH-PRC)
- There will be a Class 3 Permit Modification with a 60-day public comment period in February 2018. The modification addresses the stabilization of PUREX Tunnels 1 and 2 to reduce the potential for future structural impacts. The permit was delivered to Ecology by DOE-RL

Agency Perspective

Stephanie Schleif, Ecology, provided her perspective regarding the PUREX Tunnels update. We issued an administrative order immediately after the May 9, 2017 incident which listed 3 corrective actions. All 3 corrective actions have been delivered to Ecology. The grouting of Tunnel 2 is expected to start in summer of 2018.

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

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

Q: When DOE made the statement that grout would be used to stabilize Tunnel 1, they initially said it was going to be a low-density grout, but ended up using a higher-density grout. Why was this change made?

R (Tom Fletcher): Due to the radioactive material, there will need to be some sort of shield. So, if the material was weaker than 1500 psi we would not be able to physical pick it up in a monolithically without it crumbling.

R (John Marra): One of the things we looked as one of evaluation criteria for the expert panel was “safety of the implemented system” not only in the near-term but in the long-term. We did not want to do an interim stabilization that would buy us a big mortgage and not resolve the issue.

Q: “How did you make the decision that the grouting needs to happen this year and where is the money going to come from?”

R (John Marra): “Our charge was Tunnel 2. One of the issues we looked at as a panel was the probability of failure.”

R (Tom Fletcher): “Risk mitigation can be classified in a number of areas, such as infrastructure, facilities, trenches, tanks, etc. Tunnel 2 had many unknowns attached to it. Tunnel 2 is made of steel and when you look at steel to steel that creates punctures. The likely hood of the steel puncturing a piece of steel equipment in Tunnel 2 produces a higher risk of releasing contamination.”

Q: “I noticed in one the slides, there were two pipes sticking out of Tunnel 1. Are those sampling access and is there sampling access in Tunnel 2?”

R (Tom Fletcher): “There is better access in Tunnel 2.”

Q: “Have they been reading taken for radiation for Tunnel 2?”

R (Tom Fletcher): “That is the first action that the contractor will do before proceeding.”

Tom Galioto, RAP committee member will send in a list of questions for further response from DOE.

K Basin Sludge Removal Update

Agency Presentation

Dale Engstrom introduced the topic of the K Basin Sludge Removal update and Mark French.

Mark French, Federal Project Director for Sludge Removal, provided committee members an update on the K Basin Sludge progress, including additional river corridor project updates.

Key points from Mark French’s presentation included the following:

- Sludge is a highly radioactive material, which being stored under water in the 105KW Basin. The 105KW Basin is located next to the Columbia River. The sludge is to be removed from the basin and put into safe storage.
- In Fiscal Year 2017, modifications to the T Plant were completed, as well as the installation of hardware in the 105KW basin. The K Basin Pre-Operational Acceptance Testing (KPAT) was completed in October and a 1,000-page report of findings was produced.
- The sludge removal project was transferred to the 100k operations in November. Workers are preparing for the Operations Readiness Review (ORR), which is focused on the performance demonstrations. The contractor ORR will begin later this month. Once the contractor ORR is complete, a declaration will be created and sent to DOE for the DOE ORR to begin. Ultimately the ORR will go to DOE Headquarters for final approvals.
- The T Plant will be where the K Basin sludge will be stored, as well as the empty Sludge Transportation and Storage Containers (STSCs).
- Summary of the schedule shows the start of sludge removal to begin at the end of March 2018 and finish by the end of March 2019. The current TPA milestone for starting sludge is September of 2018 and finishing December 2019. The progress is ahead of schedule.

Additional River Corridor Projects and Progress Update

- The work in the 100 area has been focused in K, as the remediation in the river corridor is complete in the 100 areas. The project management team has begun the planning for installing the safe storage enclosure.
- The 618-10 burial ground backfill remediation has been completed. This is one of the successful projects in the river corridor to date. Backfill is about 60% completed. 316-4 and 600-63 are completed with backfill.

- The RAP committee is due to receive an update of 324 in February. Currently at 324, the crews are preparing for 296 waste site remediation. Crews are cleaning out the hot cells A/C/D, as well as the airlock itself has the debris removed.

Agency Perspective

Rod Lobos, EPA gave his perspective on the recent progress for the sludge removal project. DOE has done a great job in the robustness of how they have done through the design process and getting all the kinks worked out. We do not anticipate many issues. The process should go smoothly as there was a lot of preparation work completed. This is the first phase of the sludge removal project. There is another TPA milestone to come up with treatment for the sludge. We will also need to determine where the sludge will go. There are certain things that we will need to look at. We are well underway and ahead of schedule.

Ron Skinnerland, Ecology gave his perspective on the recent progress for the sludge removal project. EPA is the lead for this project, but we are working with them on the T Plant facility and how the sludge will be safely stored. Were working with DOE to determine the treatment technologies. We are interested the safe storage but also the treatment and getting the process moving forward.

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

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

C: “This is concerning, as we don’t know where the funding will come from.”

R: “I don’t know what will happen, but were funded. This is a priority to get the sludge away from the river.”

Q: What sort of container will sludge be stored in? Will you have to tear down the annex once you stop using it?”

R: “The STSCs are made out of ½ inch steel, so it’s a pressure vessel and very robust. They are about 6 feet tall. Once the sludge has been transferred, the same process will be used for the filter media (garnet and sand), then when the basin is teared down, so will the annex.

R: The MASF facility mock-up is very valuable to be able to test the system, which has enabled us to get where we are with the process.

Q: “Is the final Record of Decision (ROD) for the 100 BC currently underway?”

R: “Yes, that is being worked on.”

Q: “What about the 100 DH ROD?”

R: “That ROD is close to being final.”

Attachments

Attachment 1: Plutonium Finishing Plant Update

Attachment 2: Plutonium/Uranium Extraction Facility Tunnels Update

Attachment 3: K Basin Sludge Transfer Update

Attendees

Board Members and Alternates:

Dale Engstrom	Jan Catrell	Gary Karnofski
Margery Swint	Tom Galioto	Dave Rowland
Richard Bloom	Helen Wheatley	Rebecca Holland
Sam Dechter	Shelley Cimon	Paige Knight
Pam Larson	Gene Van Liew	Liz Mattson (Phone)

Others:

Mark Heeter	Colin Tebay, MSA	Terry Vaughn, CHPRC
Ginger Wireman, Ecology	Gail Splett, DOE-RL	Tom Rogers, WDOH
Annette Cary, Tri-City Herald	Jeff Dennison, WSU TC	Jennifer Copeland, CHPRC
Crystal Mathey, WDOH	Annie Mclain, WDOH	John Martell, WDOH
Mike Priddy, WDOH	Tom Teynor, DOE-RL	Stephanie Schleif, Ecology
Joanna Morse, Ecology	Dana Gribble, MSA	Jenn Colborn, MSA
John Marra, DOE-HQ	Ron Skinnerland, Ecology	Connie Krull, CHPRC
Rod Lobos, EPA	Jeff Lerch, CHPRC	Mark French, DOE-RL
Lindsay Strasser, ProSidian	Melissa Amaro, ProSidian	