



**FINAL MEETING SUMMARY**

**HANFORD ADVISORY BOARD**

*September 18 & 19, 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.*

## **Executive Summary**

### **Hanford Advisory Board (Board or HAB) Action**

There was one letter adopted and two pieces of advice adopted at the September Board meeting.

### **Presentations & Updates**

The Hanford Advisory Board received the following presentations and updates:

- Tri-Party Agreement (TPA) Agency Updates
- Cumulative Impact Evaluation (CIE)
- Grout
- Committee Reports

### **Public Comment**

There were no public comments received on September 18.

Susan Leckband, League of Women Voters and Board Chair, called the meeting to order. The meeting was open to members of the public and offered two opportunities for public comment.

The Board meeting was audio-recorded.

### **Welcome & Announcements**

James Lynch, U.S. Department of Energy (DOE) Office of River Protection (DOE-ORP) and Deputy Designated Federal Officer (DDFO) for the Board, noted that the meeting was in accordance with the Federal Advisory Committee Act (FACA).

Susan Leckband welcomed members to the Hanford Advisory Board (HAB) meeting. Susan provided members with an overview of the meeting agenda and objectives.

Ruth Nicholson, HAB Facilitator, provided members with informational announcements.

Susan Leckband confirmed the adoption of the [June Board meeting summary](#).

### **Tri-Party Agreement (TPA) Agency Updates**

#### *U.S. Department of Energy (DOE)*

Brian Vance, Site Manager for DOE-ORP and DOE Richland Operations Office (DOE-RL), provided Board members with a presentation highlighting past, present, and future Hanford Site activities. Brian noted the following key points in his presentation<sup>1</sup>:

- It's remarkable the amount of cleanup that has happened here. Safe, efficient, and effective clean up to protect the national resources of the Columbia and central Washington. It is important to think back on the amount of effort we have made in cleaning up.
- Progress is phenomenal. The progress has made Brian more optimistic about the future and is hopeful about the progress the team will build on and continue to do so moving forward.
- Brian wants to be focused on thinking about the people aspects, infrastructure, and maintaining tank integrity while reducing risk. He noted his belief that collaboration is critical to success.

#### *CH2M Hill Plateau Remediation Company*

Ty Blackford, President and Chief Executive Officer for CH2M Hill Plateau Remediation Company, gave an update and provided members with the following key points:

- This is an exciting time. Our company's main goal is to get off the river which has been our goal for the last 15 years. We have made a lot of progress treating nearly 2 billion gallons of water a year. There is still work to do, but there is progress being made.
- Most of the wells are cleaned up, and we are moving into the soils.

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<sup>1</sup> [Past, Present and Future](#)

- As of last week, we removed sludge in the 100 K, so we completed the most important part of the mission so we can move into cleaning the Basin which is achievable within the next 3-5 years.
- The waste site cleanup along the public highway was finished.
- The 300 Area is a big focus, and it is a challenging project as most labs are. We plan on closing the area in 3-5 years.
- Strontium is a major risk that our project team needs to address. We will start work on the early next year and begin to physically move capsules with expectations to be completed by 2025.
- In the Plutonium Finishing Plant, our project team will be heading into high risk portions of the project.
- Tank waste is also something key to the mission, so our project team will be moving it forward while we remove and handle risk at the site. If we are delayed or something goes wrong, it impacts the rest of the mission. We will be working with other contractors while we work on the Plateau.

He wrapped up noting that he has spent a great deal of his life working on high-level waste challenges and has seen it from different perspectives. There is both excitement and anxiety in the air. It is the excitement that drives the team and the collaboration that is needed to be successful.

#### *Washington River Protection Solutions*

John Eschenberg, Washington River Protection Solutions, gave an update and provided members with a few key points:

- There are 3,000 employees solely focused on making glass.
- There are four areas of focus:
  - Consolidating waste from older single shell to newer double shell tanks
  - Improving the infrastructure
  - Focus on treating the tank waste
  - Ensuring tank integrity
- We have a high level of confidence that we understand what is going on in the tanks.
- The first element is the A and AY Tank Farm retrievals.
- John explained that his company is all about protecting the Columbia River and discussed its accomplishments including:
  - Risk reduction in operations.

- Upgrading infrastructure across the entire enterprise, such as roadways and control rooms.
- Running 24-hour operations.
- Piloting new technology and leveraging technology to reduce risk.

*Bechtel*

Valerie McCain, Project Director for the Vitrification Plant for Bechtel, gave an update and provided members with the following points:

- The facilities are in place to support the focus of the current project and show visible progress of Direct-Feed Low Activity Waste (DFLAW) approach to get to glass.
- They are deep in the startup phase in the project. Many of the facilities are still going through testing, but they are all on which is a significant accomplishment deal given the history and length of time the equipment has been in place.
- Seventy percent (70%) of them are in commissioning, and over 60% of lab systems have been through startup and are in lab commissioning.
- Key activities to be worked on:
  - Hiring permanent plant staff
  - Moving into some of the facilities for operations

Valerie noted the company's project team's optimism is being noticed, and it is a privilege to be associated with the project at this time.

*Mission Support Alliance (MSA)*

Bob Wilkinson, President of Mission Support Alliance (MSA), gave an update on the company's work with the following points:

- At its core, MSA has one purpose: to enable other Hanford contractors to do what they need to do. It does that by providing rapid, efficient, and scalable methods which allow it to make its services transparent.
- MSA has helped with cost avoidance and savings in the last few years, integrating into the entire Hanford Site.
- There is an increase in data demands across the Hanford site. The data is coming in a rapid fashion, and decisions will continue to be made based on this data.
- Over the last 10 years, MSA has used back logs and projections assembled together to make evaluations to upgrade infrastructure.

Bob noted that over the last few years, he is starting to feel true collaboration and partnerships.

Brian Vance, DOE, wrapped up the session sharing that DOE is looking to find ways to be more efficient and work together more effectively.

*Washington State Department of Ecology (Ecology)*

Stephanie Schleif, Ecology, noted the following key points from her presentation<sup>2</sup>:

- On July 11, TPA system plans negotiations were concluded. Ecology and DOE-ORP are preparing a fact sheet to summarize them.
- Ecology proposed holistic negotiations of tank waste retrieval.
- On September 4, DOE-ORP notified Ecology of “serious risk” to Consent Decree Milestones.
- There have been 72 planned, processed, and completed permit modifications.
- They are working on Rev. 9 permit issues and correcting any deficiencies to the application.
- Ecology is working with DOE on recruitment, internships, and succession planning by doing things such as hosting job fairs. They plan on updating their own internship program.
- She reviewed upcoming opportunities for public involvement for other permits.
- Stephanie introduced new employee Dan Thompson.

*U.S. Environmental Protection Agency (EPA)*

Emerald (Emy) Laija, Environmental Scientist at the U.S. Environmental Protection Agency (EPA), gave a presentation on the 200-ZP-1 Remedy Optimization Effort. Emy noted the following key points in her presentation<sup>3</sup>:

- Emy reviewed the definition of Adaptive Management clarifying that when new data comes in, they can adapt to the technology and reduce uncertainties to have a better clean up.
- In September of 2012, EPA released a report that looked into identifying the national strategy to expand Superfund. There are opportunities to become more efficient overall, including becoming better and less expensive to reach final cleanup goals.
- There is an opportunity for improvement in the 200 West area. There is a heavy focus on the higher concentration part of the plume.
- EPA’s current challenges are:

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<sup>2</sup> [Department of Ecology Agency Update](#)

<sup>3</sup> [200-ZP-1 Remedy Optimization Effort](#)

- More carbon tetrachloride has been found. They are looking to study the lower part of the area to see what is happening.
- When it wrote the Record of Decision (ROD), EPA thought it was originally disintegrating within 41 years. Since, based on research, it has discovered it will take around 630 years.
- The current nitrate plume distribution is a very big challenge. The carbon tetrachloride is a primer, and the nitrate fluidized bed reactor is the “bottleneck” which has an impact on the injection wells because it grows and plugs up the wells which then requires cleanup. They are working towards understanding nitrate to better understand how they can better remediate. The current remedy as designed will not meet objectives because the larger carbon plume is a significant risk driver.
- The plan is to suspend biological treatment for a specific amount of time, do a study, and analyze the data. There is no intent to change the cleanup levels but rather to see if a different alternative will work more efficiently.

Emy also highlighted the EPA Federal Facilities Academy<sup>4</sup> notifying Board members of a voluntary training program for those who work on federal facility Superfund cleanups.

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

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

C: “I came to this site 40 years ago. Our efforts were not in vain. To see where we came from, the current pictures show that we are pretty progressive. It’s great to see we have made a lot of progress while we understand we have a long way to go. I appreciate being able to sit here all these years later and say thank you for this progress. This provided some context to me that what you’re doing is moving the baton.”

C: “I attended my first board meeting 25 years ago. I had the opportunity to observe the DOE presentation, and I was proud of everyone and thought they did an excellent job. I am very encouraged to see the accomplishments at Hanford. In terms of magnitude, I want to say congratulations and I am very appreciative.”

*Q: “My question is for Valerie. You mentioned commissioning technicians. Can you give me an overall view on what a technician is and what the training is like? How can someone go about this if they are interested in being in the program?”*

R: “The commissioning techs that we have on board are going through trainings on all the various facilities within the vit plant. I mentioned they are getting trained on operating the plant. The offsite simulator is doing training in a mock control room. The training varies depending on the system they’re learning. We are onboarding and don’t expect issues from the oncoming group.”

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<sup>4</sup> [EPA Federal Facilities Academy](#)

C: “We want to thank you for the updates given from everybody. Seeing the progress that has been made and if you worked on the site as I have since the 1980’s, it is significant. Though, there is much more to do.”

*Q: “Are the compliance reports publicly available?”*

R: “Yes, they are publicly available, and you can see the DOE responses to those reports.”

*Q: “If we increase pumping of nitrate, will it increase biofal?”*

R: “We will have more in-depth conversation with technical questions associated with the HAB RAP in October. For those specific questions, we would like to refer those to the RAP meeting at this time.”

C: “It’s really heartening to open this discussion to this group in a larger more inclusive way. In going back to the workshop last week, it was very apparent and has been that if we don’t all get on the same page on this site, we will experience funding problems in the future.”

*Q: “Later on in our agenda today we are discussing the draft advice on disclosure on budgeting information and improving public involvement in the budget process. We have seen tremendous decline in public involvement and funding. My question is what is the commitment to public transparency and disclosure? Without understanding 148 and 149, we cannot understand what DOE will fund.”*

R: “The language that’s in the TPA in 148 and 149 is something the agencies have struggled with for a long time. The Regulators [EPA and Ecology] have also been experiencing frustration with DOE and the budgeting process. We want to get back to having information so we can have fruitful conversations.”

R: “There is some outdated language in 148 and 149. We are going back form the beginning and going line-by-line to decide what needs to be changed. We need to start a tentative agreement which we haven’t started yet. I expect to have public meeting and comments when we make those changes.”

*Q: “With the new change over to the IDIQ [Indefinite Delivery, Indefinite Quantity] contract task orders, does it give you the ability to be more responsive, and is that an enhancement from your position?”*

R: “There are some upsides to the agency key contract model. We will identify work from an integrated approach and list what specific scopes to allocate. We can look at it from a risk reduction perspective and offer more latitude to go out and be more efficient and effective. We are looking on bringing in more contractors and refining how contractor can reduce uncertainty that can sometimes be attached to the work we do. It is complicated, and we will have to be more sophisticated.”

*Q: “What is the public involvement process for an optimization plan for the Z-P-1, and how is it related to the CERCLA 5-year review?”*

R: “For the public involvement process, there are no requirements under CERCLA because of the phase they’re in. Although there are no public involvement requirements, we still want to be transparent with the public and the HAB as this relates to the five-year review process. While they’re parallel and related, the optimization will help inform the five-year review.”

*Q: “For ORP, can you update us the recent sluicing failure at AX-102?”*

R: “We’re starting retrievals as of two weeks ago. Last Friday, we had 2 operational issues. One of the arms was bent, and we are trying to figure out what caused the arm to bend. We want to understand if it was bumping into the waste to cause it to bend, or if there were other factors. In the pit, one of the connectors started to leak. We identified this by camera. We don’t know the cause of this leak. We will take it apart and get into the pit to discover the solution. It’s important to proceed slowly to understand what caused it to leak, so we can understand to the best of our ability what happened.”

*Q: “We have been hearing a lot about the holistic look at tanks in the future. It seems like there are big changes coming in the next eight months. How do you envision the role of the public and the Board as you’re heading that direction?”*

R: “This is largely centered on the high-level waste fraction on the tank waste. DFLAW is moving forward and will continue to move forward. There are a number of public disclosures surrounding this and the technical issues. The design is not complete so that is an aspect of it. We won’t get results until the July time frame for the next year.”

*Q: “Is there a way we can find how we might be included in interim process and how you might utilize us so it’s not a done deal?”*

R: “One process is going through a judge, which there would be no public comment. Another is the Tri-Party Agreement process which offers the opportunity for comment.”

### **Public Comment Opportunity**

There were no public comments on September 18.

### **Grout**

*DOE*

Vanessa Turner, Tank Farms Team Lead for DOE, provided Board members with a presentation on Grout. Vanessa noted the following key points in her presentation<sup>5</sup>:

- DOE intends to use grout as stabilization of secondary waste.
- Vitrification generates substantial secondary liquid waste.
- In 2017, DOE Environmental Management funded a study through the Savannah River National Laboratory to conduct an analysis on waste treatment at Hanford. It identified three viable options: vitrification, grouting, and steam reforming.
- Future applications should look to risk and cost reduction.
- DFLAW remains DOE’s priority.

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<sup>5</sup> [DOE Grout](#)

*Pacific Northwest National Laboratory (PNNL)*

Matt Asmussen, PNNL, provided Board members with a presentation on Grout. Matt noted the following key points from his presentation<sup>6</sup>:

- Primary concerns are capturing all the liquid waste and the strength of the grout material.
- The main goal is to generate data to support disposal facility performance assessments which require long-term performance.
- Currently, there are over 80 documents released as a result of this grout development program. These model the long-term grout chemical environment along with current research that assess waste form types.
- Grout is baseline technology used in several applications at Hanford. The modeling efforts are ongoing.

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

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

*Q: “The new glass formulas will allow for treatment of all waste in 40 years or less? Is that in conjunction in developing the grout? Are both formulas are being looked at the same time?”*

*R: “They are both being researched and both have applications that are better fit for at the Hanford site.”*

*Q: “This leads me to think there are a lot of applications currently and a lot that you are developing. What percentage we are using now? How are we going to go forward to know glass and grout balance out?”*

*R: “DOE expects to receive information in October and January that will help with a path forward. When DOE is ready to identify the alternative, it will follow the established regulations.”*

*Q: “What are those wide options, and what is it that we know and don’t know?”*

*C: “The intent is to start the conversation and start work on the technical details for the future.”*

*Q: “At what point do we have enough information and can move forward? What does the decision and application look like in the process? When do you have enough data?”*

*R: “The report will lay out the framework, and we look forward to receiving those recommendations. We know enough to dispose offsite. We have enough information to move forward constructively.”*

*Q: “There has been a huge financial commitment to vitrification. There is a natural kind of defense against using grout because it doesn’t seem as stable as glass. We know it has been used successfully, but on the other hand, you’re telling us the improvements of grout have been substantial in a way so one can envision a time where grout can be as stable as glass. The similar field test intrigues me seeing grout and*

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<sup>6</sup> [PNNL Grout](#)

*glass being put together at the same time to see which one would provide better success. Will there continue to be improvements in grout that can improve stability similar to glass?”*

R: “We have extensive glass form testing programs. We want to ensure accurate representative for both glass and grout. It’s our job to look for opportunities to see where grout can be used.”

*Q: “I am curious why silver is the number 1 for iodine? It’s similar testing and a lot of the grout testing so far use beta water nearby the IDF [Integrated Disposal Facility]. I have problems with that.”*

R: “Silver has always been the baseline for iodine. We acknowledge there is a risk with using silver and are considering other ways that are more environmentally friendly and cost effective.”

### **Draft Advice: Disclosure of Public Information and Meaningful Public Involvement in Setting Cleanup Budget Priorities**

Gerry Pollet, Heart of America Northwest, introduced the Disclosure of Public Information and Meaningful Public Involvement in Setting Cleanup Budget Priorities draft advice. Gerry provided members with an overview on disclosing information, being transparent and enabling the public to review and comment effectively.

Members had the opportunity to make revisions on September 18. All concurred and decided to move forward for final approve at the September 19 meeting.

Following the incorporation of agreed upon revisions suggested and minor wording changes, the Board approved the draft advice on September 19.

### **Draft Advice: Traffic Safety**

Rebecca Holland, Chair of the Health, Safety, and Environmental Protection (HSEP) Committee, introduced and provided an overview of the draft advice on Traffic Safety.

Members had the opportunity to make revisions on September 18. A few members planned to present some revised wording on September 19 before the Board would be asked to come to consensus on the draft advice.

Following the incorporation of agreed upon revisions suggested and minor wording changes, the Board approved the draft advice on September 19th.

### **Draft Advice: Letter of Appreciation on Completion 618-10 Revegetation**

Jan Catrell, Chair of the River and Plateau (RAP) committee, introduced the Letter of Appreciation on Completion of 618-10 Revegetation. She expressed appreciation for the closure of 618-10.

Following the incorporation of agreed-upon revisions, the Board approved the draft letter on September 18. Members agreed to distribute the Letter of Appreciation to the DOE, EPA, and Ecology.

## **Review & Approval of FY20 HAB Proposed Work Plan and Calendar**

### *Workplan*

Susan Leckband, Board Chair, provided an overview of the proposed Fiscal Year (FY) 2020 HAB work plan<sup>7</sup> and calendar. Members took the time to review the proposed work plan and calendar. Susan announced senior staff and other members have worked in collaboration to make things as broad as necessary so when issues emerge, they can fit within the work plan.

### *Calendar*

James Lynch, DOE, reviewed the FY2020 HAB calendar<sup>8</sup> for the upcoming year.

He announced the upcoming change for November 2019 in which committee meeting placeholders will be moved from November 5, 6 and 7 to November 12, 13 and 14. In addition, the committee call placeholders will be moved from November 12 and 13 to November 19 and 20.

Susan Leckband, Board Chair, also provided an update on the 25<sup>th</sup> anniversary party planned for December 4.

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

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

C: “With the ROD [Record of Decision] coming out in October, cover page #1 in the River Corridor section of the workplan, I would like to have the 100-BC added.”

C: “For the winter meeting, we talked about having a back up date in case the weather is bad.”

R: “We are still looking at that in terms of availability. This might be a possibility.”

Q: “Are we definitely going to have two COTW meetings?”

R: “We will have one in the fall and one in the spring time.”

The Board approved both the workplan and calendar by consensus.

## **HAB Committee Reports**

### ***Tank Waste***

Steve Wiegman, Public-At-Large and Tank Waste Committee (TWC) Vice Chair, provided an update from the TWC Committee. The primary thing is to ensure they are as current as possible to be useful and keeping conversations lean enough so people are not lost in the data. The grout topic will be on the agenda. They would like to be proactive by supporting the Waste Management Area C performance assessment if agencies can support that conversation. The analytical tools agencies are using for the

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<sup>7</sup> [FY2020 HAB Work Plan](#)

<sup>8</sup> [FY2020 HAB Calendar](#)

System Plan 9 alternatives are helping them understand the options to move towards completion of the project. The high-level and pre-treatment facilities are also something they are working on.

The TWC requested a committee call in September.

### ***River & Plateau***

Jan Catrell, Public At Large and River & Plateau (RAP) Chair, provided an update regarding the RAP committee. The RAP Committee held a joint meeting with the Health, Safety & Environmental Protection (HSEP) Committee on September 16, 2019. The committee discussed soil and flushing test, 324 building cleanup, and received a briefing on the 100-BC Proposed Plan.

The RAP requested a committee call in September.

### ***Health, Safety & Environmental Protection***

Rebecca Holland, Hanford Atomic Metal Trades Council (HAMTC) and Health, Safety & Environmental Protection (HSEP) Chair, provided an update regarding the HSEP committee. The HSEP held a joint meeting with the River and Plateau (RAP) Committee on September 16, 2019. HSEP addressed several topics including the work plan, focusing on the upcoming meeting in November, and working on the draft advice on traffic safety.

The HSEP committee will not have a call in September. HSEP has requested a committee call in October.

### ***Public Involvement & Communications***

Jeff Burrigh, Oregon Department of Energy and Public Involvement & Communications (PIC) Committee Chair, provided an update regarding the PIC Committee. The PIC had a meeting on September 17, 2019 covering several topics including Hanford Live. Jeff announced that on October 29 there would be a public meeting on Waste Management Area C and on October 31, the National Academy of Sciences will have a public meeting to talk about treating low-activity waste.

The PIC committee will not have a call in September. PIC requested to have a meeting in December.

### ***Budget and Contracts***

Emmitt Jackson, Vice Chair of the Budgets and Contracts Committee (BCC), provided an update the BCC Committee. The BCC Committee will be forming an Issue and Manager team to develop draft advice on budget priorities for FY2022. The draft advice should be available in the Spring 2020 timeframe.

The BCC will have a committee call in both September and October.

### ***National Liaison***

Pam Larsen, City of Richland and National Liaison, provided Board members an update on multiple issues.

## **Budget**

The Senate included a bill to provide \$7.45 billion in fiscal year 2020 for the EM program as a whole. The Nuclear Cleanup funding was \$7.2 billion approved by the House and \$6.5 billion proposed by the Trump administration. The Senate would provide Hanford with \$2.5 billion spread across the two DOE offices at Hanford. There will be a compromise between the House and Senate bill.

## **Idaho**

The Idaho Facility has not been able to make the steaming reforming facility work. It still doesn't have a clear strategy. Although the facility was finished in 2012, it has never worked due to design problems. They also have been operating an advanced waste treatment project and have saved a lot of space from doing that. They will be shutting down the facility. In October, the mission will be complete. Shipping the material is expected to take 10 years.

## **Oak Ridge**

What makes Oak Ridge unique is it has torn down its uranium processing facilities as well as others. This means it turns the land over for reuse very fast. They have done a lot of industrial use for their land. The controversy for them is their desire to rebuild a new on-site landfill that drains into a creek.

## **Savannah River Site**

The Savannah River Site grouts its waste. In Unit 8 there will be a 32-million-gallon volume concrete structure that will permanently house radioactive salt waste. It will be one of several units that store salt waste at the Savannah River site.

## ***EM SSAB***

Susan Leckband, League of Women Voters and Chair of the Board, informed members there will be an Environmental Management Site-Specific Advisory Board (EMSSAB) meeting in October in Idaho.

## **Public Comment Opportunity**

There were three public comments received on September 19.

C (Randy Slovic): "We need to start thinking about what we are going to do with all these extra cars. We need to create safe bike lanes and other forms of transportation. I would like to know how we're going to solve that problem as we look at even more roads?"

C (Ginger Wireman): "I wanted to notify everyone there is a public health meeting later in the day."

C (Zaila Kroviak): "I've lived in Richland for 30 years and I've seen how traffic has changed. I've noticed it has substantial impact on the people who live in town. The pedestrian deaths are on the rise in Washington and bicyclists are put in risk. It's important we give people the choice in how they get around. For people who live closer, those are less cars on the road. I ask you to look into ways that you can incentivize workers in those peak hour times."

## **Cumulative Impact Evaluation (CIE)**

Doug Hildebrand, DOE-RL, gave a presentation on the Cumulative Impact Evaluation. The following are key points from the presentation<sup>9</sup>:

- The contaminant plumes in the soil and groundwater drive the need to understand cumulative impacts. There is the need to evaluate the impacts, corrective measures, and closure actions using consistent approaches under a common framework.
- The scope of the initial cumulative impact evaluation (CIE) consists of inventory, vadose zone, and groundwater. The initial CIE development models will evaluate the contaminant fate for 1,000 years.
- DOE is working on the following:
  - Establishing the foundation
  - Procuring, installing, and testing of the computing system
  - Identifying the soil inventory
  - Completing the model development
  - Developing the integrated computational framework
- Updates on the cumulative impact maintenance plan involve updating the databases periodically. The future visions of CIE can expand as needed within the timeframe or within the range of the end state conditions for ground water.
- The vadose zone models for the 200 West Area are constructed for the areas that do not have existing models.

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

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

C: “We have good working people and involvement on this. This is what we aim for in CERLCA. We have had our USGS [U.S. Geological Survey] tech folks look over documents, and they will continue to be involved. We agree there is a need for this activity”

Q: “Ecology invested a lot in the Tank Waste closure model. Do you have an estimated total cost through putting this model together for 2021?”

R: “We spent about \$5.7 million.”

Q: “Looking at the unplanned released reports, are we including the underground injection well and little spills from the 1970s? If things are being excluded, are we pulling those from the documents? And do they get reflected back to the databases or just in the reports?”

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<sup>9</sup> [Cumulative Impact Evaluation](#)

R: “In the database, there is a procedure in that process. As an example, let’s take the 100 Area. The documentation gets added to the database indicating it has been cleaned up. Technically it’s not removed, but it is a legacy if it was partially removed. At least you know there has been partial removal and can go back to access that.”

C: “This gives a 3D perspective of what is there. I look forward to everyone having more information.”

*Q: “Can I hear the definition of hydrostratigraphy? Does it provide lateral transport in the data zone?”*

R: “As dirt got laid down, dirt came in different sizes. It comes in course, silty, or clay as it is laid down, and if it is large enough then we can map it. The hydrostratigraphic perspective looks at the geography so with that comes with hydrologic properties which depend on the scale. Right now, the map covers a very large area.”

C: “It is good we are doing this, and people are asking how things flow based on the different types of layers. We’ve learned lessons here and just keep them with us so when it’s rolled out, we understand it is incorporated, and we will deal with that.”

C: “There are concerns with the models, because in the past, we have pinned on one model and using that as the absolute truth. We need to think about how this issue is dealt with and thought about, not ignoring other possibilities.”

R: “You’re right. Models should be used for help but not taken as the absolute correct answer.”

*Q: “How detailed is the feedback you’ve been getting?”*

R: “If we have a forecast and a calculation forward over on a month, day and year, the volume reported is exactly honored in the model. We periodically compare what comes out of the sample wells. The plant does this to keep track of the model, and it compares pretty favorably. We do samples relatively frequently, so they know how much comes in and what they are.”

*Q: “Looking at page 16, does this model hold true across the Hanford site on the Central Plateau?”*

R: “We account for the different layers. The Hanford formation has different grades of sediments which are referred to as H1, H2 and H3.”

*Q: “Page 9 and 18 talk about reasonable simulation. What defines reasonable in this instance?”*

R: “When we talk about reasonable simulation, we’re really talking about the time.”

*Q: “I can envision a time where we relied on a model where it told us how we’re doing and what we’ve done. Is there a vision where we might use this as site stewardship as part of the future?”*

R: “It could be used if it turns out that we collectively agree that partial removal will be enough. If in the future, it turns out we are seeing impacts, for example, in the 300 Area, and it wasn’t working out how we thought it was going to work, then I would envision this tool in that if we made a decision, and we start to see something behaving differently in the future, we hope the model will be adjusted.”

*Q: “There is not a firm plan on how this will be used?”*

R: “That is correct. Right now, we are focused on remediation decisions for the Plateau.”

*Q: “What base information on pump and treat is incorporated into this process?”*

R: “It wasn’t set up, and the design did not account for the pump and treat. We had to add that in.”

C: “The Board has been asking for an overall cumulative impact analysis. It is a great interest since it will be the foundation for final Records of Decision.”

### **Board Business**

The following were identified as potential products for upcoming meetings:

- HSEP expects more transportation draft advice, perhaps to be brought to the December Board Meeting.
- PIC does not anticipate developing any draft advice at this time.
- TWC may be developing draft advice depending on discussions.
- RAP plans to create a response to the alternatives in the 100-BC Proposed Plan.
- BCC requested Issue Manager team volunteers from each HAB committee by December to help develop draft advice on FY2022 budget priorities.

At the Committee of the Whole (COTW) in October, the HAB anticipates that it will determine and reconfirm committee work priorities.

### ***Closing Remarks:***

Susan Leckband, HAB Chair, and Jim Lynch, DOE and DDFO, thanked Board members for their attendance, thoughts and decisions.

JoLynn Garcia, DOE Federal Coordinator for the HAB, reminded members to fill out their expense reports and travel requests.

Gary Garnett announced his resignation. The Board expressed its appreciation for his work and contributions.

The meeting was adjourned.

### **Attachments**

**Attachment 1:** Hanford Past Present Future (DOE and contractors)

**Attachment 2:** Agency Update (Ecology)

**Attachment 3:** 200-ZP-1 Remedy optimization Effort (EPA)

**Attachment 4:** Federal Facility Academy (courtesy of EPA)

**Attachment 5:** Grout Progress (DOE)

**Attachment 6:** Grout Development and Technical Approach (PNNL)

**Attachment 7:** FY2020 HAB Work Plan

**Attachment 8:** FY2020 HAB Calendar

**Attachment 9:** Cumulative Impact Evaluation (DOE)

**Attendees**

**Board Members and Alternates:**

Susan Leckband, Member	Shelley Cimon, Member	Larry Lockrem, Alternate
Jan Catrell, Member	Jeff Burrigh, Alternate	Gene Van Liew, Member
Dawn Wellman, Member	Kate Griffith, Alternate	Bob Legard, Member
Jacob Reynolds, Alternate	Steve Wiegman, Member	Fred Brink, Member
Rodolfo Mendoza, Alternate	David Bolingbroke, Member	Gary Garnant, Member
Kristie Baptiste, Member	Chuck Torelli, Member	Emmitt Jackson, Member
Phil Lemley, Alternate	Gerry Pollet, Alternate	Pam Larsen, Member
Richard Bloom, Alternate	Rebecca Holland, Member	Robert Davis, Member
Mike Bosse, Alternate		

**Agency, Contractor, and Support Staff:**

JoLynn Garcia, DOE-ORP	Jim Lynch, DOE-ORP	Brian Vance, DOE
Randy Bradbury, Ecology	Glyn Trenchard, DOE	Paul Schroder, DOE
Ty Blackford, CHPRC	Brian Stickney, DOE	Pam Zimmerman, DOE
Ashley Morris, DOE	Trish Sunvama, DOE/ANR	Jeff Lerch, CHPRC
Delmar Noyes, DOE	Darci Lerkkb, MSA	Jeff Frey, DOE
Ginger Wireman, Ecology	Anne Knapp, Ecology	Rob Roxburgh, WRPS
Rob Hastings, DOE	Jim Alzheimer, Ecology	Elvie Brown, WRPS
Tom Fletcher, DOE	Alex Teimouri, DOE-EM	Mark Heeter, DOE
John Price, Ecology	Peter Bengston, WRPS	Patrick Conrad, MSA
Stephenie Schleif, Ecology	Ruth Nicholson, ProSidian	Moses Jaraysi, CHPRC
Tom Rogers, WA DOH	John Martell, WA DOH	Matt Asmussen, PNNL

Tom Teynor, DOE-RL	Jennifer Copeland, CHPRC	Maria Skorska, Ecology
Mark Tripirtt, PNNL	Craig Cameron, EPA	Jerry Yorm, Ecology
Suzanne Dahl, Ecology	Meghann Stewart, DOE-RL	Hium Nichols, CHPRC
Jon Lindberg, Ecology	Dib Goswami, Ecology	Michael Cline, DOE/RL
Ashley Herring, ProSidian		

**Members of the Public:**

David Swale, BWXT	Ed Wannemzoher, BWXT	Cynthia Rodli
Steve Alsm	David Swale, BWXT	Randy Slovic
Zaila Kowak	Greg Rustauff	A.Paul Lognnios, RJ Lee Group