



Meeting Minutes

HANFORD ADVISORY BOARD (HAB, Board)

Full Board Meeting

May 7 and 8, 2024

Hybrid Meeting- In-person and via Microsoft Teams

Topics in this Meeting Summary

Opening.....	2
Tri-Party Agreement Agency Joint Briefing- Holistic Negotiations	2
Virtual Hanford Tour.....	10
National Liaison Report.....	11
Environmental Management Site-Specific Advisory Board Spring Meeting Debrief	11
Draft Advice on Transuranic Waste	13
Discussion on Responses to HAB Advice #315.....	14
Tracking Restoration and Closure (TRAC) Overview	16
HAB Meeting Survey Responses	19
Status Updates on Previous HAB Action Items	22
Committee Reports	22
HAB Administrative Business.....	23
Public Comment	24
Meeting Recording	24
Attachments	24
Meeting Attendees.....	25
Appendix A: National Liaison Report.....	29
Appendix B: Advice on Transuranic Waste as Adopted.....	31
Appendix C: Draft Feedback Related to Responses to Advice	37

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

Lindsay Somers, US Department of Energy (DOE) representative and Deputy Designated Federal Officer (DDFO), opened the meeting in accordance with the Federal Advisory Committee Act (FACA).

Susan Coleman, Public at Large representative and HAB chair, welcomed participants and provided opening statements.

Susan informed everyone that May 15th was the anniversary of the Tri-Party Agreement (TPA) signing and, with this big anniversary coming up the following week, it made the anticipated Holistic Agreement presentation very timely. She explained that the TPA was an agreement for achieving compliance with the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) remedial action provisions and with Resource Conservation and Recovery Act (RCRA) treatment, storage, and disposal regulations and corrective action provisions. She mentioned that this meeting would include an update of the agreement reached as a result of holistic negotiations between the three agencies to propose a realistic and achievable course for cleaning up millions of gallons of radioactive and chemical waste from large underground tanks of the Hanford Site. Following voluntary mediated sessions that began in 2020, the agencies have signed a settlement agreement and proposed new and revised cleanup deadlines in the TPA and *Washington v. Granholm* Consent Decree.

Susan recognized and introduced two guests David Einan, US Environmental Protection Agency (EPA), brought with him: Jacqueline Satira from EPA Region 10 and Megan Riccobono from the Air Force Civil Engineer Center (AFCEC). She explained that Jacqueline was the EPA project manager for Fairchild Air Force base, near Spokane, and Megan is her counterpart with the Air Force. They would be observing how the HAB operates and in the hope of inspiring ideas that could be implemented for the Fairchild Restoration Advisory Board.

Susan noted that, concurrently, the Energy Communities Alliance (ECA) was hosting their third annual ECA forum with support from the DOE Office of Nuclear Energy. This meeting is designed to bring DOE, federal, state, local, tribal governments, and policy makers together with developers, utilities, regulators, industry, and academia to identify opportunities, challenges, and to build the partnerships necessary to support development.

Continuing, she reviewed the remaining topics on the two-day meeting agenda (*Attachment 1*). Following her review, Susan invited those in attendance introduce themselves. Attendees are listed under *Meeting Attendees* below.

Josh Patnaude, HAB facilitation team, reviewed meeting logistics.

Tri-Party Agreement Agency Joint Briefing- Holistic Negotiations

US Department of Energy Introductions

Brian Stickney, DOE, Deputy Manager of the Office of River Protection (ORP) and the Richland Operations Office (RL) at Hanford, expressed his appreciation for the opportunity to speak to the HAB. Rather than a typical agency update, a discussion on the recently concluded holistic negotiations would be discussed. Their presentation was to be given together as a Tri-Party team.

He introduced the key members of the team that will be briefing. They included: Mark Silberstein, DOE representative and Hanford Chief Counsel; Delmar Noyes, DOE representative and Assistant Manager for Tank Waste Operations, and Brian Vance, DOE representative and Hanford Site Manager. He expressed how excited they were to share that, after four years and more than 100 sessions of mediated negotiations,

the Tri-Party agencies—DOE, EPA, and the Washington State Department of Ecology (Ecology)—reached alignment on a plan that laid an achievable path forward and enabled advancement of the tank waste mission at Hanford. His team will be sharing details of that agreement, which was released to the public on April 29th, 2024, to start the conversation prior to the public comment period, planned to begin in late May.

Brian Stickney shared that he was incredibly proud of the hard work that went into the agreement and the real alignment between the teams throughout the process. He thought that, while the agreement was valuable and provided predictability on one of their most challenging missions at Hanford, the relationships forged over the last several years may be more important than the specific agreement. He remarked upon the collaborative effort put forth by the Tri-Parties throughout the negotiations, surpassing anything else he had seen in his 15 years supporting Hanford. He expected that they would continue to advance their shared objectives in collaboration.

In addition to alignment achieved with the holistic agreement, he noted the other positive momentum being seen at the Hanford Site: two of the Direct-Feed Low-Activity Waste (DLFAW) melters had been started, the Tank Side Cesium Removal (TSCR) was treating tank waste at an industrial scale, and the over one billion gallons of groundwater had been treated by that point in 2024. K Basin dewatering was anticipated to commence by the end of May and, additionally, the Waste Encapsulation and Storage Facility (WESF) capsule transfer project was moving along. He also shared that the progress was owed to the contractors' leadership and the employees working on site safely and efficiently every day.

Ultimately, he expected that agreement would help the Tri-Party agencies get down to the business of carrying out the Hanford cleanup, benefitting the workers, the public, and the environment.

Washington State Department of Ecology Introductions

Eddie Holbrook, Acting Deputy Nuclear Waste Program Manager for Ecology, expressed his appreciation for the opportunity to be with the Board to present on this monumental achievement. He introduced Kelly Wood, Attorney General's Office, and Ryan Miller, Ecology. He agreed with prior statements and noted that he had seen more progress in the last 3.5 years than the rest of his eight years with Ecology's Nuclear Waste Program. He looked forward to not only the progress being made at DFLAW and ongoing tank retrievals, but also the framework the holistic agreement set out for the tank mission. The framework laid out achievable goals for all parties in tank waste retrievals and treatment.

US Environmental Protection Agency Introductions

Tim Hamlin, Land Chemicals and Redevelopment Division Director for EPA Region 10, introduced his negotiating team: Michelle Mullin, Senior RCRA Policy Advisor; Nick Vedargas, Regional Council's Office; David Einan, EPA Hanford Project Office Manager; and Beth Clemens, Public Affairs Office. He reemphasized the team's pride in having reached the holistic agreement after years of effort and their appreciation for the collaborative working relationships developed through the process. He noted that he was eager to share details of the holistic agreement content and there would be further discussion on the content going forward. They eagerly awaited reactions from the public, partners, and stakeholders on the agreement.

Holistic Agreement Presentation

Mark Silberstein, DOE, started the holistic agreement presentation (*Attachment 2*) by describing the holistic agreement as setting the Tri-Parties on a course for a safe, realistic, and achievable tank waste retrieval and treatment mission over the next 15 to 20 years. He said the presentation would essentially be

the “cliff notes” version or preview of the holistic agreement. The full agreement was released on April 29th to the public.

Kelly Wood, Washington AGO, reviewed the history of how the Tri-Parties arrived at the negotiations. In 2019 there were a few “pressure points” that were building with potential to result in litigation. Facing that reality and the history of litigation between the parties, they decided to try a different approach and entered into negotiations with a federal mediation service, who had also served the parties in an earlier mediation. Those efforts started in June 2020.

Working through the pandemic, the parties engaged in approximately 100 seven- to eight-hour mediation sessions. Kelly could not stress enough how hard the three parties worked and how much effort everyone put in to see what they could do to arrive at an outcome that puts the Hanford clean-up on the right track. The conceptual agreement was announced in May of 2023, though he noted that the “devil is in the details,” as it took another year of refining language and reaching a final agreement.

Kelly mentioned other active processes alongside negotiations that informed the agreement, such as the analysis of alternatives (AOA) process, the River Protection Project System Plans, and the Test Bed Initiative (TBI), as well as EPA’s Treatability Variance that was required for the 2,000-gallon TBI. That all helped inform the discussions as they moved forward and got closer to a final agreement.

Mark explained that the holistic agreement effectively had three parts:

- Part one was proposed amendments to the Consent Decree, which is one of the primary legal doctrines that governs work that they do at the Hanford Site.
- Part two was changes to the TPA, the other legal doctrine. The vehicle used to effectuate those changes is called the change control form or change package.
- Part three was a settlement agreement document which, in addition to having “standard legalese,” has some other public notification provisions and commitments.

Mark explained that we will be going through each of these three parts and talk about what commitments fall under each of the three. As he indicated earlier, the agreement set the Tri-Parties on a course for the next 15 to 20 years, meaning that the general time frame is basically now through 2040, with near- and longer-term commitments within that timeframe.

Mark felt it was important to note that this agreement maintains the existing time frames for starting the low-activity waste (LAW) and high-level waste (HLW) facility, meaning the hot commissioning milestones for both LAW and HLW facility are not changing. However, as part of the proposal, DOE would be pursuing a direct-feed approach for HLW treatment, similar to the DFLAW program. In addition, the HLW treatment mission would entail building a waste transfer vault and a second effluent management facility for additional support.

Kelly continued with the highlights. DOE was committed to removing waste from 22 tanks in Hanford’s 200 West Area by 2040, which included grouting LAW for off-site disposal. He explained that was consistent with recommendations from the National Academies of Sciences, the Government Accountability Office (GAO), Congress, and others that have pointed to grout as a potential way to expedite cleanup at Hanford in a cost-effective manner. This agreement included the design and construction of one million gallons of additional tank waste storage at the site. Kelly highlighted that how they would implement that storage was flexible, so it does not have to be one single million-gallon tank; it could be multiple tanks. It was important to ensure they have the space they need to make sure all the retrievals remain on track, so the implementation would be chosen based on what made sense

operationally. DOE was also committed to evaluating and developing new technologies for retrieving waste from the tanks. DOE agreed to forebear application of its HLW interpretive rule at the Hanford Site.

Mark discussed each part of the holistic agreement: the Consent Decree changes, TPA, and settlement agreement. Starting with the Consent Decree, he explained that the initial operations milestones for the LAW facility remained unchanged. They moved up an interim milestone from 2036 to three years after facility hot commissioning. As mentioned earlier, a direct feed configuration would be pursued for the HLW facility which entailed the construction of an effluent management facility and a waste transfer vault. All the current commissioning dates would remain the same for the HLW facility initial operations.

Kelly explained that the agreement sets up a process where DOE could select additional pretreatment capabilities to be implemented after hot commissioning of the direct-feed HLW facility, such as sludge washing. The Tri-Parties anticipated discussing the future pretreatment capabilities at a later date. Those discussions would include System Plan negotiations and what the future need may be for additional pretreatment capabilities.

Kelly mentioned that in terms of the Consent Decree, there was no change to the current dates for retrievals of most of the single-shell tanks (SST) in A/AX farms, though there was an allowed extension for A-104 and A-105 to allow for the development of retrieval technology, as those are particularly difficult tanks. In that instance, different tank retrievals would be substituted A-104 and A-105.

No change was made to the end dates for all single shell retrievals, closure, and treatment in the TPA. However, it was acknowledged that some of those end dates must be revised in the future, without excusing DOE from its obligations to satisfy these milestones as expeditiously as possible. The agreement set up a process where there would be a one-time negotiation to occur after hot commissioning of the HLW facility. By that time, it was expected that a lot more information would be available regarding operations and anticipated future needs.

Moving on to System Plan negotiations, Kelly reiterated again the value of relationship building through holistic negotiations, which was in addition to the many “common sense” things that political negotiation allowed them to bring to the front. One was that there were some aspects of the System Plan negotiations that make sense to talk about more frequently. As an example, every three years they would be reviewing the retrieval sequencing for the following eight years. He explained that this also allows them to plan ahead for contingency actions that might be required as they look at that next “slice of time.”

Mark noted that, there were ongoing retrievals in A/AX farms, as required by the Consent Decree. Twenty-two tanks from S/SX/U farms are to be retrieved by 2040. The intent was that the waste from those tanks will be retrieved, treated, and then disposed of out of the state of Washington—probably in either Texas or Utah—and the waste would undergo alternative treatment such as grouting. That allowed some operational flexibility to process retrievals in the West area independently of WTP operations seven miles to the east. Next, Mark talked about the commitment associated with tank A-103. Mark called tank A-103 “the lonely tank” because it was the last tank in A farm not addressed under the Consent Decree and would be adjusting the date to 2028 so that it better aligns with the retrieval sequence of the rest of the tanks in that farm. In total, 29 tank retrievals were planned to happen by 2040.

The alternative treatment was associated with 22 of the tanks. Grouting was anticipated to be the alternative treatment at that point. By 12/31/2024 DOE would select the alternatives and inform Ecology of how that treatment will be implemented. That could include the distinction of treating waste locally or

sending waste offsite for treatment at the respective disposal facility, which would be a similar approach to that being assessed under TBI.

The alternative treatment for those 22 tanks had specific conditions associated with it. Foremost, he reiterated, grouted waste had to be disposed of outside of the state of Washington. In addition, they have what they call “just in time” scaling or production, which essentially prevents a backlog from forming at the site of that treated waste or grouted waste and ensures that it gets retrieved and disposed of in an efficient manner. Lastly, these remain in place through 2040 and they will get together no later than 2038 to discuss whether any future conditions are needed.

Kelly began the conversation on new tanks. As noted earlier, he mentioned the agreement provides for one million gallons of new multipurpose storage capacity ready to go by 2040. The configuration would be subject to an AOA process, consider operational needs, and would be built in the 200 West area to support efforts in that area.

He continued with the retrieval technology piece of the TPA changes. This required DOE to prepare a technology evaluation document that assesses new or revised technologies that can be deployed to address some of the retrieval challenges and tank condition issues faced on site. This report will then be reviewed by an outside expert advisory panel that will provide analysis and recommendations on those technologies. There would then be a requirement to carry out at least two of the identified technologies. Separately, saltwell pumping for application in leaking tank response would be evaluated. He explained this to be a direct tie in with the Agreed Order on leaking tanks B-109 and T-111.

Mark discussed the remaining TPA change packages. The cross-site transfer lines had two new interim milestones for activation. He explained lines would run between West area and East area on site and is a means to moving waste. In addition, there were some near-term interim milestones associated with schedule production for the immobilized HLW storage facility, with previously established commitments remaining. Lastly, to support Ecology’s permitting needs they will be generating and providing closure plans for the remaining waste management area. This meant that they would develop closure documentation in accordance with some milestones that were agreed upon.

All three parts of the holistic agreement would be rolled out the following Monday, which included Consent Decree proposed changes, the TPA proposed changes, and the settlement agreement. The settlement agreement was complete and not subject to public comment, while the Consent Decree and TPA changes would be put out for public comment as proposed changes. As part of the settlement agreement, DOE confirmed that it intends to forebear from applying HLW interpretive rule for purposes of tank waste, disposition, and tank closure at the Hanford Site. It also included a commitment for them to discuss offsite grout disposal conditions.

Kelly explained DOE’s commitment to involve Ecology in certain internal processes and discuss loose ends regarding TPA Appendices H and I changes. The process to finalize those will begin the following month with the intent to wrap everything up before the end of the year. Also mentioned was the conditional language that is associated with completing other regulatory processes like National Environmental Policy Act (NEPA) and the National Historic Preservation Act (NHPA).

Brian discussed next steps. The TPA agencies would:

- Begin a 60-day public comment period on proposed changes to the Consent Decree and TPA starting May 30th
- Hold regional public meetings in Washington and Oregon

- Consult with the Tribes on the proposed changes
- Issue a response to comments
- Complete applicable regulatory processes
- Execute proposed amendments to Consent Decree in federal district court
- Sign and implement the proposed TPA revisions

Board Questions

Tom Sicilia, Oregon Department of Energy, noted a challenge with the public comment period timeline and the HAB's meeting schedule, with the next HAB meeting not being until comment period completion. He asked if there was any "room" there for the HAB to issue advice after the public comment period closed. Ryan stated options could be discussed later.

Richard Bloom, City of West Richland, asked if the HLW forbearance was part of the TPA or Consent Decree, and if that forbearance was permanent or something to be revisited at certain intervals. Additionally, he asked if grouted material would be shipped versus shipping the material to be grouted offsite, noting that the "carbon footprint" of such operations should be considered. Mark suggested that the carbon footprint concern would be a good public comment to submit. Kelly noted, however, that the difference between the two would be a "drop in the bucket" compared to other emission sources in the state. Mark added that climate change considerations associated with the proposed changes would be addressed through related regulatory processes, such as documentation for NEPA and NHPA if additional analysis was needed.

Mark further clarified that the changes associated with the grouting and shipping endeavor were in the TPA. Regarding the HLW interpretive rule question, he explained that was part of the settlement agreement rather than Consent Decree or TPA. Further, it did not have an express termination date, nor was it a "forever commitment." There was language in the settlement agreement requiring that DOE coordinate with the State of Washington, should it seek to exercise that option in the future, but the agreement indicated that DOE did not intend to do so at the Hanford Site. It was noted that the [settlement agreement was available online to review](#) for participants seeking further clarification.

Jeff Wyatt, Oregon Hanford Cleanup Board, noted that it appears to him that Ecology agreed to grouting low activity waste (LAW) in the agreement. He asked if this was going to be done on or off site. Mark answered that a decision had not been made yet on whether the treatment would occur locally or off site at the respective disposal facility. Kelly clarified that the framework of the agreement dictated that disposal of grouted waste would be at an off-site location more appropriate than Hanford while remaining agnostic to where treatment occurs.

Jeff noted that a portion of the Consent Decree that talked about complete retrieval of waste from a tank, while another section talked about leaving waste in the heel of a tank in different tank farms. He asked how is that waste going to be treated. Kelly commented that was a closure question addressed by the TPA, which set out a process to determine when a tank is closed, linked to the previously noted need for further discussions regarding appendices H and I. Presently, the systems in place allowed for some residual waste to remain in the tanks and for a tank to still be deemed closed, to be accounted for in landfill closure planning afterwards.

Delmar Noyes added a point of clarity by saying the agreement was for 22 complete tank retrievals. They would pretreat the liquid portions of that as LAW. The solids or other materials in the tanks, which could

have high-level waste mixed in with them, would be collected in SY farm. The HLW portion would remain in SY farm until ready transfer to the eventual HLW facility for treatment. Jeff commented that most would like to see the waste out of the tanks rather than remaining in the tanks. If it was in the grouted form stored on site, that was better than having waste remain in a tank.

Miya Burke, Hanford Challenge, said that it was Hanford Challenge's understanding that the 2,000-gallon TBI demonstration was a test to see if grouting Hanford's liquid tank waste works. They noticed that the holistic agreement lays out a plan to grout the 200 West area liquid tank waste and dispose of it off site. She asked for clarification on how the decision would be by the end of the year about grouting 200 West area liquid tank waste without results from TBI. Mark remarked that a three-gallon test was already conducted and the 2000-gallon TBI demonstration was the next step in the evaluation process.

Delmar Noyes explained that the TBI going forward demonstrated the regulatory pathway. What they would be describing under the agreement were the pretreatment processes used to create LAW for disposal. These would describe the cesium removal step of the low activity waste which would be a TSCR-like process in the West area to remove the cesium component to create the LAW that then would be grouted. Afterward, they would address the potential need for on-site grouting facilities.

Jacob Reynolds, Non-Union, Non-Management Employees, noted his assumption that they were copying the Nuclear Regulatory Commission's (NRC) method of determining whether something is low-level waste (LLW) or HLW based on its characteristics. His question was: which methods are they using in determining HLW interpretation if they are not using the NRC's method? Mark answered that they think they have found a way to pursue alternative treatment (grout) without application of the HLW interpretation by utilizing the existing DOE Order 435.1 waste incidental to reprocessing (WIR) process to the extent necessary.

Jim Conca, Tri-City Development Council, commented that there were 50 million gallons of LLW and asked why the TPA agencies would "continue to pretend" it was HLW instead of getting to that first? Kelly reiterated that was an agreement reached among the Tri-Parties and that the agreement set out a viable regulatory path to move the mission forward. Tim Hamlin, EPA, explained that, rather than debating and litigating the answer to the question of HLW definition, the parties set a path forward for dealing with the waste, which was grouting the waste and disposing of it out of the state. He clarified that the EPA treatability variance mentioned as part of TBI was believed to be the best regulatory path forward that could be acted upon.

Amber Waldref, Heart of America Northwest (HOANW), complimented the Tri-Parties on offsite disposal of LAW. She mentioned that she liked Tom's idea to extend the public comment period so HAB can give input at its September meeting. Additionally, that would provide the public an opportunity to review the State Environmental Policy Act (SEPA)- and NEPA-associated environmental analyses and give their input. She suggested working with environmental and community groups in organization of those regional meetings. Amber asked, without legally enforceable milestones, would Congress to continue funding the cleanup in the future?

Kelly responded that milestones remain in TPA "with asterisks attached to them" identifying that they would be moved. Ultimate obligations will still be met and the State was working with DOE to execute those as well. Future negotiations points will occur, and they are discussing the appropriate extension for those. He reassured that funding will be continued to ensure cleanup is met.

Pam Larsen, Benton County, hoped that time would be given to the HAB's Tank Waste Treatment and Stewardship (TWST) Committee to talk through an overview of what was presented, ask questions, and

voice concerns. She stated concerns about shipping large volumes of liquid radioactive waste across country. She recalled the extensive planning around the opening of the Waste Isolation Pilot Plant (WIPP), which did not account for liquid waste transport and included running emergency drills and communications with communities along the transport routes. She stated that Carlsbad has ownership and responsibility for the waste that left Hanford under those plans, including responsibility for emergency response and suggested such aspects needed to be considered in planning. Further, she emphasized the support many voiced for sending waste to Perma-Fix Northwest for grout treatment prior to shipping for disposal. She also asked if they have had communication with the judge regarding federal litigation.

Mark answered that they provided notification to the court that they have reached a holistic agreement that contains proposed amendments to the Consent Decree. After public comment they would go back to the court with any proposed changes. Kelly explained that the parties cannot amend the Consent Decree on their own, as it has to be a federal order entered by the federal court. Judge Peterson is aware of the details and upcoming proposed changes that will be awaiting his approval.

Rob Davis, City of Pasco, was interested in why the agreement took so long to reach. By his understanding, the WIR process appeared in the Federal Register and has already become law. He asked if they could void that law through the Consent Decree. Mark responded that they were not voiding the law with this agreement; DOE still has its WIR authority and can proceed with that process under DOE Order 435.1.

Rob commented that there were over 100 American Society of Mechanical Engineers (ASME) Nuclear Quality Assurance (NQA-1) qualified vessels in the existing pretreatment plant, accounting for approximately 150 million gallons of potential waste tank storage. He suggested that the money spent on those could be put to use and encouraged maintaining their ASME qualification paperwork. He understood that was a finer detail to consider, and that such matters would likely be decided after the larger holistic agreement was in place.

Chris Sutton, Public at Large, had questions on a presentation slide related to the milestone for achieving LAW facility operations, which appeared to be moved from 2036 to three years after facility hot commissioning. He mentioned that the Hanford 5-Year Plan indicated the initial hot operations would start in 2026 or 2027 and asked about the discrepancy. Delmar clarified that was not the hot commissioning milestone that they were talking about for the LAW facility; this was a follow-on milestone in the Consent Decree related to initial operations of the integrated WTP facility. DFLAW milestones would not change.

Chris's second question was regarding TPA end dates sliding, noting there were dates that differed from those in the latest System Plan. Are there two set of dates out there now? Delmar Noyes answered that all SST retrievals were not completed in the current System Plan by 2040. He explained the changes in dates referenced in the slide were related to completing retrievals of the A/AX farms in the existing Consent Decree. Kelly mentioned end dates were still to be determined.

Bob Thompson, City of Richland, asked what a million-gallon tank would cost compared to what was already available. He wondered, without expectation of response, what resulted from four years of the negotiations and what "holistic" meant in that context. He felt that the four years of work did not result in something that directly benefitted his constituency. The holistic negotiations, as he saw it, resulted in something that was available from the start at the expense of cost, schedule, and safety, owing to those years of delay.

Jacob Reynolds asked why is S-102 excluded from the 22 tanks mentioned that are being retrieved. Mark and Delmar believed that S-102 was already retrieved.

Jeff Wyatt asked if there was possibility that DOE would ship liquid radioactive waste—not grouted—across the state of Oregon. Delmar clarified that the TBI route did not ship through Oregon. Mark said that, in respect to the 22 tanks they have yet to retrieve, additional NEPA review was required so the overall decision had not been made yet.

Virtual Hanford Tour

Presentation

Coleen Drinkard, Hanford Mission Integration Solutions (HMIS), provided a virtual Hanford tour. The virtual tour can be found at vtours.hanford.gov.

Coleen explained that the virtual tour website was created to make Hanford and Hanford's cleanup accessible to everybody due to limited in-person visits of the Hanford Site. She encouraged everyone to take the tool back to their stakeholder groups to generate interest in the Hanford Site. Among the benefits of the virtual tour, she discussed were that there was no required badging, long drive, age requirements, or citizenship requirements. Additionally, the virtual tour provided access to areas, buildings, and projects that would never be available for an in-person visit.

There were presently 25 different project stops on the virtual tour, first stop being the AP Farm and TSCR. A 360-degree view is provided and there are information icons to give more details, including before and after pictures. An interactive map was available for tour navigation.

Coleen gave an example by showing the 324 Building and discussed the clean-up that has taken place in that area. Next, she shared information and an up-close view of the DR Reactor, which could not be approached during an in-person tour. Throughout her demonstration, she went on to discuss reactors that were built in the 50s and deactivated in the early 70s. She discussed the K East Area where they were able to collect the radioactive sludge, put it in canisters and take it to the T Plant. Also demonstrated the distance between the 100, 200, and 300 Areas and how issues/accidents would not affect the other areas due to how far away they are from each other.

She mentioned that there were five massive chemical processing plants built in the 200 K West and 200 K East areas, with the T Plant being the oldest nuclear facility with a current mission in the United States. These plants have been referred to as canyon facilities because of the size and how it stands out in the desert.

Moving to the 200 West Area pump and treat facility, she explained that it was the sixth groundwater treatment facility at Hanford, completed in 2012, and that it was capable of treating 2,500 gallons of water per minute. The facility treated 2.3 billion gallons of water in fiscal year (FY) 2023.

She talked about 200 East and B Area, remarking upon the significant activity taking place over there. Touring the AP Farm, Coleen showed a diagram of the tank designs throughout the Hanford Site, noting that are 149 SSTs and the 28 double shell tanks (DST). AP farm is where the TSCR unit is staged and as part of the DFLAW program and explained the consolidation of SST waste into DSTs for staging for TSCR. After running through TSCR, pretreated waste would be placed into another DST in anticipation of transfer to the 66-acre WTP. She discussed the 300-ton melters that formed the waste into glass at 2,100 degrees Fahrenheit. This glass material is then placed in containers that are 4-feet wide, 7.5-feet tall, and weigh about seven tons.

Agency Perspectives

Ryan Miller mentioned a similar but different resource available on the Ecology website: [a story map](#) that shows the history of the site leading up to the current clean up today.

Board Questions

Tom Sicilia asked if there was a way to see how things changed over time, such as a change log or historical record. Coleen mentioned that she will make a note of his comment for future development. Presently, there are only some locations on the tour that have before, after, or progress pictures.

Miya Burke asked how often the pictures were updated. Coleen said that it was updated at least quarterly unless there is a significant change, in which case they would push those updates as much as possible.

Rob Davis suggested adding scale on some of the maps so that people could better understand the distance of the Hanford area.

Brisa Guajardo, Tri-Cities Hispanic Chamber of Commerce, asked how engagement of the tour was gauged and how it was promoted to the community. Also, for non-English speaking individuals, she asked if there were options for subtitles or areas that could be translated? Coleen answered that they check how many online hits and which pages are viewed and the return views. She said it had a significant amount of traffic. The virtual tour was promoted on the first page of the DOE Hanford website and they try to mention the link as often as possible for people to check it out. She also mentioned that there are translators available and that if someone reached out to her on that matter, they could explore that option.

Patrick Conrad, HMIS, added that they also promoted the feature during their Hanford speaker review of Speaker Bureau presentations. Anytime they went out and spoke with the community members, it was mentioned as one of their talking points.

Jeff Wyatt thought that it was a great resource. He asked if there were plans to add some of the natural resource interests like elk herds, the historic bank vault, or the old high school. Coleen answered that it presently featured the to the clean-up portion exclusively, but she made note of his interest for more environmental aspects. She noted that the bank vault and other historical sites were under the jurisdiction of the Manhattan Project National Historic Park.

Dan Strom, Benton-Franklin Health District, asked if the tour features the submarine reactor compartments or the Laser Interferometer Gravitational Wave Observatory (LIGO). Coleen answered that, since it is not part of the cleanup project and it is owned by the Department of Defense, it was not something they can show on the virtual tour. She said she would take note on LIGO, however, because that seemed to be of interest to a lot of people.

National Liaison Report

Pam Larsen, HAB National Liaison, provided the National Liaison Report. This report is included as *Appendix A*.

Environmental Management Site-Specific Advisory Board Spring Meeting Debrief

Meeting Overview

Miya Burke introduced the topic, explaining that the Environmental Management (EM) Site-Specific Advisory Board (SSAB) met twice yearly and consisted of the chairs and vice chairs of site-specific DOE

boards across the United States. It rotates meeting locations so its members can participate in site tours and see what other boards may be dealing with at their sites' cleanups. Miya, Susan Coleman, Lindsay Somers, and Laura Caulfield all attended.

This visit was at the Portsmouth Gaseous Diffusion Plant, a 3,700-acre site—much smaller than Hanford. She informed everyone that Portsmouth was where uranium was enriched for nuclear weapons and nuclear power starting in 1954. In 2001, the site transitioned to cleanup. They have since started to reindustrialize areas of the site and have transferred over 300 acres of land to a group called the Southern Ohio Diversification Initiative that then sells the land to different business interests, including a hydrogen energy company. There are deed restrictions on the land transfers so the land may only be used for industrial use and there are restrictions on groundwater use as well.

She mentioned an update given by Justin Marble, DOE, on waste and transportation related to WIPP. She thought this would be of interest to the HAB, as he stated that most sites underestimate the inventory of transuranic (TRU) waste at their site with the goal of ensuring enough space is available for their waste at WIPP. DOE is working to begin the process to look for an additional repository for TRU waste, even though Justin stated that WIPP has the capacity for all the nation's TRU waste.

Miya said that he briefly talked about companies being interested in using the strontium-90 in the WESF capsules for other purposes, and she thought they should follow up on this to get more information for a briefing to the HAB.

She said they received a briefing from Juan Uribe, DOE Officer of Nuclear Energy, on the consent-based siting process and Congress issued a directive to DOE to look for a consolidated interim storage facility for commercial spent nuclear fuel. She explains that this meant the facility would not accept defense waste. The whole process of siting a consolidated interim storage facility for spent nuclear fuel is estimated to take 15 years.

She talked about another briefing they had on per- and polyfluoroalkyl substances (PFAS) from April Kluever. PFAS are man-made and nicknamed “forever chemicals” because they are long lasting due to their components breaking down slowly over time. DOE is completing PFAS storage and disposal guidance soon and EPA just released a new guidance on PFAS and new drinking water standards.

She stated that DOE would base their guidance off EPA guidance and standards. April explained that PFAS at the DOE-EM sites are from legacy contamination and there are no active releases of PFAS. April did mention that there are six or seven different categories of PFAS relevant to DOE, including fire suppression systems and electroplating. A chart was shared with them that had EM snapshot updates on PFAS for each site in the Complex, including Hanford. The chart included historical use, record search, drinking water sampling, site field assessments, management and disposal, and stakeholder engagement. Miya noted that it appeared to her that Hanford was the furthest behind in the process compared to all of the other sites.

During the meeting, Miya asked if there was a deadline for when the sites must complete the snapshot and, presently, there was not. DOE was developing a snapshot survey to find out site progress and develop expectations for a deadline. Miya mentioned that PFAS was a topic listed on the HAB work plan for FY24 and, if no briefing is provided, she expected it would roll forward to the next year.

Another briefing was given by Kristen Ellis, on the Cleanup to Clean Energy Initiative, of which Hanford was a part. This initiative focused on repurposing underused DOE land to generate electricity and set aside 14,000 acres at Hanford for potential development. DOE was evaluating proposals with a goal to have selections made by end of 2024. Miya said that it was important to note that the land leases would

happen within the time frame of the active cleanup mission on site, but it was unclear to her what would happen to the energy projects after that.

The EM SSAB chairs also discussed community awareness at the different sites and board member recruitment.

She said that their group was able to tour the Fernald site, which refined uranium ore that came from the former Belgian Congo and other places before being sent to Hanford and the Savannah River Site to produce plutonium. In the 1980s it was discovered that Fernald's waste had contaminated their air, soil, and drinking water. In 1984 a citizen group called Fernald Residents for Environmental Safety and Health (FRESH) was formed that held over 60 meetings a year from 1994 to 1998. FRESH and the community were actively involved in the cleanup. In 2006, the site transitioned to an undeveloped park to be opened to the public. She mentioned that they were able to hike up on top of a disposal site for LLW while they were on their tour. There was also ongoing groundwater remediation and monitoring and that they are expected to use pump and treat until 2040 or 2050.

After their tour, they went to a panel discussion with members of the FRESH community group and Ohio EPA staff, who expressed their satisfaction with the cleanup and saw the undeveloped park as a success. They said success was due to Ohio EPA, DOE, and the community communication. Their onsite disposal facility is their legacy, and they are proud that 85% of their waste was not dumped on another site.

Miya explained that she and Susan brought back a recommendation from the EM SSAB (*Attachment 6*). As part of the EM SSAB's process, she explained that the recommendation would go back to the individual SSABs for approval before adoption at the EM SSAB level.

Each of the participating HAB members were invited to provide "thumbs up or thumbs down vote" on the content as presented.

Board Discussion

Dan Strom noted that, while he approved keeping the archives, he suggested that the web addresses/links to the content stays the same. He thought those seem to change every few years, making it difficult to find past documents. Richard Bloom agreed with Dan's point. Susan Coleman clarified that the recommendation was only for the EM SSAB web page, rather than the larger DOE web page.

Recommendation Result

All members approved the EM SSAB Chairs and Vice Chairs recommendation.

Draft Advice on Transuranic Waste

Tom presented an introduction (*Attachment 7*) to draft advice that was passed from the Cleanup and Risk Mitigation (CaRM) and Land Use, Infrastructure, Waste Disposition, and Safety (LIDS) committees the month prior. As part of his introduction, he reviewed what TRU waste is, its relevance to Hanford, and the highlights of the WIPP permit.

In presentation of the draft advice (*Attachment 8*), he explained that following distribution to the HAB, a HAB member that could not attend the recent CaRM/LIDS meeting requested additional edits that would impact that seat's willingness to participate in consensus. Those would be shown during review of the advice.

In summarizing the four advice points, Tom explained that the HAB hoped to:

- Get a clearer picture of what the TRU waste was on site and develop a TRU waste plan to get the waste to the repository.
- Ask the Tri-Party agencies to set enforceable milestones for waste that were not included under the M-091 milestone series so there is a target for getting it out of the ground and down to New Mexico.
- Develop a System Plan to define TRU legacy waste is eligible disposal at WIPP. He mentions that “legacy waste” was not yet defined and individual sites were being asked to provide input on that definition.
- Advise the DOE Hanford office to ask DOE Headquarters to pursue establishment of a second repository

Board Discussion

Jim Conca felt that the background section of the draft indicated that WIPP could get filled up, which he did not expect was true. He stated WIPP was built into a 10,000 square mile formation, with 16 square miles being arbitrarily set aside as part of the Land Withdrawal Act. He noted that there were originally eight panels excavated, which was since expanded to 12, indicating that further expansion was possible. Tom agreed from a geologic standpoint but explained that the concern being addressed was related the feasibility of more capacity being granted as part of the WIPP permit or getting approval for that capacity through the Governor of New Mexico and Congress. “Fills up,” in that context, was a political term.

Jacob Reynolds asked if the noted draft edits were provided as redlines. Tom clarified they were not, as those were not prepared before meeting packet distribution. The full edits, inclusive of those made throughout the meeting, would be available for the Board to review after the topic’s conclusion.

Rob Davis expressed his support for the advice, stating that it served to “put a red flag” on Hanford’s TRU waste, indicating it was important. He felt the advice was ready to send as it was currently. Pam Larsen agreed with Rob

Chris Sutton suggested adding a wording requesting a point-by-point response, similar to the one provided in the HAB’s FY25 cleanup priorities advice ([Advice #315](#)).

Jim Conca asked if it was necessary to identify panel 12 as being limited to legacy waste. Tom Sicilia answered that it was because it was the panel designated in the permit for legacy waste and agreed to text alterations.

With no further questions or comments, Susan Coleman asked if anyone objected to the advice with the content as edited.

Action/Decision Item: The draft advice was passed by consensus. The resulting draft is included as *Appendix B*.

Discussion on Responses to HAB Advice #315

Concluding the first day of the meeting, Susan Coleman introduced a draft document (*Appendix C*) developed by Jeff Wyatt, leader of the Issue Manager (IM) that developed the HAB’s [Advice #315](#). The document was intended to be submitted as feedback to the Tri-Party agencies on the responses the HAB received from each agency on the advice. While the draft feedback was reviewed by members of the Executive Steering Committee (ESC), it had not yet been distributed to the full HAB.

The Board engaged in discussion on the feedback draft leading into the second day.

HAB members were provided an opportunity to review the responses to advice issued by [DOE](#), [Ecology](#), and [EPA](#) individually. Following, HAB members were invited to share perspectives.

Rob Davis commented that the letter should end with the statement that it is not necessary to stop everything to move forward. Looking forward to FY27 priorities, he felt that the various System Plans and reports were a source of confusion. He said options need to be consistent and that cleanup had gone on long enough—there should not be 19 options at this point.

Jacob Reynolds expressed that he liked the letter. It was polite and did not reject any of the ideas put forth in the advice, though it did not give any detailed responses on their position either. He suggested that DOE may be dealing with too big of a project and budget to be able to give a detailed response.

Chuck Torelli, City of Kennewick, said that the group could pinpoint issues to be addressed in the future but does not expect much to result. He would rather not send it but would not object to it going out either.

Amber Waldref appreciated the time Jeff Wyatt spent reviewing the responses and preparing the feedback. She liked the point-by-point responses from Ecology and EPA and liked the idea of submitting a model response for the agencies to follow, even if the result would be less detailed.

Pam Larsen was disappointed with DOE's response. She felt that EPA and Ecology had thoughtful comments but stated that DOE's letter was a waste of time and unfair to them. She suggested additional dialogue with DOE to get feedback.

Rob Parmelee, Non-Union, Non-Management Employees, had nothing to add regarding the feedback. He understood that Brian Vance "had a lot on his plate," though he thought that more feedback could have been provided.

Rebecca Holland, Hanford Atomic Metal Trades Commission (HAMTC), agreed that Ecology and EPA's responses were good while DOE's response was vague.

Susan Coleman clarified that her comment was intended as a Public at Large perspective, rather than as Chair of the HAB. She commented that Brian Vance has communicated numerous times how valuable the HAB's cleanup priorities advice was to him, but she did not think the letter reflected that.

Miya Burke appreciated that DOE's response was longer than the prior year's response. She acknowledged that the response indicated that the advice was accepted by DOE, which was what the Board asked for, though it was very general in nature. She thought that EPA and Ecology's point-by-point responses were more satisfying, noting that Ecology's also included suggestions for improvement.

Jeff Wyatt was not surprised by DOE's response. He was happy with EPA and Ecology's responses.

Larry Brandt, Public at Large, noted that this meeting was his first chance to review the draft feedback. He did however agree with prior comment made in the discussion. While the advice was something that was requested from the HAB, he felt that DOE's response was not written in such a way that it would promote such work in the future. He felt that the HAB deserved more feedback and hoped to see more communication in the future.

Brisa Guajardo agreed there was improvement from past letters. She reminded everyone that communication and priorities will be different between the different agencies, so she suggested to keep pushing until they get what they want from each.

Chris Sutton provided perspective from leading the IM team for [Advice #314](#). He recalled that following advice submission, Ecology asked for clarification on certain points and used that information as part of

their response. He invited each of the agencies to ask about any concerns they may have with the advice in developing their responses.

Chris Sutton expected that DOE's decision-making was largely associated with its headquarters in Washington DC. He expected that the number of "sign-offs" needed to develop a response likely impacted its ability to provide a detailed response. However, many of the items, such as milestones, were already committed to publicly through the 5-Year Plan, so he suggested that at least those items could be responded to point-by-point. He was unsure about the value of submitting the letter. He supported the idea of opening additional dialogue between the HAB and agencies, emphasizing the need for feedback.

Michelle Holt, Benton-Franklin Council of Governments, agreed with prior comments.

Tom Sicilia agreed with prior comments and appreciated the effort and responses provided. He felt that, while it was communicated that the advice was important to DOE, it was not clear that DOE read the advice based on the response. Considering that the HAB's advice was submitted to support DOE's budget request, he felt that additional feedback was merited. He suggested that the day's discussion serve as a starting point and that the HAB's leadership could discuss what type of response would be best.

Dan Strom suggested that using a different advice format could assist in receiving a more favorable response. As an example, he suggested that the items in the advice table could be presented differently, specifying the type of feedback the HAB hoped to receive on those items.

Rob Davis explained that, a couple years prior, the HAB started developing its cleanup priorities advice to align categorically with the sections presented in DOE's Hanford 5-Year Plan. Looking forward to the next year's advice, he suggested holding a meeting with DOE on expectations. He felt that the feedback draft was suitable to send as-is, acknowledging that DOE might not like receiving that feedback.

Miya Burke suggested that the ESC meet with Brian Vance and Brian Stickney to relay the feedback and concerns that are being addressed.

Chris Sutton suggested that the HAB might be included in development of the Hanford 5-Year Plan in the future, getting its priorities considered prior to release. In preparation for development of the HAB's FY27 priorities, he suggested holding a round robin on member priorities as part of a Committee of the Whole or full HAB meeting ahead of initial draft development, providing the IM team a source of input to work from. Tom noted that, in the past, the committees would provide a list of priorities ahead of the IM team meetings. He noted that earlier conversations made the IM team's job easier and suggested locking those discussions into the committee's work schedules for the following year.

Lindsay Somers thanked the HAB for the perspectives shared. She agreed to take back the request to discuss advice response expectations.

Tracking Restoration and Closure (TRAC) Overview

Christian Johnson, Pacific Northwest National Laboratory (PNNL), presented on the [Tracking Restoration and Closure \(TRAC\)](#) cleanup tool. He explained that it is a web-based tool that drew from several sources of data to display the present status of various groundwater contaminants being addressed at DOE-EM sites nationwide. It serves to transparently share the status of groundwater remediation progress with the public and stakeholders.

TRAC allowed users to visualize individual sites, management units, or instances of specific contaminant plumes above the associated regulatory cleanup concentrations. Additionally, those were supplemented with additional explanations and historical data, cleanup details, photos, and metrics. Individual reports

could be generated for areas of interest. In addition to sharing the status of cleanup efforts, TRAC served as a resource for sharing remedial technologies, successes, and lessons learned in a consistent manner across EM sites.

Christian demonstrated the features of the application, such as navigation, cleanup levels, plume visualizations, and others. He explained that the application had a unified content management system that allowed individual sites to update and review the information on their specific sites and projects. He noted that, as supplementary information, the TRAC interface also included links to additional information about the individual sites and DOE-EM.

Board Questions

Tom Sicilia asked if the application could be downloaded or had to be accessed online. He also wondered if it could be expanded. Christian clarified that it could not be downloaded. He explained that TRAC was intended to provide summary information, while [PHOENIX](#) had more detailed information for Hanford, though there was a potential for expansion in the future.

Larry Brandt asked it would be possible to add contours that show penetration by contaminants in contaminated areas, perhaps with potential for one- to two-year measurement updates or estimates. Christian said this was mainly focused on ground water and based on point data from wells for plume maps. Hanford updates plume maps every year.

Chris Sutton asked who was responsible for updating the information. Christian answered that it was the DOE staff at the associated sites and possibly the contractors.

Rob Davis commented that it was very hard to read the slides. He suggested that the presentation be handed out next time.

Round Robin Discussion

Susan Coleman introduced the round table question for HAB members: *How do you, as a HAB member, share information provided at HAB board and subcommittee meetings with your constituency?* Susan explained that the topic served as an opportunity to get to know one another better, stemming from a discussion at the prior HAB meeting.

Chris Sutton, as a Public at Large member, shared information he learned on the HAB with two sources primarily. The first was a group of six to twelve Hanford retirees that he meets with every Tuesday at the pub. The usual questions asked was: “what is the latest at HAB?” His second source was his wife. He mentioned that the feedback he gets from strangers regarding Hanford is always very interesting but surprisingly effective.

Larry Brandt, Public at Large, mentioned that he is on several boards related to conservation that he shared information with. When asked about Hanford, the most common concerns were related to ground water. Living in an area with a lot of commercial fishing, he often fielded questions about the potential for river or fish contamination and what the timeline would be to become aware of those contaminants.

Jeff Wyatt served on the Oregon Hanford Cleanup Board (OHCB), a complimentary board to the HAB. He regularly reported to OHCB what the HAB has accomplished over the year and collects public comments on things that are important to the State of Oregon.

Miya Burke explained that she worked for Hanford Challenge, a non-profit that, among other things, provided education and outreach through schools, universities, and to the general public with the goal of assisting the public in understanding what was being done on the Hanford Site. She provided an example

where she was able to address public concern related to the 324 Building following a related briefing to the HAB in August 2023.

Susan Coleman, as a Public at Large seat, represented the concerns and interests of the general public. She shared information learned through the HAB's board and committee meetings with those she associated with, in addition to sharing related information with the other boards and committees she volunteered to serve on. She noted that an organization she supported, Leadership Tri-Cities, held an annual "Hanford Day." She would be supporting the event as the HAB chair, speaking to the year's 30-person leadership class.

Rebecca Holland explained that she represented the Hanford Atomic Metal Trades Council, commonly known as HAMTC. She worked to represent the interests of the Hanford Site's union workers and tradespeople and brought back what she learned to those groups.

Rob Parmelee shared that he does not have a lot of ways to give out information from his position as a non-union, non-management employee, but would periodically send out information via email. He often got questions about the HAB, such as what the HAB was, as well as questions about topics the HAB was discussing. The 324 Building was a recent topic of interest to employees.

Pam Larsen, as a Benton County representative, would meet with Benton County's elected officials on a periodic basis to provide a presentation summarizing what was occurring in relation to the Hanford site and answer related questions.

Amber Waldref's organization, Heart of America Northwest, stayed in touch with its members by providing updates via email, social media, and webinars. She provided information about what is happening on site or at the HAB meetings but presented that information in a way that was basic and accessible to the general public.

Chuck Torelli served on the City of Kennewick city council. He shared information with city staff every two weeks. The council usually had comments, not questions, related to Hanford.

Dan Strom explained that his organization, the Benton-Franklin Health District, is not specifically involved with Hanford matters. When engaging with Hanford-related discussion on the HAB, he provided the perspective he brings as an individual with a background in public health matters.

Jacob Reynolds said that he does not share much from his present position as a non-union, non-management employee. He suggested that the next representative for his seat could be given the opportunity to provide seminars to increase the position's ability to provide outreach. He noted that it is difficult to balance work responsibilities with HAB when it comes to recruitment for his seat.

Rob Davis, representing the City of Pasco, said he reports at least once a year in a Pasco public meeting for status updates and questions. There was a Pasco City volunteers banquet coming up that he would speak at. Since he retired, he did not talk with students or the colleges as often as he used to.

Tom Sicilia, representing the Oregon Department of Energy, said that when there is something critical, he provides that information to the Oregon congressional delegation and government. He also served as part of the emergency nuclear response team for Eastern Oregon. He noted that the Oregon Department of Energy regularly developed publications that summarized cleanup progress at certain milestones. The next would be released in a couple of years.

Michelle Holt is the executive director for the Benton-Franklin Council of Governments, a metropolitan planning organization made up of representatives of the local governments. The Hanford-related information she learned through the HAB helped to shape regional planning and decision making.

Lindsay asked, moving into FY25, how information could be better shared with the HAB to assist its members in sharing with their constituencies and the community.

Larry Brandt suggested that, if provided, he could distribute DOE materials from HAB meetings to the community.

Jeff Wyatt suggested holding a regional meeting in Portland or Hood River for greater outreach.

Susan Coleman directed a question to the TPA agency representatives asking how they advertise or communicate HAB matters with the public.

Lindsay Somers said that DOE provided communications through the HAB's web page, Hanford.gov, and social media sites like Facebook and Instagram. MaryAnne Wuennecke, HMIS, also mentioned that they have a Hanford mailing list and do monthly outreach to media.

Ryan Miller said that Ecology shares HAB meeting information on its social media and Hanford distribution list. He also shared HAB matters during an annual meeting with communication managers. Ecology staff were encouraged to attend the HAB meetings to hear discussions first-hand.

Dave Einan, EPA's Region 10 senior RPM for DOE sites, explained that he regularly spoke to EPA's regional management on Hanford and HAB matters. Roberto Armijo would socialize the information on HAB events with EPA staff and meet with interested organizations.

HAB Meeting Survey Responses

During a previous meeting, Brian Moreno, a HAB member representing Public at Large, suggested conducting a survey to help identify challenges with HAB culture from a new member's perspective. Following, Brian developed a report (*Attachment 11*) consolidating the responses, identifying themes among those responses, and identifying potential areas of focus to act upon.

As Brian was unavailable for the day's meeting, Susan Coleman provided an overview of the results (*Attachment 10*). Susan explained that there were only 11 responses provided, though Brian was able to identify a primary theme of the need for clarity among Board members despite the small sample size. Brian defined clarity in this context as:

“When there's absolute clarity, there is no gray area preventing anyone from being able to perform to the best of their abilities. We do an exercise with groups where participants sit back-to-back, one with a simple drawing of an object while their partner has paper and pen. The person with the picture has to explain to their partner how to draw without using obvious words like “draw an arm” or “put a food in the middle.” The question is – can we both get to a point in our relationship where we can draw the same picture? If we ask the Board “what's the roles of a HAB member?” or “what do we need to create the best advice?” can we all draw the same picture? If not, we don't have clarity. Values, cohesiveness, trust, structure, rules and norms, all these things play a role in creating organizational clarity.”

To achieve that clarity, there were four opportunity areas that could be explored:

- Meeting structure and culture

- “Rules of the game,” extending to the members’ feeling of being invited and permitted to innovate
- Recognition of key areas such as mission progress and the value of individual and Board contributions
- Group identity with trust among the individual members

Susan invited the group to discuss potential paths forward based on the results.

Board Discussion

Jeff Wyatt felt that 11 responses was too few and suggested that another survey be conducted. For a follow-up survey, he suggested that the expectation that all Board members participate in it should be made clear.

Lindsay Somers suggested that, rather than an online survey, paper copies could be distributed. Dan Strom noted that a number of the HAB members are “no shows,” so it would not reach those members.

Chris Sutton noted that of those 11 responses, some skipped a selection of questions, effectively reducing that sample size. He noted that the wording of the survey suggested that it was developed with Six Sigma in mind, which were intense exercises. He explained that the HAB formed an operations workgroup in late 2022 that started to address similar items and suggested that the HAB could form another such workgroup.

Rob Davis noted that the Board met infrequently, and due to term limits, their efforts would not be long term. He suggested that time be taken at the start of the HAB’s meetings to review and remind participants of the HAB values. He stated that HAB was a group of people with those shared values and the common mission they conveyed. He did not want to spend too much time on that individual survey, but suggested conducting regular surveys, perhaps on a yearly basis, to identify trends.

Chris Sutton stated that the value of the HAB was its diversity, so not all may share those values. He did not support Rob Davis’s idea of reviewing the values every meeting. In response, Jeff Wyatt stated the HAB should not be caveating its values.

Chuck Torelli recalled that, when the survey was suggested at the December meeting, the point expressed was that the level of engagement between each member was different, with members bringing different levels of technical knowledge and interests. He expected that everyone that joined the Board cared about Hanford. Noting that just a single piece of advice was issued in FY23, he suggested that the effort was worthwhile for those at the leadership level to increase the Board’s functionality.

Rob Parmelee suggested that the structure of the survey could be improved. Rather than creating only “essay” questions, better results could be had where the participants were provided choices. With those, a curve could be developed and commonalities identified. Also, longer surveys would get less responses.

Miya Burke noted that she and Susan met with Brian Moreno to discuss the report and he was not surprised by the results. She asked the group how to act upon the results, noting that Brian provided some suggestions, but felt that onus should be on the Board and agencies to come up with those actions. Some of the suggestions Brian provided were simple, such as engaging in “icebreaker” questions to help address the group identity matter.

Jeff Wyatt supported Rob Parmelee’s survey format idea. He wanted to address why members were not participating and asked if there was an expectation being placed upon members to do so. Lindsay stated that there was not. As each member was a volunteer, they were able to participate as much or as little as they wanted.

Chris Sutton recalled at a past Board meeting, the facilitator asked everyone what their biggest concern regarding Hanford was. Many responses were provided, which were categorized in “bins” and distributed. He expected that most of those bins could be the subject of policy level advice. He suggested doing a similar exercise in the future.

Chuck Torelli supported Chris Sutton’s idea of laying out concerns and providing direction for the Board. He noted that it was difficult to do with infrequent HAB meetings, however. He felt it would be worthwhile to hold a round robin of that sort to provide members time to think about their opinions.

Amber Waldref would appreciate HAB leadership or individuals making efforts toward rallying participation. She noted appreciation for the efforts in arranging after-hours socials for the most recent HAB meetings. He suggested forming a group that could generate ideas for encouraging participation; keeping meetings interesting and focused; and developing relationships. She was willing to participate in such a group, but could not lead.

Larry Brandt did not like taking surveys. He agreed with previously noted structure changes, preferring multiple choice over written responses, though he recognized the value of written responses. He would suggest a mix of both for future surveys. Regarding meeting participation, he suggested that HAB leadership could contact the members or the organizations they represent to encourage participation. Tom Sicilia stated that it was DOE’s responsibility to reach out when a member was not showing up.

Chris Sutton noted that there were a lot of open, spirited conversions held that meeting. He suggested that each Board meeting have opportunities for such discussions.

Jacob Reynolds noted his preference for committee meetings over Board meetings because of the nature of individual participation at those meetings. He expected that holding fewer meetings would not be as effective for participation as holding more, shorter meetings. He noted that the HAB and the tanks committee were unable to talk about some of its biggest areas of interest through the four years of holistic negotiations and expected more good discussion and participation could be had going forward.

Michelle Holt expected that there were a lot of factors potentially impacting engagement and expected that more conversation would be needed to determine the path forward.

Simone Anter, Columbia Riverkeeper, recognized the contributions of those 11 people that responded to the survey.

Lindsay Somers explained that, at the recent EM SSAB meeting, a round robin was held on the question “what does a successful board meeting look like to you?” An answer that stuck out to her could be paraphrased as “it’s not bringing forward a recommendation, but the conversation in the room.” She suggested that the same round robin could be provided at the next Board meeting. Rebecca Holland supported the idea, stating that it could provide the groundwork for next steps.

Tom Sicilia noted that was the question that the operations workgroup started with. He suggested starting that with the results from that previous question, and seeing what might be different two years later.

Susan Coleman invited the participants to decide the next steps to take, noting that several potential paths were discussed.

Chris Sutton supported forming a new operations work group, ignoring the results from the previous workgroup, and seeing if new ideas were formed. Tom Sicilia suggested an engagement-focused workgroup, rather than an operations-focused workgroup.

Larry Brandt suggested rather than abandoning the work done with the survey, consider what could be done to modify the survey or build off the input provided.

Action/Decision Item: A decision was made to form an IM team that would come back with recommendations based on the existing results due. The IM team would consist of Miya Burke, Rob Parmelee, Brisa Guajardo, Amber Waldref, and Larry Brandt. Recommendations were anticipated for the September meeting.

Status Updates on Previous HAB Action Items

Lindsay Somers shared that there were no updates to share from the Tribal Office regarding the status of the land acknowledgements at HAB meetings. It was unlikely to be a topic at a concurrently held State and Tribal Government Working Group meeting.

Miya Burke provided background, explaining that the ESC formed an IM team to discuss the role of alternate members on the HAB. The IM team was planning to meet on May 15. She invited interested HAB members to join.

Committee Reports

Land Use, Infrastructure, Waste Disposition, and Safety Committee

Rebecca Holland, LIDS chair, informed everyone that LIDS met in March and had presentations on infrastructure and traffic safety on the Hanford Site. Following the traffic safety presentation, the committee discussed related concerns and considered updating its 2019 traffic safety advice. Richard Bloom, LIDS vice chair, was serving as Issue Manager for traffic safety advice. The committee was anticipating learning more about a traffic engineering study discussed as part of its traffic safety presentation that could inform potential advice.

Tank Waste Stewardship and Treatment Committee

Rob Davis, TWST chair, discussed two presentations provided at the committee's most recent meeting. The first was provided by Mat Irwin regarding DFLAW, during which the committee learned about startup activities and progress, including work to overcome challenges such as an in-leakage issue discovered during Melter 2 startup. Mat provided a target date for the DFLAW facility performance test, to be scheduled for the end of this year. He agreed to come and talk with HAB if necessary. The second presentation was on *System Plan 10*. He felt that some good discussion arose in between the committee and the subject matter experts throughout the presentations. That was what constituted a good meeting to him: good presentations and riveting conversations.

He invited interested participants to join the TWST's June meeting, which was anticipated to include presentations on TBI and the Advanced Modular Pretreatment System (AMPS).

Cleanup and Risk Mitigation Committee

Tom Sicilia, CaRM Chair, discussed the CaRM's meeting in March. Briefings were provided on the 100 K Basin cleanup, where they planned to dewater the basin and then fill with grout, as well as the Records of Decisions (ROD) and Proposed Plans for 100 K and 100 N areas. Comment periods on those Proposed Plans were anticipated by the end of the calendar year. He noted that CaRM was seeking nominees for a vice chair.

In April a joint meeting between with LIDS and CaRM was held to approve the draft TRU advice adopted earlier that meeting. During the next meeting, CaRM would determine what topics it wanted to include in its work plan for the next fiscal year.

Community Outreach and Engagement Committee

Michelle Holt, Community Outreach and Engagement (COE) Committee vice chair, noted that during the COE's next meeting, they looked forward to hearing an update from a COE-sponsored IM team considering public involvement matters. Tom Sicilia, that IM team leader, provided a review of the team's scope and actions that had taken place since that meeting. The IM team hoped to present draft advice to the committee during the next meeting and seek feedback on a "Hanford University" repository or YouTube channel, where all of the 101 documents or presentations that have been developed over the years could circulate. It could be a "one stop shop" for people who are either joining the Board or just interested in Hanford.

Michelle shared that COE was also inviting nominations for both chair and vice chair, which would be discussed at its next meeting.

HAB Administrative Business

Leadership Term Proposal

Susan Coleman introduced a proposal (*Attachment 12*) to shift the appointment dates of its chair, vice chair, and national liaison to align with the membership term and eliminate gaps in leadership. This would align with a recent change made to the term dates of the HAB's committee leadership. The proposal contained three key points:

- The first would change the terms of service for the HAB's leadership to run from October 1 through September 30.
- To support that change, the second would be an agreement to extend the terms of its present leadership to September 30, 2025. If that point was not accepted, an election would need to be held in one of the HAB's upcoming meetings to select interim leadership to fill that partial-year gap.
- The third, applicable if the second item passed, would be a request for the TPA agencies to formally approve the extension of term for the HAB chair.

Susan requested feedback from the Board and questions arose of if she was asking for questions or approval.

The Board held a discussion on the need for consensus for the proposal. It was determined that achieving consensus would be the best practice to pursue. Following confirmation of quorum, the Board reviewed each of the three points to confirm agreement.

Action/Decision Item: The Board agreed on all three points of the proposal by consensus.

Lindsay Somers agreed to move the third point of the proposal onward for TPA agency senior management review.

Hanford Workforce Engagement Center Tour

Susan Coleman polled for interest in the possibility of touring the Hanford Workforce Engagement Center (HWEC). With sufficient interest expressed, Lindsay Somers agreed that DOE would take the lead in arranging the tour.

Future Meeting Review

Josh Patnaude provided a review of the upcoming meetings. Of note, August 5 was decided at the date for the next Committee of the Whole, which would be focused on the Hanford Site-wide Permit Revision 9A. Space was reserved in Spokane, WA, for the HAB's September meeting.

Public Comment

Day 1 Comment

Gerry Pollet, public representative of HOANW, thanked those that provided the presentation on the holistic agreement. He discussed his background with Hanford, starting with his involvement in Washington State's Referendum 40, which gave Washington state the authority to challenge DOE's process of selecting Hanford as a high-level waste repository. He stated that, over the years, DOE proposed adding waste to the Hanford Site several times, while the holistic agreement represented an incredible watershed, with DOE agreeing to remove waste from Hanford. He described how the agreement was in recognition of how the Hanford Site was ill-suited for long-term storage or disposal of radioactive waste and how on-site disposal of such waste would not be protective of groundwater. He felt it was important to look at the total burden of contamination on the Hanford site and how to reduce it. He appreciated the step forward proposed in the agreement and moving forward together on a vision to reduce the total amount of waste at Hanford.

Day 2 Comment

Jacob Reynolds informed everyone that this would be his last HAB meeting and wanted to say goodbye. He thanked everyone for having him. He discussed his background and interest in environmental cleanup and policy that ultimately led him to work at Hanford. Since starting at Hanford, he supported several areas related to tank waste retrieval and immobilization. Through his work, he explained, he was involved in many of the topics the HAB was interested in discussing. He clarified that his work was of a technical nature, and he focused on policy matters while serving as a member of the HAB. As he would no longer be serving as a member of the HAB, he hoped to relay areas of interest for the future. He explained that the Federally Funded Research and Development Center (FFRDC) report served as a technical review, but he suggested that such matters could also use another review. As a policy board, the HAB could serve as a reviewer from that perspective. The HAB could submit advice to DOE suggesting that as a path forward.

Dan Solitz suggested that the HAB consider what would be coming up in the future. He stated that the new Integrated Tank Disposition Contract task orders were different than other Indefinite Delivery/Indefinite Quantity (ID/IQ) contracts used at Hanford in the past and would be worth looking at. He suggested that the HAB keep a closer eye on the waste treatment plans as well.

Meeting Recording

Day 1: <https://youtu.be/7QrkoFFguRg?si=U6MmN-qMxvdP-Pzx>

Day 2: <https://youtu.be/rZFu2rBJgsY?si=roYYAdfx71DIHswi>

Attachments

Attachment 1: [Meeting Agenda](#)

Attachment 2: [TPA Presentation- Holistic Agreement on Cleanup of Hanford Site Tank Waste](#)

Attachment 3: [Transport of Test Bed Initiative Fact Sheet](#)

Attachment 4: [Department of Energy Project Photos](#)

Attachment 5: [Department of Ecology Agency Update](#)

Attachment 6: [Draft Recommendation on EM SSAB Web Content](#)

Attachment 7: [Draft Transuranic Waste Advice Introduction](#)

Attachment 8: [Draft Transuranic Waste Advice](#)

Attachment 9: [TRAC Factsheet](#)

Attachment 10: [Board Engagement Survey Overview](#)

Attachment 11: [HAB Board Engagement Survey Report](#)

Attachment 12: [HAB Leadership Term Proposal](#)

Meeting Attendees

Day 1

Board Members: Primary (P) and Alternate (A)

Simone Anter, Columbia Riverkeeper (A)	Matt Hendrickson, Oregon Department of Energy (A)	Tom Sicilia, Oregon Department of Energy (P)
Jessica Black, Columbia Riverkeeper (P)	Rebecca Holland, HAMTC (P)*	Dan Strom, Benton-Franklin Health District (P)*
Richard Bloom, City of West Richland, (A)*	Michelle Holt, Benton-Franklin Council of Governments (P)	Chris Sutton, Public at Large*
Larry Brandt, Public at Large*	Timothy Kovis, Public at Large	Chuck Torelli, City of Kennewick*
Miya Burke, Hanford Challenge (P)*	Pam Larsen, Benton County (P)*	Bob Thompson, City of Richland*
Susan Coleman, Public at Large*	Michael Lee, Columbia Basin College*	Amber Waldref, Heart of America Northwest (P)*
James Conca, TRIDEC (P)*	Joseph Mathieu, Public at Large	Jeff Wyatt, Oregon Hanford Cleanup Board (P)*
Rob Davis, City of Pasco (P)*	Rob Parmelee, Non-Union, Non-Management Employees (P)*	
Brisa Guajardo, Tri-Cities Hispanic Chamber of Commerce (P)*	Jacob Reynolds, Non-Union, Non-Management Employees (P)*	

Others:

Richard Buel, DOE*	Ambika Chakravarty, Ecology	Laura Caulfield, AttainX*
Jennifer Colborn, DOE	Dave DeSimone, Ecology	Megan Riccobono, AFCEC*
Kristen Ellis, DOE*	Cathrene Glick, Ecology	Dieter Bohrmann, CPCCo*

Cameron Hardy, DOE	Edward Holbrook, Ecology*	Jeffrey Larson, GAO
Delmar Noyes, DOE*	Dan McDonald, Ecology	Stephanie Brasher, HMIS
Cerise Peck, DOE	Ryan Miller, Ecology*	Patrick Conrad, HMIS*
Lindsay Somers, DOE*	Steve Needles, Ecology	Coleen Drinkard, HMIS*
Mark Silberstein, DOE	Roberto Armijo, EPA	Debra Kelley, HMIS*
Brian Stickney, DOE*	Craig Cameron, EPA*	Maryanne Wuennecke, HMIS*
Meegan Tripp, DOE*	Beth Clemons, EPA	Thomas Brouns, PNNL
Michael Turner, DOE	David Einan, EPA*	Kelly Wood, Washington Attorney General's Office
Geoffrey Tyree, DOE	Cascade Galasso-Irish, EPA	Grant Bachaud, WRPS
Brian Vance, DOE*	Tim Hamlin, EPA	Jennifer Kochenauer, WRPS
Gary Younger, DOE	Michelle Mullin, EPA	Wayne Barber, Weapons Complex Monitor
	Jacyln Satira, EPA*	Li Wang, YN ERWM
	Geoff Schramm, EPA*	Matt Lynch, Public, Nez Perce Tribe
	Nick Vidargas, EPA	Gerry Pollet, Public, Heart of Northwest
	Jane LePage, DOH	Robert Quirk, Public*
	Megan Perkins, DOH*	Dan Serres, Public
		Dan Solitz, Public
		Ben Garrett
		Gareth K
		Miles Janich
		Kristin Kraemer
		Dean Shuda
		Smith
		Clifton Walter
		Chandra Flores, HAB Facilitation*
		Lacey Mansius, HAB Facilitation*
		Josh Patnaude, HAB Facilitation*

Day 2

Board Members: Primary (P) and Alternate (A)

Simone Anter, Columbia Riverkeeper (A)	Pam Larsen, Benton County (P)*	Chris Sutton, Public at Large*
Larry Brandt, Public at Large*	Mason Murphy, CTUIR (A)	Chuck Torelli, City of Kennewick (P)*
Miya Burke, Hanford Challenge (P)*	Rob Parmelee, Non-Union, Non-Management Employees (P)*	Amber Waldref, Heart of America Northwest (P)*
Susan Coleman, Public at Large*	David Reeploeg, TRIDEC (A)*	Jeff Wyatt, Oregon Hanford Cleanup Board (P)*
Rob Davis, City of Pasco (P)*	Jacob Reynolds, Non-Union, Non-Management Employees*	
Brisa Guajardo, Tri-Cities Hispanic Chamber of Commerce (P)*	Tom Sicilia, Oregon Department of Energy (P)	
Matt Hendrickson, Oregon Department of Energy (A)	John Smart, City of West Richland (P)	
Rebecca Holland, HAMTC (P)*	Dan Strom, Benton-Franklin Health District (P)*	

Others:

Lindsay Somers, DOE*	Dave DeSimone, Ecology	Laura Caulfield, AttainX*
Meegan Tripp, DOE*	Ryan Miller, Ecology*	Megan Riccobono, AFCEC *
	Roberto Armijo, EPA	Dieter Bohrmann, CPCCo*
	David Einan, EPA*	Matthew Campbell, CTUIR
	Jane LePage, DOH	Jaclyn Evans, GAO
	Megan Perkins, DOH*	Patrick Conrad, HMIS
		Maryanne Wuennecke, HMIS*
		Thomas Brouns, PNNL
		Jennifer Fanning, PNNL
		Christian Johnson, PNNL
		Li Wang, Public, Yakama Nation
		Matt Lynch, Public, Nez Perce Tribe
		Robert Quirk, Public*

		Dan Serres, Public
		Dan Solitz, Public
		Chandra Flores, HAB Facilitation*
		Lacey Mansius, HAB Facilitation*
		Josh Patnaude, HAB Facilitation*

** Denotes that the individual signed in or was otherwise noted as attending the meeting in-person.*

Note: Meeting participants were asked to sign in with their name and affiliation. Some participants may not have shared that information. The attendance list reflects what information was collected at the meeting.

May 2024 Hanford National Liaison Report

Waste Isolation Pilot Plant Finishes Annual Maintenance Ahead of Schedule

CARLSBAD, N.M. – Workers at the U.S. Department of Energy Office of Environmental Management’s (EM) Waste Isolation Pilot Plant (WIPP) completed a lengthy checklist of projects ahead of schedule during the facility’s recent annual maintenance period.

Because the maintenance was well planned in the summer of 2023, it allowed time for crews to meticulously pivot to unplanned, unexpected projects, like a multi-day challenge of changing a 10,600-pound wire rope on the waste hoist.

The annual maintenance period, Feb. 5 through March 31, originally included 150 corrective and preventive maintenance projects that normally interrupt WIPP operations because they take multiple days to complete, or are in critical areas that would pause or stop other operations. Twelve projects were added for a total 162 projects completed.

WIPP coordinated with EM and National Nuclear Security Administration sites across the nation in advance as new shipments of defense-generated transuranic waste for disposal at WIPP were put on hold during the maintenance period.

The largest projects completed include:

- Salt rock was mined in the WIPP underground to create a dedicated exhaust air route for future waste emplacement panels.
- At the bottom of the hoist used for lowering waste into the underground, steel framework was supported and the salt rock underneath the structure, rails and associated mechanisms were all leveled.
- The contact-handled waste bay area, where transuranic waste payloads are downloaded into the mine, underwent maintenance on four overhead cranes, ventilation fans and the four docks used for waste processing.
- The large contact-handled waste bay area floor received a new coating.

Savannah River Site Checks Off EM Priority With Disposal Unit Construction

AIKEN, S.C. The U.S. Department of Energy [Office of Environmental Management](#) (EM) has authorized the newest mega-size disposal unit to begin operating at the [Savannah River Site](#) (SRS), completing a [2024 priority](#) for the cleanup program.

The authorization marks the last step before the [Saltstone Disposal Unit](#) (SDU) 9 can begin to receive decontaminated material for disposal. The unit was completed over \$60 million under budget and seven months ahead of schedule. Achieving significant

construction milestones, such as SDU 9, is an EM priority and part of the cleanup programs [10-year Strategic Vision](#).

These units play a critical role in EMs commitment to undertaking one of the largest environmental cleanup efforts in the country. The mega-size Saltstone disposal units are vital to safely dispose of legacy liquid waste and complete the SRS [Liquid Waste Program](#).

It wasn't the first time the liquid waste team at SRS fulfilled an EM annual priority by completing construction of a mega-size disposal unit. They met the challenge [last year](#) with SDU 8 and in [2021](#) with SDU 7.

EMs liquid waste contractor at SRS, Savannah River Mission Completion (SRMC), manages the construction and operation of the SDUs. Subcontractors completed the site preparation, interior and exterior liner systems, and unit construction.

The SDUs are the end of the salt waste processing path. The [Salt Waste Processing Facility](#) (SWPF) produces decontaminated material that is sent to the Saltstone Production Facility, where it is mixed with dry materials to make a cement-like grout. The grout is pumped into the SDUs, where it solidifies into a monolithic, non-hazardous form.

Radioactive liquid waste is still being generated at SRS as byproducts from processing nuclear materials for national defense, research, medical programs and for NASA missions. The waste totaling 33 million gallons is stored in two groupings of underground waste tanks known as [tank farms](#).

SDU 9 is the fourth mega-size unit built at SRS and can hold up to 33 million gallons of Saltstone. These larger SDUs are designed to support the increased material production from SWPF. The new SDUs result in more than \$500 million in cost savings over the life of the SRS Liquid Waste Program because they require less infrastructure and materials than the previously planned 80 smaller SDUs.

They are also in various stages of constructing the final SDUs needed at 10, 11 and 12. SDU 10 is under construction while sites have been prepared for SDUs 11 and 12 with mud mat construction beginning for SDU 11 this year.

The SDU 9 construction project was another well executed undertaking by the team, according to SRMC President and Program Manager Dave Olson.

To safely and successfully complete a construction project of this magnitude required incredible focus, collaboration and talent by the entire team, Olson said. I am proud of the SRMC teams accomplishment that brings us one step closer to completing our mission through this essential project.

Source of Information: DOE-HQ publications

Appendix B: Advice on Transuranic Waste as Adopted

Version #: Rev. 4*

Date Revised: [0405/2206/2024]

Color: Pink Yellow Green Buff Purple Blue Goldenrod

Letter Heading:

To: [Names, titles, and organizations, as appropriate]

Subject: Comprehensive planning for disposition of Hanford’s Transuranic Waste

Summary:

~~There is m~~Material classified as transuranic/transuranic mixed (TRU/M) waste at the Hanford site ~~which~~ currently has only one legal disposal pathway. The disposal facility for all the TRU/M waste in the country is the Waste Isolation Pilot Plant (WIPP) in New Mexico. A ten-year extension (Revision 10) of the WIPP Hazardous Waste Facility Permit (HWFP) ends in 2032. U.S. Department of Energy (US DOE) anticipates additional extensions through the 2070s. The WIPP Permit renewal calls on each US DOE- Environmental Management (EM) site to define-identify “legacy waste,” which will be incorporated into the emplacement of Panel 12, if practicable. The Carlsbad Field Office has requested Citizen Advisory Boards - such as this one - to provide advice related to legacy waste. There currently is not a holistic guideline to ensure that all of Hanford’s TRU/M can get to WIPP before it closes. The Hanford Advisory Board (HAB) believes holistic guidelines should be incorporated in a Tri-Party Agreement (TPA) milestone to develop a TRU/M System Plan.

Cleanup sites and the weapons complex are competing for disposal space at WIPP. The Board is concerned that there is not a clear disposal plan for the portion of Hanford's TRU/M waste that is excluded from the M-091 milestone series. In addition, the Board is concerned that WIPP will not be able to accept all of Hanford's TRU/M waste either because of timing or capacity. Due to these concerns and the long lead time for siting a new disposal facility, the Board is advising the TPA agencies or the DOE-RL/ORP offices to:

- Develop a comprehensive strategy for transuranic and mixed transuranic wastes, including those not addressed under the M-091 milestone. Having a more refined plan will allow cleanup to progress with safe interim storagesafely and will ensure that WIPP has the information it needs to fit all of Hanford’s transuranic and mixed transuranic into its schedule
- Following completion of the plan, the Board advises the TPA agencies to evaluate whether additional retrieval milestones for transuranic and mixed transuranic not covered by the M-091 Milestone series are needed

- ~~Define "legacy waste" as~~Identify all TRU/M waste remaining at Hanford, including pre-1970 potential TRU/M as being eligible for preferential disposal in Panel 12 under the 2022 WIPP Permit
- Request that US DOE-EM pursue a transparent and equitable process to identify additional repository locations for transuranic and mixed transuranic waste.

Background:

Given the nature of the processes that created waste at Hanford, there are several waste types that cannot legally be disposed in shallow landfills. Of the wastes that must be transported off site for disposal, only TRU/M has a legal repository. *TRU waste is radioactive waste that, without regard to source or form, is contaminated with alpha-emitting TRU radionuclides having atomic numbers larger than 92 and half-lives longer than 20 years in concentrations greater than 100 nanocuries per gram of waste.* (1) [Update with DOE's definition]. These wastes, generally consisting of contaminated soil, protective clothing, tools, and equipment, can currently be disposed at WIPP which is outside of Carlsbad, NM (2).

WIPP is constructed in a self-sealing massive 2,000-foot-thick salt deposit approximately half a mile below the ground surface. Congress authorized construction of WIPP in 1979, and the facility was certified by the U.S. Environmental Protection Agency (US EPA) in 1998. WIPP is permitted to receive only TRU/M solid waste. The WIPP Hazardous Waste Facility Permit (HWFP) specifies that spent nuclear fuel, waste classified as high-level waste, and transuranic wastes from tanks in Hanford tank farms cannot be disposed at WIPP (3).

The WIPP HWFP has been regularly extended with the cooperation of federal and state permitting agencies. Currently US DOE anticipates WIPP will remain open until 2050, or into the 2080s. However, the anticipated closure estimate of the facility varies depending on state permitting, waste volume limits, and potential expansion. The current (Revision 10) HWFP for WIPP anticipates that the last waste will be disposed in 2032 (3). There is every indication that the operating permit will continue to be revised until the disposal facility reaches its capacity.

TRU/M at Hanford is separated into "retrievably stored" and "pre-1970" potential mixed waste, the difference being when the waste was containerized and staged for disposal. There is also transuranic waste that is not mixed with hazardous material which may be retrievably stored or pre-1970. Waste that was staged after 1970 is considered retrievably stored. This post-1970 waste is subject to the M-091 milestone package (4) and has an enforceable transportation schedule to WIPP between 2028 and 2050. *The scope of the M-091 Milestone series [...] is to complete retrieval and eliminate the backlog of Hanford Site mixed low-level waste (MLLW) and transuranic mixed (TRUM) waste in storage (4).* Estimated volumes of retrievably stored and potential mixed waste at

the Hanford site are presented in a Transuranic Mixed and Mixed Low-Level Waste Project Management Plan (5) generated annually as part of the M-091 milestone. In addition to the estimated 12,000 m³ of retrievably stored TRU/M subject to the M-091 milestones, there is also estimated to be approximately 45,000 m³ of potential CERCLA TRU/M outside of tank farms that has no enforceable disposal schedule. There is low confidence in the estimate of potential CERCLA TRU/M, as much of the material is associated with waste site cleanups and there is uncertainty as to how much of it will meet the definition of TRU/M once it is excavated. There is additional potential transuranic waste not mixed with hazardous materials which is not included in the PMP (6). Characterization, decision, and excavation of the potential TRU/M wastes will take decades, which is compounded by the three-year federal budgeting process. Any transuranic and mixed transuranic waste not sent to WIPP before it closes will be orphaned at the Hanford site until the federal government establishes, constructs, and permits an additional disposal facility.

The promise of Hanford's transuranic and mixed transuranic disposition at WIPP has recently been highlighted by discussions and decisions between federal and New Mexico government agencies. US DOE and the National Nuclear Security Administration (NNSA) are planning to "down-blend" up to 50 metric tons of surplus plutonium for eventual disposal at WIPP (7). Down-blended material could require four shipments to WIPP a week, totaling more than 3,800 total shipments between 2024 and 2049 (8). Hanford's TRU/M waste delivery schedules will compete with NNSA shipments. In addition to using much of the permitted volume of the facility, NNSA shipments will limit the amount of waste that WIPP can process. The remaining TRU/M waste will stay at Hanford until a pathway for disposal is identified. It poses a significant risk to the site if 45,000 m³ or more of the remaining TRU and Mixed TRU, which does not currently have a milestone, remains at Hanford. In 2020, the National Academy of Sciences estimated that the total volume of TRU/M waste that is destined for disposition at WIPP exceeds the Land Withdrawal Act statute limit by 10-50% (8). US DOE has not presented a transparent plan to solve this problem. Revision 10 of the WIPP HWFP did provide an opportunity to minimize the risk of orphan TRU/M waste at EM sites. If practicable, the WIPP HWFP calls for emplacement of "legacy waste" in panel 12 of WIPP. The WIPP HWFP directs the US DOE Carlsbad Field Office to coordinate with each EM site as it defines "legacy waste" with advice from stakeholders, including boards like the HAB (10).

Advice:

Safe removal, treatment (immobilization) and disposal (RTD) of transuranic and mixed transuranic waste is consistent with the HAB's core values. [As always, the Board asks the TPA agencies to provide a response for each of the advice points below.](#)

Offsite geologic disposal of the Hanford transuranic and mixed transuranic waste is uncertain due to license renewals and permitting. The Board is concerned that a portion of the Hanford transuranic

Issue Manager Team & Authors: Tom Sicilia, Miya Burke, Larry Haler, Pam Larson, Rob Davis, Steve Anderson, Richard Bloom, Robert Quirk, Susan Coleman

and mixed transuranic waste may remain orphaned at the site. With that concern in mind, the Board recommends:

1. The Board advises the TPA agencies to refine the best estimate of retrievably stored and pre-1970s potential transuranic and mixed transuranic quantities presented in the Project Management Plan (PMP) to outline a framework for a “TRU Waste System Plan.” New Milestones covering the system plan should include discussion of already retrieved wastes, retrievably stored waste, and potential transuranic and mixed wastes generated pre-1970. The TRU Waste System Plan should be provided to the Carlsbad Field Office, and portions can serve as Hanford’s inform the Legacy TRU Waste Disposal Plan, as requested-required by the 2022 WIPP Permit. The US DOE Hanford office should consider including estimates for the volume of TRU, excluding the container it is stored in to be consistent with the nomenclature at WIPP.
2. Following completion of the plan, the Board advises the TPA agencies to evaluate whether additional retrieval milestones for transuranic and mixed transuranic not covered by the M-091 Milestone series are needed, as presented in HAB advice 154 (11) and 231 (12).
3. The Board advises the TPA agencies to define “legacy waste” at Hanford as characterize identify all known or suspected transuranic and mixed transuranic at the site, which would give allow the Carlsbad Field Office to assign Hanford TRU wastes “Panel 12” priority to production waste over down-blended plutonium if practicable.
4. The Board advises the US DOE Hanford office to request that US DOE-EM pursue a transparent and equitable process to identify additional repository locations for transuranic and mixed transuranic waste.

References:

1. <https://wipp.energy.gov/library/CRA/BaselineTool/Documents/Appendices/EMP.PDF> THE WASTE ISOLATION PILOT PLANT LAND WITHDRAWAL ACT as amended by Public Law 104-201 (H.R. 3230, 104th Congress)
2. <https://www.env.nm.gov/hazardous-waste/wipp-permit-page/>
3. <https://pdw.hanford.gov/document/AR-07648>
4. Project Management Plan – HNF-19169 Rev 25 <https://pdw.hanford.gov/document/AR-25062>
5. Presentation from 2010 COTW:
<https://www.yumpu.com/en/document/view/22161870/20101005-swbg-cotws-tpa-presentations-hanford-site>
6. https://www.srs.gov/general/news/factsheets/srs_plutonium_blend_down.pdf
7. <https://doi.org/10.17226/25593>

8. <https://www.ans.org/news/article-4576/new-mexico-tightens-restrictions-on-wipp-permit-renewal/>
9. <https://wipp.energy.gov/Legacy-TRU-Waste-Disposal-Plan.asp>
10. HAB Advice #154: https://www.hanford.gov/files.cfm/HAB_Adv-154.pdf
11. HAB Advice #231: https://www.hanford.gov/files.cfm/HABAdv_231.pdf

Appendix C: Draft Feedback Related to Responses to Advice

Draft Cover Letter from Susan Coleman

Subject: HAB Feedback on Agency Responses to Consensus Advice #315

On behalf of the Hanford Advisory Board (HAB), I would like to extend our gratitude to the Tri-Party Agreement (TPA) agencies—the U.S. Department of Energy (DOE), the U.S. Environmental Protection Agency (EPA), and the Washington Department of Ecology (Ecology)—for your responses to our Consensus Advice #315 regarding the fiscal year 2026 Hanford Site cleanup priorities.

We appreciate the time and effort each agency has devoted to addressing the specific points raised in our advice. The responses reflect a shared commitment to advancing the cleanup process at Hanford, ensuring compliance with regulatory requirements, and enhancing public involvement and transparency.

In the spirit of continued collaboration and open dialogue, please find our feedback on the responses from each TPA agency. We are pleased to note numerous areas where our recommendations have been acknowledged and supported. We also recognize areas where further discussion and clarification may be beneficial to ensure alignment and effectiveness in meeting the cleanup goals.

Thank you again for your engagement and responsiveness. Please do not hesitate to contact me should you have any questions or require additional information.

Sincerely,

Susan Coleman

Chair, Hanford Advisory Board

Feedback to the Tri-Party Agencies on HAB Advice #315

From the perspective of the Hanford Advisory Board (HAB), the response from the **U.S. Department of Energy** (DOE) to the consensus advice on fiscal year 2026 Hanford Site cleanup priorities is lacking in several key areas:

1. **Lack of Specific Commitments:** The DOE's response, while polite and appreciative, does not commit to any specific recommendations made by the HAB. Given the detailed and actionable advice provided by the HAB, including specific projects and funding suggestions, the HAB would expect a response that addresses these points directly. The absence of specific commitments or a detailed plan to implement the HAB's advice could be seen as a non-committal and generic acknowledgment rather than a substantive engagement.
2. **Generalized Acknowledgment:** The DOE's response appreciates the effort and input from the HAB but stops short of engaging with the specifics of the advice. The HAB might find this approach somewhat dismissive, as it does not adequately reflect the depth and urgency of the concerns raised by the HAB, particularly in areas requiring immediate action or funding adjustments.
3. **Absence of Detailed Dialogue:** While the DOE mentions the importance of maintaining a dialogue and values the input from diverse perspectives, there is no clear indication of how this dialogue will be structured. The HAB might expect a more concrete proposal for how the DOE plans to incorporate the advice into its operations, perhaps through workshops, follow-up meetings, or a detailed point-by-point response as specifically requested by the HAB.
4. **Vague Reference to Constraints:** The DOE's response mentions that it might not act on specific input due to various unspecified reasons. This lack of specificity leaves the Board in the dark about what exactly might hinder the implementation of their recommendations. A more detailed explanation of these constraints, or at least a commitment to discuss them in a future meeting, would be beneficial.
5. **Response to Historical Expectations:** The HAB's advice includes a note that responses in the past have not met the board's expectations. The current response from the DOE might seem to continue this trend by not adequately addressing the HAB's desire for a more engaged and responsive interaction. The Board might view this as a continuation of a pattern that doesn't fully respect or utilize the advisory capacity of the HAB.

In essence, DOE's response is courteous but inadequate in terms of addressing the substantive issues raised by the board. The Board is concerned that without a more engaged and specific response, DOE may not fully integrate the HAB's detailed advice into the cleanup project's strategic planning and execution, potentially leading to less effective cleanup efforts and missed opportunities for improvement.

From the perspective of the HAB, the response from the **Washington Department of Ecology** (Ecology) to the Hanford Advisory Board's (HAB) Consensus Advice #315 is viewed positively as the detailed point-by-point response showcases their commitment to engaging with the HAB's advice and reflects a collaborative approach to addressing the complex challenges of the Hanford cleanup. Here are the key areas where the response is particularly commendable:

1. **Detailed and Responsive Engagement:** Ecology provided a detailed point-by-point response, addressing each recommendation made by the HAB. This level of detail demonstrates Ecology's commitment to seriously considering the HAB's input and incorporating it into their regulatory oversight. For instance, in response to the HAB's advice on public involvement and transparency, Ecology notes its efforts to improve metrics for tracking environmental work and its intention to include target goals alongside actual results, which is a direct and proactive response to the HAB's advice.
2. **Acknowledgment of Ongoing Collaborations:** Ecology clearly outlines how it is already working with other agencies, including DOE and EPA, to enhance cleanup efforts. This is evident in their cooperation on improving public-facing metrics and responding to public comments, showing a concerted effort to increase transparency and public engagement, which aligns well with the HAB's recommendations.
3. **Support for Critical Cleanup Priorities:** Ecology's response aligns well with several of the HAB's critical cleanup priorities. For example, Ecology supports the continuation and completion of key projects like the Direct-Feed Low-Activity Waste (DFLAW) facility, emphasizing its importance and confirming its alignment with agreed regulatory milestones. Additionally, Ecology's agreement on the priority of addressing the 324 Building and the 105-KW Fuel Storage Basin demonstrates their commitment to risk reduction along the river corridor, which is a critical area of concern.
4. **Proactive Stance on Regulatory Compliance and Milestones:** Ecology concurs with the HAB's advice on the importance of maintaining a compliant budget to meet all TPA milestones. Their response underscores a shared commitment to achieving these milestones, which is crucial for the timely and effective cleanup of the Hanford Site.
5. **Engagement in Workforce Development:** Although Ecology defers to DOE on the implementation of a comprehensive workforce strategy, they recognize the importance of this issue and the need for collaboration among the TPA agencies. This reflects an understanding of the broader challenges faced in project execution and the importance of a stable and skilled workforce, which is vital for the long-term success of the Hanford cleanup mission.

In summary, the Department of Ecology's response to HAB Advice #315 is commendable for its thoroughness, responsiveness, and the clear commitment to collaborative efforts with other agencies to address the cleanup priorities at Hanford. While the primary responsibility for managing the project lies with DOE, Ecology's engagement and proactive contributions positively impact the overall direction and effectiveness of the cleanup efforts, aligning well with the HAB's expectations and contributing positively to the project's progress.

The response from the **U.S. Environmental Protection Agency (EPA)** to the Hanford Advisory Board's (HAB) Consensus Advice #315 for fiscal year 2026 cleanup priorities offers several notable positives, especially considering EPA's secondary and supportive role in the management of the Hanford cleanup project, primarily led by DOE and Ecology.

1. **Appreciative and Engaged Response:** EPA acknowledges and appreciates the efforts of the HAB in developing their advice, recognizing the time and effort involved.
2. **Specific Acknowledgments of Advice:** EPA provides a point-by-point response to the items listed in the FY2026 Critical Priority Aligned with 5-Year Plan Goals table. This includes expressing support for initiatives that are within their scope, such as improving public outreach and engagement, and acknowledging areas where they support DOE and Ecology's efforts, such as transitioning towards renewable/alternative energy sources and ensuring compliance with TPA milestones.
3. **Commitment to Public Engagement and Transparency:** EPA's response highlights its ongoing efforts to improve public engagement, such as developing materials in multiple languages and supporting evening public meetings. This commitment aligns well with the HAB's emphasis on public involvement and transparency, reflecting EPA's dedication to ensuring that community voices are heard and considered in the cleanup process.
4. **Collaborative Approach:** The EPA mentions its collaborations with DOE and other TPA agencies to meet cleanup obligations and milestones. This collaborative stance is important because it demonstrates EPA's role in supporting the lead agencies and ensuring that environmental standards and regulations are upheld throughout the cleanup process.
5. **Support for Environmental Goals:** Even in areas that fall primarily under the purview of DOE or Ecology, such as waste treatment and disposal, EPA supports the broader environmental goals. For example, EPA supports the transition to renewable energy sources and efficient use of disposal capacity, which aligns with HAB's environmental priorities and the broader goal of sustainable and responsible cleanup.

In summary, the EPA's response, while acknowledging its secondary role in the Hanford Site cleanup, effectively communicates its support for the HAB's recommendations and its collaborative efforts with primary agencies.