

FINAL MEETING SUMMARY

HANFORD ADVISORY BOARD

February 3-4, 2016

Richland, WA

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This is only a summary of issues and actions presented at this meeting. It may not represent the fullness of ideas discussed or opinions given, and should not be used as a substitute for actual public involvement or public comment on any particular topic unless specifically identified as such.

Executive Summary

Hanford Advisory Board Action

The Hanford Advisory Board (HAB or Board) adopted two pieces of advice: one regarding transportation infrastructure upgrades and safety considerations and one advising agencies on a proposed change package to Tri-Party Agreement (TPA) milestone series M-015, M-016, M-37, M-085, and M-94.

Hanford Advisory Board Business

The Board approved two letters. The first letter regarded funding for potential future stages of the Consortium for Risk Evaluation with Stakeholder Participation (CRESP) Hanford Site-wide Risk Review Project, and the second letter commented on the negotiation of the Remedial Design/Remedial Action (RD/RA) Work Plan, Draft B for the 200-CW-5, 200-PW-1, PW-3, and PW-6 Operable Units. The Board

also adopted guidelines for the process and development of the HAB's Annual Work Plan. Board members reviewed the HAB fiscal year (FY) 2016 Work Plan and identified potential meeting topics for the April 2016 Board meeting.

Presentations and Updates

The Board received presentations on:

- TPA Agency Program Reports
- TPA and Milestone Change Tutorial
- 100 D/H Proposed Plan Introduction
- Board Committee Reports

Public comment

One public comment was provided.

HANFORD ADVISORY BOARD

February 3-4, 2016 Richland, WA

Steve Hudson, Hanford Watch and Board chair, called the meeting of the Hanford Advisory Board (HAB or Board) to order. The meeting was open to members of the public and offered opportunities for public comment.

The Board meeting was audio-recorded.

Welcome, Introductions, and Announcements

Steve welcomed everyone to the meeting, and he introduced one new alternate.

Jon Peschong, U.S. Department of Energy – Richland Operations Office (DOE-RL) and co-Deputy Designated Federal Officer for the HAB noted that the Board was meeting in accordance with the Federal Advisory Committee Act (FACA).

Cathy McCague, EnviroIssues Facilitator, reviewed the Board meeting agenda and objectives. Cathy confirmed the adoption of the November 2015 Board meeting summary, following the incorporation of minor edits received within the FACA stipulated 45-day time period.

Cathy noted that a photographer was available to take pictures of Board members for an updated HAB directory. She encouraged members, alternates, and support staff to have their photo taken during the meeting.

Tri-Party Agreement Agencies – Program Reports

U.S. Department of Energy – Richland Operations

Stacy Charboneau, DOE-RL, provided Board members with a presentation highlighting recent DOE-RL activities. Stacy highlighted the following key ideas in her presentation ¹:

- DOE-RL's 2028 Vision underscores the needs and opportunities that the agency considered as it began to analyze upcoming contract changes and transition cleanup work away from the River Corridor. The DOE-RL contracting process will represent a substantial amount of work, and DOE-RL began this effort by establishing the Office of Hanford Acquisitions in consultation with regulators and the Board. The Office of Hanford Acquisitions was working to identify the necessary tenants and pillars of new contracts as DOE-RL works to fulfill its mission to restore Hanford Site lands for future access and use.

Attachment 1: Richland Operations Office Agency Update (DOE-RL presentation)

- Washington Closure Hanford's (WCH) contract will end in September 2016. Work at the 618-10 Burial Grounds, the 324 Building, and the Environmental Restoration and Disposal Facility (ERDF) will transition to the CH2M Hill Plateau Remediation Company (CHPRC); the two contractors will execute a transition plan in the coming months.
- DOE-RL and their contractor are working to ready the Plutonium Finishing Plant (PFP) for open-air demolition, which will likely begin in spring 2016. In preparation, workers grouted the PFP floor and planned to remove the final PFP glovebox. Recently, several pieces of contaminated equipment (vortex coolers) were transported off of the Hanford Site. In light of this event, DOE-RL is examining how the used equipment is managed and released.
- An external, independent review of the cost and schedule for moving K Basin Sludge to the Central Plateau was completed in September 2015. The independent review identified that DOE-RL and the contractor are on schedule to transfer the radioactive sludge to the Central Plateau in 2018. Throughout 2016, the contractor will continue to install retrieval equipment in the K West Reactor basin and annex and continue the procurement process for the sludge transport and storage containers.
- DOE-RL's contractor will continue to auger the vertical pipe units (VPU) at the 618-10 Burial Ground, and the contractor will retrieve augured materials later in 2016. Augering is moving more quickly than DOE-RL anticipated, and none of the sampled VPUs contained any transuranic (TRU) waste.
- DOE-RL approved plans to add additional disposal capacity to ERDF by vertically expanding the disposal area by an additional twenty feet. This strategy will provide much-needed near-term disposal capacity at a much lower cost than the excavation and construction of additional cells.
- DOE-RL is tasked with maintaining effective and safe infrastructure at the Hanford Site. Planned infrastructure updates to support future cleanup work include upgrades to the water system (originally constructed in the 1940s), the high-voltage distribution lines supporting the tank farms, and the roadways. Planned infrastructure updates consider the changing footprint of Hanford Site cleanup work and anticipate future needs.
- DOE-RL groundwater operations continue to perform very well. Pump and treat facilities are exceeding expectations in both the River Corridor and the Central Plateau. The 200 West Pump-and-Treat Facility recently initiated uranium treatment capabilities. Two treatability tests are underway: one in the 300 Area and one in the 200 Area. Results of these studies will help to guide DOE-RL as the agency continues to look into strategies for remediating both groundwater and the vadose zone. DOE-RL also initiated sonic drilling at the BY Cribs to support Deep Vadose Zone characterization.
- The U.S. Department of Energy (DOE) recently partnered with the U.S. Department of the Interior to create the Manhattan Project National Historical Park, which will be jointly managed by DOE and the U.S. National Park Service. DOE will host a public workshop on February 4,

2016 to gather public input on planning for the park. The creation of the park helps to achieve the DOE-RL goal of making the Hanford Site more accessible.

- Recently proposed changes to TPA milestone series M-091 involving the retrieval and repackaging of TRU waste were approved by the agencies following a public comment period. These new milestones take into account waste acceptance delays at New Mexico's Waste Isolation Pilot Plant (WIPP) and the resulting modifications to waste retrieval and storage strategies at the Hanford Site.
- Proposed changes to TPA milestone series regarding the schedule for cleanup work on the central plateau are open for public comment until February 12, 2016 following two public comment period extensions. TPA agencies provided briefings on the proposed milestone changes to regional stakeholders and the Board in November 2015.

To close, Stacy provided the Board with a demonstration of a new communication tool, an interactive map that DOE-RL and Mission Support Alliance (MSA) were working to finalize. Stacy noted that the map would allow for a visual demonstration of the size of the Hanford Site and the location of key infrastructure systems.

U.S. Department of Energy – Office of River Protection

Kevin Smith, U.S. Department of Energy—Office of River Protection (DOE-ORP), provided Board members with a briefing on recent work accomplished by DOE-ORP. Key points from his update² included:

- DOE-ORP recently welcomed new staff, including Mark Edgren as Chief of Staff, Elain Diaz as Chief Engineer, and Carrie Meyer as Director of Communication and Information Management.
- In FY 2016, DOE-ORP received approximately \$1.4 billion in the Omnibus Appropriation bill. This represented an approximately \$200 million increase from FY 2015. DOE-ORP will work to manage this substantial increase in appropriations. The budget increase that DOE-ORP received in FY 2016 was substantial, and the agency will work to manage and prioritize funds carefully.
- DOE-ORP's tank farm contractor, Washington River Protection Solutions (WRPS), completed waste retrieval from single-shell tank (SST) C-102, the fourteenth SST retrieved in C Farm.
- Retrieval efforts at SST C-105 are ongoing. The waste within the tank formed a surface crust that was much thicker and harder than DOE-ORP and WRPS anticipated. It took additional time and effort to break through this crust using high pressure water. WRPS removed approximately 45% of the tank waste from C-105 using a Mobile Arm Retrieval System – Vacuum (MARS-V), and further retrieval work was being evaluated due to challenges with the MARS-V. WRPS and DOE-ORP were also considering strategies for managing hard, dried sludge in the future.

Attachment 2: Office of River Protection Agency Update (DOE-ORP presentation)

- Approximately 41% of waste was removed from SST C-111, with approximately 23,000 gallons of waste left within the tank. WRPS is currently employing a multi-phase approach including sluicing, a caustic preconditioning phase, and a sluicing and high-pressure water retrieval phase. The preconditioning phase added and recirculated approximately 15,000 gallons of sodium hydroxide (caustic) to assist in softening the hardened waste within the tank.
- A portable exhauster was employed at SST T-111, and assumed leaker, to assist in evaporating off excess liquid within the tank.
- DOE-ORP is working to retrieve double shell tank (DST) AY-102, which has leaked approximately 60-70 gallons of waste into the space between its primary and secondary tanks. DOE-ORP and WRPS completed engineering and design on retrieval strategies. Per DOE-ORP's agreement with the Washington Department of Ecology (Ecology), procurement, construction, and installation of all equipment necessary to retrieve waste from AY-102 is required by March 4, 2016. Work is on target to meet this deadline.
- At the Hanford Site tank farms, DOE-ORP and WRPS are implementing tank vapor management in two phases:
 - Phase 1 work includes near-term (FY 2015 & FY 2016) actions such as (1) hiring additional industrial hygiene staff, (2) researching personal protective equipment improvements, (3) developing functions and requirements for new field monitoring and alarm equipment, (4) evaluating and procuring new personal monitoring and alarming instruments, (5) sampling and characterizing tank head space gases, (6) developing new training programs, (7) enhancing communications, and (8) strengthening vapor event documentation processes.
 - Phase 2 will examine potential long-term (FY 2017-2019) actions that may be needed to institutionalize improvements in monitoring, engineered vapor controls and technologies, research and development, and industrial hygiene program standards and requirements.
- At the Waste Treatment and Immobilization Plant (WTP):
 - Low-Activity Waste (LAW) facility construction may be completed as soon as the end of calendar year 2017. Recently completed construction activities include a new annex building and a castable refractory melter. In order to minimize risks associated with startup, integrated testing at the LAW facility will continue until facility commissioning.
 - DOE-ORP and Bechtel National, Inc. (Bechtel) are in the component-level testing stage for the Analytical Laboratory.
 - High-Level Waste (HLW) facility high-efficiency particulate air filters are currently undergoing testing at Mississippi State University. Preliminary results on the testing is promising. At the HLW facility, workers continue to place steel and concrete. The facility's roof will be assembled once two radioactive liquid waste disposal vessels are constructed and emplaced.

- For the Balance of Facilities, DOE-ORP and Bechtel are looking at switch-gear testing and getting ready to energize the facility so that full-power is available for Direct-Feed Low-Activity Waste (DFLAW) activities.
- DOE-ORP and Bechtel are continuing to test systems at the Pretreatment Facility. Pulsejet mixers are entering Stage Three of testing. Additional review efforts are focused on resolving the three primary technical issues at the Pretreatment Facility; Bechtel needs to resolve these issues scientifically, and the solution needs to be peer reviewed.
- DOE-ORP will introduce a time-phased look into DFLAW to make the process approachable to the public. Design review for DFLAW is at 30%. A small effluent management facility will be required for DFLAW, and excavation on that facility has begun.

Washington Department of Ecology

Jane Hedges, Ecology, reminded Board members that she was retiring at the end of the month, and she thanked the Board, DOE-RL, and DOE-ORP for working with her and the State of Washington throughout her tenure. She stated that Ecology had not yet chosen a replacement Nuclear Waste Program Manager, and she recognized that Ecology would likely place an Interim Manager into her position until a final hiring decision was made.

Jane noted that she had been with Ecology for 16 years, and that during her time at Hanford she enjoyed many success stories, including the Hanford groundwater remediation strategy, River Corridor cleanup, PFP decommissioning and demolition, the Hanford Site's shrinking footprint, waste retrieval from 15 SSTs, Analytical Laboratory setup, and DFLAW preparation. Jane also highlighted Ecology's success in taking over configuration of the Resource Conservation and Recovery Act (RCRA) Hanford Site-wide Permit. Jane noted that Ecology was continuing to work with DOE-RL and DOE-ORP to address the over 4000 comments received following the 2012 release of the draft RCRA Hanford Site-wide permit.

Finally, Jane noted that Ecology employee and past HAB member Madeline Brown had passed away. She noted that Madeline was an active member of the community, and that her contributions would be greatly missed.

Steve Hudson thanked Jane for her support of the Board's work, and he provided her with a letter that underscored the Board's appreciation of her efforts.

Board questions and response

Note: This section reflects individual questions, comments, and responses, as well as a synthesis where there were similar questions or comments.

Q. How did DOE-RL make the decision to expand ERDF vertically without amending the Record of Decision? If the ERDF landfill is constructed too high or the slope is too steep, there could be drainage problems.

R. [DOE-RL] Regulatory authority for ERDF falls under EPA's authority. As DOE-RL considered option for expanding ERDF, expanding vertically made the most sense. This way, upcoming expansion efforts will remain in the facility's current footprint and utilize drainage systems that are already in place. The vertical expansion of ERDF will not be dramatic, and the slope will still be gradual enough to function appropriately. If the Board is interested in hearing more specific information regarding the design of ERDF, DOE-RL could provide that through an upcoming River and Plateau Committee (RAP) meeting.

Q. If ERDF is expanded vertically, will the facility also require a future horizontal expansion?

R. [DOE-RL] Yes. Eventually, ERDF will need to be expanded horizontally, as well. Vertical expansion will delay this need to excavate additional ERDF cells, but that will still need to happen eventually.

Q. DOE-RL's agency update noted that work would be centralizing to the Central Plateau in the coming years. What did this comment mean? Recent TPA milestone changes have delayed work on the Central Plateau.

R. [DOE-RL] Work will transition and centralize on the Central Plateau as River Corridor work is completed. There is a tremendous amount of work that DOE-RL will be conducting in the upcoming decade on the Central Plateau, including demolition readiness for the Reduction-Oxidation Plant and the Plutonium Uranium Extraction Plant. For all of these upcoming efforts, infrastructure updates such as roadway and water line enhancements will be necessary.

Q. Does DOE-RL have plans to remediate the soil beneath the 324 Building in the coming years? Is there budget to do this project?

R. [DOE-RL] DOE-RL received additional appropriations in FY 2016, and these funds will allow the agency to continue with work at the 324 Building. As the contract for River Corridor work is transitioning, CHPRC will begin examining remediation strategies for the soils underneath the 324 Building. This type of work is not new to CHPRC; however, the contractor will need to work on design verification and procurement. For FY 2016, DOE-RL is hopeful that available funds will allow CHPRC to complete these evaluations. Unfortunately, because there was a continuing resolution in place throughout early FY 2016, DOE-RL was unable to use the additional funds provided by appropriators. Funds for remediation of the 324 Building and the 618-10 Burial Grounds will be carried forward into the FY 2017 budget; however, DOE-RL does not know what this amount will be.

Q. Why is the removal of sludge from K Basin so complex? Is the sludge pulverized nuclear fuel?

R. [DOE-RL] Many positive steps have been made in the 100 K Area; however, the sludge has been a persistent problem to remove. The sludge is composed of deteriorating uranium fuel rods in a water-filled basin, as well as a variety of detritus (from corrosion and materials that have accumulated in the basin over the years). Any particulate material that is less than one-quarter

inch in diameter is considered to be sludge. A large amount of this sludge is degraded uranium fuel, and much of this waste will eventually be shipped to WIPP.

Q. Does DOE-RL's communication map show groundwater contamination plumes and the boundaries of the vadose zone?

R. [DOE-RL] It originally showed contamination plumes, but DOE-RL would like the interactive map to include the constituents of the contamination plumes, as well. Those changes are currently being developed, and they will be incorporated into the tool soon.

Q. Could DOE-ORP expand upon the Grand Challenge process? What happened with this year's winner?

R. [DOE-ORP] The Grand Challenge is a yearly competition used to solicit novel ideas that could further the DOE-ORP mission more efficiently. The Grand Challenge has been tremendously successful, and it has helped to bring in many new and creative ideas to DOE-ORP. The past year's winning idea, Direct-Feed High-Level Waste (DFHLW), is currently undergoing a full-evaluation with DOE-ORP's Startup and Engineering Manager. There is a rigorous analysis process in place that will review whether or not DFHLW makes sense and, if it does, how DOE-ORP could best implement it. DOE-ORP plans to have another Grand Challenge in 2016.

Q. What are DOE-RL's remediation plan for the 618-11 Burial Grounds?

R. [DOE-RL] DOE-RL plans to take lessons learned from remediating the 618-10 Burial Ground and apply those lessons to remediation of the 618-11 Burial Ground. The milestone change package that is currently out for public consideration would move back the target completion date for 618-11 remediation to 2021. Because the 618-11 Burial Grounds are so close to the Energy Northwest Generating Station, significant coordination with the Nuclear Regulatory Commission and Energy Northwest will be required. The Board should anticipate ongoing conversations regarding start and completion dates for remediation work due to the complex work of 618-11.

Q. There was a wind event at the Hanford Site in November 2015, and there was a release of some contaminants from the 618-10 Burial Ground. Could DOE-RL elaborate on this event? Why did it take almost a month to get additional survey crews out to the site to look for contamination that may have been dispersed by the wind?

R. [DOE-RL] The November 2015 wind event was significant; winds at the 618-10 Burial Ground trenches were recorded at 75 miles per hour. The contractor was processing concrete drums—a process that involves crushing drums in a grout mixture. Prior to the wind event, there were corrective actions that were already being put into place. During the wind event, there were contaminants that were spread towards the roadway. There were two specks of contamination (about the size of a grain of sand) from 618-10 that had crossed the road. Monitoring efforts included the Washington Department of Health to ensure that contaminants were captured and that their spread was understood. About one month later, DOE-RL did

additional surveys beyond the initial extent of discovered contaminants. These additional surveys discovered small patches of legacy contamination (contamination from tumbleweed or animal urine). The roadway itself was surveyed in two ways: (1) using a street sweeper and surveying the dust that was picked up and (2) surveying the roadway itself. No contamination was discovered on the roadway from either of these strategies. DOE-RL is continuing to look into ways to manage the potential spread of legacy contamination specific to open dig-sites.

Q. Is there any way that the Board can be involved in the creation of upcoming requests for proposals that the Office of Hanford Acquisitions will release?

R. [DOE-RL] Yes. In addition to talking with industries, the Office of Hanford Acquisition has also talked with Board leadership and Tribal representatives.

C. It is likely that vapor abatement technology is needed for every tank at the Hanford Site. The cost of this abatement may be as low as \$80 million to implement. There are some analytic abatement techniques that could remove most toxic effluent from the tanks effectively. Designs are explosion-proof, fiber-optic bundles with materials that absorb the bad actors in tank vapors. These abatement technologies do not use electricity, and they are often used in the tobacco industry.

Draft Advice: Transportation Infrastructure Updates Safety Considerations

Richard Bloom, Health, Safety, and Environmental Protection Committee (HSEP) vice chair and issue manager, introduced draft HAB advice on transportation infrastructure updates and safety considerations³ to the Board. Richard noted that the advice related to DOE-RL's current efforts to explore updates to infrastructure at the Hanford Site. Richard said that HSEP committee members identified transportation infrastructure as an opportunity to improve worker safety by potentially reducing worker commute time and making travel to work sites in the 200 Area safer.

Richard cited a 2010 study conducted by MSA that recommended various strategies for reducing traffic travelling to the Hanford Site; however, he noted that there were two items that the study did not address: (1) strategies for reducing traffic and (2) strategies for evacuating the site quickly in the case of an emergency. Richard cited these two opportunities as the foundation for the draft advice.

Richard encouraged Board discussion on the draft advice. He highlighted that the draft advice's background provided examples of strategies that DOE could potentially employ to remedy traffic, but he reminded Board members that there were only four noted advice points.

Attachment 3: Hanford Advisory Board Draft Advice on Transportation Infrastructure Updates Safety Consideration

Board questions and response

Note: This section reflects individual questions, comments, and responses, as well as a synthesis where there were similar questions or comments.

C. Traffic is not an issue that is specific to the Hanford Site. As such, the Board should not provide advice on this issue.

C. HSEP has been concerned about traffic on roads leading into the Hanford Site for several years. The committee feels that traffic represents the highest fatality risk to workers.

C. The advice points recognize that vanpools may be a strategy for lessening traffic congestion on roads leading into the site. From the perspective of Hanford Site workers, however, vanpools may not be the complete solution for solving traffic problems and increasing safety. This strategy places all of the pressure for safe travel and commute reduction on members of the workforce. The advice should recognize that not all of the burden should be placed on the Hanford Site workers.

Q. Is widening Washington Route 4 South on the list of potential infrastructure upgrades that DOE is exploring? If DOE-RL is not interested in widening this particular roadway, then the Board should not recommend that this be done. The project could take money away from important cleanup projects.

R. [DOE-RL] If the Board is interested in noting roadway infrastructure projects that should be addressed in the coming years, now is the appropriate time to recommend these changes. MSA will look into what roadways need to be updated in the coming years. DOE-RL does not currently have a list of the roadways being considered for potential upgrade and expansion, but the agency can provide the Board with this information once it is available.

R. Unless roadways are updated to allow workers to travel effectively and safely onto the Hanford Site, cleanup projects will not be completed in a timely manner.

C. The City of Richland should be further engaged in traffic discussions. The city also has issues with Hanford Site traffic, and changes to traffic patterns at the Hanford Site will also impact traffic patterns within Richland.

R. The Board can only advise the TPA agencies. Board members may provide a copy of the advice to City of Richland representatives once it is adopted for their information.

C. [DOE-RL] The examples included within the advice background are illustrative, and they will help DOE-RL understand the Board's perspectives on this issue with greater clarity.

After minor wording changes, the advice received Board consensus and it was approved to forward to DOE representatives.

Tutorial: Tri-Party Agreement and Milestone Changes

Regulator Presentation

John Price, Ecology, provided the Board with a briefing on the structure of the TPA and associated procedures associated with updating cleanup milestones. Key points from John's presentation⁴ included:

- Hanford cleanup is governed by three documents: (1) The Federal Facility Agreement, (2) the Consent Order, and (3) a three-party agreement on integrating the Federal Facility Agreement and the Consent Order. The Federal Facility Agreement is between the U.S. Department of Energy (DOE) and EPA, and the Consent Order is between DOE and Ecology. The three-party agreement is also known as the TPA, and it is between DOE, EPA, and Ecology.
 - The Federal Facility Agreement is a result of the 1986 Superfund Amendments and Reauthorization Act, Section 120, which applied the Comprehensive Environmental Response, Compensation, and Liability Act to federal facilities.
 - The Consent Order relates to RCRA, a law that works to manage hazardous waste from cradle to grave. In 1992, Congress identified that there was unchecked management of hazardous wastes at federal facilities. The resulting legislative action, the Federal Facility Compliance Act, required federal facilities to either comply with RCRA or create a plan to get into compliance with RCRA. The Consent Order between DOE and Ecology works to fulfill this requirement.
- The TPA includes both attachments and appendices. Notable sections include:
 - Attachment 2, Action Plan Sections 1-14 describe strategies for conducting TPA business.
 - Attachment 2, Appendix C lists individual cleanup locations at the Hanford Site. There are thousands of individual cleanup locations noted in Appendix C; over 3,500 of which are located within the Central Plateau. These cleanup sites range in size and severity of contamination. There are 37 groups of units at the Hanford Site—one of these units can consist of thousands of pieces of equipment.
 - Attachment 2, Appendix D lists the schedules for cleaning up soil and groundwater contamination at the Hanford Site, as well as schedules for permitting and closing units that store, treat, or dispose of hazardous waste. Appendix D is where TPA milestones are noted.
- TPA milestones are divided into three categories: (1) major milestones, (2) interim milestones, and (3) target dates.

Attachment 4: Tri-Party Agreement and Milestone Tutorial (Ecology presentation)

- Major milestones (also known as series) are large cleanup efforts at the Hanford Site. Major milestones contain many interim milestones. Milestone series are approved by signatories ([DOE-RL and DOE-ORP Site Managers, the EPA Regional Administrator, and the Ecology Department Director). There are 19 major milestones left at the Hanford Site.
- Interim milestones generally require measurable progress every year. Interim milestones are approved by DOE Assistant Managers, the EPA Hanford Project Office Manager, and the Ecology Nuclear Waste Program Manager.
- Milestones are changed whenever DOE is going to miss a cleanup milestone. This is not always DOE, EPA, or Ecology's fault. The TPA includes five "good cause" reasons for milestone changes. One "good cause" reason for missing a milestone is *Force Majeure*—a situation that is outside of DOE's control. DOE is required to communicate the reason for missing a milestone in their request.
- TPA milestones inform funding requests. The TPA requires DOE-RL and DOE-ORP to identify and request the amount of funding needed to complete all milestones due in a given FY. The Federal Office of Management and Budget considers these requests when developing the President's Budget. The President's Budget, however, is not required to request all needed money to complete cleanup milestones. Spending bills passed by the U.S. Congress do not have to request all needed funding amounts, and federal courts cannot require Congress to provide additional funding. Federal managers are unable to spend more money than the U.S. Congress allocates; therefore, this shortfall may cause cleanup delays.
- Work plans are important factors that contribute to the creation and update of interim milestones. DOE conducts cleanup work based on work plans and writes reports, while regulators review work plans and reports. As DOE-RL and DOE-ORP produce these products, EPA and Ecology request interim milestones.
- There are monthly project manager meetings for each of the milestones and the hazardous waste management areas, and senior managers for DOE-RL and DOE-ORP review all milestones once every quarter. At these meetings, milestones can be classified as "on schedule," "at risk," or "to be missed." DOE offices must submit requests for changes to milestones categorized as "to be missed" at least 90-days in advance of the milestone date to avoid fines. EPA and Ecology may also request milestone changes.
- If EPA or Ecology deny a submitted milestone change, then a milestone is considered to be in dispute. Regulators must justify why they disapprove a milestone change. There are progressively escalating conversations between DOE and the regulator following a disputed milestone.
- Each TPA agency's position on milestones and milestone changes is influenced by community input. The public has an interactive relationship with TPA agencies, and public questions, comments, and input regarding milestone changes is not limited to open comment periods.

- Following a public comment period for a milestone change:
 - TPA agencies develop a responsiveness summary to all comments received. Agencies may then renegotiate milestone wording, schedule, or both.
 - Each agency’s legal counsel reviews milestone changes. This may result in additional updates to the milestone.
 - Revised milestones are signed and incorporated into the TPA.
- The Hanford Administrative Record and Public Information Repository has a comprehensive list of all past milestone changes.

Board questions and response

Note: This section reflects individual questions, comments, and responses, as well as a synthesis where there were similar questions or comments.

Q. Does Ecology feel that DOE is reporting “at risk” milestones in a timely manner? Does DOE fail to report these potential at risk milestones due to fear of legal recourse?

R. [DOE-RL] DOE must notify Ecology of potential missed milestones 117-days in advance and EPA 90-days in advance of a missed milestone. DOE meets these notification deadlines.

R. [Ecology] Ecology believes that at risk milestones are being reported appropriately. Ecology and EPA hold quarterly milestone review meetings, and DOE is willing to answer questions that regulators have regarding upcoming milestones and schedules.

Draft Advice: TPA Central Plateau Milestone Series Change Packages

Don Bouchey, Tri-Cities Industrial Development Council, provided Board members with an introduction to draft advice on a proposed TPA change package to milestone series M-015, M-016, M-37, M-085, and M-94 governing cleanup schedules for Hanford’s Central Plateau⁵. Don recognized that the change package was very complex, and issue managers had worked to distill the advice into an effective and comprehensive document.

Don encouraged Board members to discuss the content of the advice and propose any needed changes. He noted that the TPA agencies had extended the public comment period to accommodate the Board meeting schedule.

Attachment 5: Hanford Advisory Board Draft Advice on Tri-Party Agreement Proposed Changes to Hanford Central Plateau Cleanup Work and Schedule

Agency perspective

Jon Peschong, DOE-RL, thanked members of the RAP committee for composing comprehensive advice on the complex topic of central plateau milestone changes. He encouraged Board members to consider and discuss whether or not the public involvement advice and the technical advice on the milestone change package should be split into two different products. Regardless, Jon noted that the ideas included within the in the advice regarding public involvement would be useful for TPA agencies.

Board questions and response

Note: This section reflects individual questions, comments, and responses, as well as a synthesis where there were similar questions or comments.

C. The draft advice should not move forward unless the wording is updated to recognize that the Board Values white paper does not capture the idea of protecting the public and the tribes. If the phrase “these values are fully captured” is removed from the draft advice, that would reflect the white paper content more accurately.

Q. The draft advice frames the cleanup delays solely as a budgetary issue (e.g. DOE has not received the needed amount of cleanup dollars to meet existing milestones). However, TPA agency representatives stated at the regional public meetings that new information is emerging which also pushes the cleanup schedule out. Which reason is most accurate?

R. In general, the reasoning captured in the advice is accurate. Cleanup may be achieved using existing technology and workers if there were sufficient funding available.

R. [DOE-RL] While cleanup is technically within the ability of existing technologies and strategies, additional time provides DOE with the opportunity to develop and enhance technologies to make cleanup more efficient.

C. When it comes to U.S. Congressional appropriations for Hanford Site cleanup, what is the Board supposed to advocate for? Should HAB advice encourage TPA agencies to not change milestones so that there is more pressure on the U.S. Congress to pass a budget compliant with Hanford Site cleanup needs? These are challenging questions that fundamentally shift the purpose of this advice depending on how the Board answers them.

Q. This advice includes advice points related to funding and budget requests, the recent TPA milestone change package, and public involvement. Does this diversity of ideas belong in a single piece of Board advice?

R. This advice represents the collaboration of several different committees, each with their own perspective. The final product is comprehensive and engaging. Advice points were purposefully grouped so that related points are next to one another in the advice list.

C. Advice points within the draft advice that are related to public involvement are important, and they should remain within this advice. However, it may be worth recognizing that this recent change package

was very large and complex. Many of the public involvement efforts that TPA agency representatives engaged in would not be necessary for changes of a lesser magnitude.

Q. The advice seems to advise public involvement strategies that are above and beyond those that are legally required by the TPA. Is this document advising agencies to re-write the TPA to expand required public involvement procedures?

R. [Ecology] The advice appears to highlight the gap between the legal need for public involvement and the intent of public involvement.

C. The advice recognizes funding shortfalls in several cases. This may not be enough for members of the public to fully understand these issues. The draft advice could recommend that DOE create a talking points paper for the general public to help them understand this complex topic.

C. The advice should encourage DOE to think strategically about the placement of caps in the Central Plateau area as they relate to future access to the deep vadose zone.

C. The State of Oregon approached comments to the proposed TPA milestone series change package differently than the Board. Oregon took the opportunity to communicate the State's cleanup priorities to the TPA agencies.

C. The Yakama Nation is abstaining from discussing or voting on the draft advice. It is not possible for the Yakama Nation to effectively prioritize cleanup activities before a comprehensive site-wide risk assessment is completed.

Susan Leckband, Board vice chair, thanked members of the RAP members for collaborating and creating comprehensive advice on a very difficult topic.

After minor wording changes, the Board approved the advice.

Introduction: 100 D/H Proposed Plan

Dale Engstrom, Oregon Department of Energy (ODOE), noted that the RAP committee recently conceptualized draft advice on the 100 D/H Proposed Plan. Dale stated that Board members would not take action on the draft advice; it was introduced solely for informational purposes.

Dale provided members with a brief orientation to the 100 D/H Area. He noted that the 100 D Area and 100 H Area were both situated on the horn of the Hanford Reach and that the two sites were combined into a single Operable Unit, as groundwater contamination crossed between them. He said that many interim cleanup actions in the Area had already been completed.

Dale reminded members that the Board commented on the 100 D/H Remedial Investigation/Feasibility Study, Draft A, in June 2014 (HAB Advice #278). He noted that the draft advice on the 100 D/H Proposed Plan, as written, was not very different from advice #278, as many of the Board's recommendations remained consistent.

Finally, Dale noted that TPA agencies pushed back the release of the 100 D/H Proposed Plan until summer 2016 to allow for additional edits to be made to the document. Dale noted that the anticipated summer 2016 release date for the 100 D/H Proposed Plan could allow the Board to adopt the advice at its June meeting. The advice could then move forward during the public comment period following the release of the Proposed Plan.

Dale encouraged Board members to review the draft advice in preparation for a future Board meeting.

Regulator Perspective

Dennis Faulk, EPA, noted that EPA requested a delay in the release of the 100 D/H Proposed Plan to provide DOE with the opportunity to incorporate waste sites into the plan that were already remediated as a part of interim actions. Dennis said that the Proposed Plan as it was written incorrectly noted that 130 waste sites in the 100 D/H Area still needed to be remediated. He recognized that, in reality, not many waste sites remained. Dennis noted that the 100 D/H Proposed Plan incorporated institutional controls for a few waste sites and a dramatic expansion of pump and treat operations.

Dennis was hopeful that the 100 D/H Proposed Plan would be released for public review and comment in May 2016.

Board and Committee Reports

Budgets and Contracts Committee

Jerry Peltier, City of West Richland and Budgets and Contracts Committee (BCC) chair, said that the committee would likely begin writing advice for the upcoming FY 2018 DOE budget request in the coming months. Jerry noted that BCC would likely not draft any advice concerning the 2016 Hanford Lifecycle Scope, Schedule, and Cost Report since major proposed change to TPA milestones will mean that the 2016 Report will not be current. Jerry noted that BCC will have a committee call in February 2016, a committee meeting in March 2016, and a committee call in April 2016.

Health, Safety, and Environmental Protection Committee

Becky Holland, Hanford Atomic Metal Trades Council and HSEP chair, noted that committee members had recently worked on drafting transportation infrastructure advice. She noted that other recent committee conversations incorporated presentations by National Jewish Health regarding the Chronic Beryllium Disease epidemiological study and by DOE-ORP regarding the Enterprise Assessment of safety culture at the WTP.

Becky also recognized that HSEP was collaborating with the Tank Waste Committee (TWC) on the topic of safety culture and preparing for a potential safety culture sounding board at the June 2016 HAB meeting. Becky noted that the two committees would continue to work together in order to frame potential discussion questions in preparation for the sounding board.

Public Involvement and Communications Committee

Liz Mattson, Hanford Challenge and Public Involvement and Communication Committee (PIC) chair, noted that the TPA Quarterly Planning Meeting was recently incorporated as a standing topic for PIC meetings. Liz noted that these meetings would be publicized via the TPA email listserv and that the initial meeting incorporating the change had gone well.

Liz highlighted that recent PIC discussions focused on the potential need for the creation of advice or another Board product dedicated to public involvement principles. She noted that future committee discussions would further clarify whether or not this product was needed, and, if it was, how the PIC committee could best package it. Liz also said that PIC members were working with Gary Garnant, Grant & Franklin Counties, to begin compiling, summarizing, and sharing relevant reports and articles on Hanford. Liz encourage Board members to share any documents of interest with either Gary or the facilitation team in order to begin building a library on the HAB SharePoint Site.

Liz also noted that PIC members were working with DOE to consider public outreach materials and strategies for the upcoming 100 D/H Proposed Plan public comment period.

The next PIC meeting will be held in April 2016 prior to the Board meeting.

River and Plateau Committee

Pam Larsen, City of Richland and RAP chair, said that the committee would meet in February 2016 and discuss 618-10 remediation efforts, Hanford Site groundwater (including an update on the 200 West Pump-and-Treat Facility's uranium treatment capabilities and the 300 Area polyphosphate injection treatability test), the potential Solid Waste Operating Complex dangerous waste permit modifications, and ERDF. She encouraged interested Board members to attend.

Tank Waste Committee

Bob Suyama, Benton County and TWC chair, noted that recent TWC discussions had covered topics such as retrieval efforts from double shell tank AY-102, safety culture, and the HLW facility. In addition, Bob noted that committee members have been working on two white papers—a WTP communications approach and a Low-Activity Waste Pretreatment System cesium disposition analysis.

Bob recognized that TWC will meet in February 2016, and he identified that upcoming meeting topics will include a briefing on Direct-Feed High-Level Waste (the 2016 Grand Challenge winning proposal) and ongoing discussion on the committee's two white papers. Bob stated that the WTP communications approach may be ready for Board review in April 2016.

Executive Issues Committee

Steve Hudson, Hanford Watch, noted that the Executive Issues Committee (EIC) is comprised of committee leadership. Steve noted that the EIC meets on a regular basis and discusses cross-cutting, administrative topics and scheduling.

Environmental Management Site-Specific Advisory Board

Steve said that the chairs and vice chairs of the seven Environmental Management (EM) Site-Specific Advisory Board (SSAB) meet once each six months. Steve noted that the EM SSAB recently held a call with Dr. Monica Regalbuto, Assistant Secretary for Environmental Management. He said that Monica discussed recent increases to the budget of DOE-RL, including an extra \$5 million for public involvement work. Steve noted that Monica encouraged EM SSABs to go out and talk to their constituencies about the budget for local DOE offices throughout the year, and DOE headquarters may release further guidance on this topic soon. Steve said that the upcoming meeting of the EM SSAB chairs would be in Oak Ridge, Tennessee in April 2016.

Public Comment

Mecal Seppalainen provided comment, noting that it was her last meeting as a member of the HAB. She thanked the Board members for their assistance and enthusiasm, and stated that she would continue working to get younger people involved in the important work that the HAB engages in. Mecal encouraged the Board to hold regional HAB meetings if possible, noting that it was an effective strategy for engaging regional audiences. She encouraged Board members to think outside of the box as they continue to discuss and advise TPA agencies on Hanford-related issues. Mecal noted that she would continue to explore strategies for creatively telling the Hanford story, and she was hopeful that she would be able to rejoin the Board's work in the future.

Board Business

HAB Work Plan Process Guidelines

Steve introduced the HAB Work Plan Process Guidelines⁶ document, identifying that it provides a calendar for the typical way in which the agencies and the Board will formulate and finalize an annual work plan. Steve noted that the guidelines were simplified from previous versions that the Board had seen.

Board members wondered if there was interaction that occurred as agencies and committees each considered draft work plans in summer, following the Board's leadership workshop. Steve identified that there is ongoing interaction between committees, the EIC, and agencies throughout this time. He noted that the Work Plan Process Guidelines could visually demonstrate this feedback if there was interest.

Steve encouraged Board members to incorporate the Work Plan Process Guidelines into their HAB materials.

Attachment 6: Guidelines for Process and Development of HAB Annual Work Plan

Draft Letter on Consortium for Risk Evaluation with Stakeholder Participation

Pam Larsen, City of Richland, introduced a draft letter⁷ on the CRESF Hanford Site-wide Risk Review. She identified that many Board members felt that the Risk Review was expensive, yielded few useful results, and that it took money away from important Hanford Site cleanup projects. Pam stated that the primary message of the letter was to discourage DOE from spending additional Hanford Site cleanup funds on future iterations of the CRESF study.

Board Discussion

Note: This section reflects individual questions, comments, and responses, as well as a synthesis where there were similar questions or comments.

Q. The States of Washington and Oregon wrote a joint letter to DOE regarding the national CRESF study; however, Board members have not seen a letter from Ecology commenting on the Hanford Site-wide Risk Review. What is Ecology's position on the CRESF's Hanford Risk Review?

R. [Ecology] Ecology did not send a letter to the U.S. Department of Energy—Office of Environmental Management (DOE-EM) regarding this study; however, Dave Jansen, Washington Department of Health (WDOH), wrote a letter to DOE-RL and Mark Gilbertson, DOE-EM, stating that WDOH and Ecology did not believe that further phases of the CRESF Hanford Risk Review were needed.

C. The language in the initial draft of the letter is too harsh. There was good effort that went into the initial phase of CRESF's Hanford Site-wide Risk Review.

R. [Ecology] The State of Washington has clearly noted that the science and the work on the original CRESF Hanford Risk Review was very thorough and well-done. However, Ecology does not feel continued study will demonstrate any new information.

R. It is estimated that the initial phase cost approximately \$4 million to conduct. Many members of the Board have expressed strong feelings that this money would be better spent on cleanup projects.

R. This letter reads as the Board disagreeing with the commissioning of the CRESF Hanford Site-wide Risk Review project, as opposed to a critique of those who conducted the research.

C. There is phrasing in the letter that notes strong confidence in the "processes that are in place" at the Hanford Site. Is this an accurate assessment of how the Board feels, taking into account the large milestone change package that was recently proposed? Are the existing processes working? Members may want to rethink the inclusion of this point.

Attachment 7: Hanford Advisory Board Draft Letter on the Consortium for Risk Evaluation with Stakeholder Participation

R. Board members believe that these procedures are already in place; however, they are sometimes not carried out to the extent that members would like. There is general approval of the strategies that the TPA agencies use to manage Hanford Site cleanup.

R. Processes that are already in place all include a level of public involvement, and this mechanism provides communities with the opportunity to comment on cleanup decisions. The CRESP Hanford Risk Review did not provide the public with the same opportunities.

R. The letter may want to highlight that Board members hold confidence in the processes that are in place, but not in the measure of risk present in the Hanford Site. The Hanford Site needs more information about risk. The letter needs to clearly note that aspects of the CRESP Hanford review omit processes that the Board really values.

Q. Has DOE transferred money out of Hanford Site cleanup funding for additional work on the CRESP Hanford Risk Review?

R. [DOE-RL] For phase one of the study, the funds have already been spent. In general, DOE headquarters holds back a percentage of DOE-RL appropriations. Headquarters may use this holdback in different ways—that is likely where funding for additional CRESP review would come from. The language in the letter could request that these holdback funds go to Hanford Site cleanup.

The Board accepted the letter incorporating minor updates to its language and structure. Board members agreed that the letter should be forwarded to Dr. Monica Regalbutto, Assistant Secretary for Environmental Management, and DOE-RL.

Draft Letter on 200-PW-1, PW-3, and PW-6 Operable Units

Dale Engstrom, ODOE, introduced a draft letter⁸ on 200-PW-1, PW-3, and PW-6 Operable Units. Dale noted that these waste sites include the cribs and trenches associated with PFP operations. He said that these operable units are plutonium-containing and that RD/RA Work Plans are currently in negotiation. Dale highlighted that DOE plans would excavate an additional two feet below the filled cribs and trenches. However, regulators would prefer that remediation efforts work to address the mass of contamination at the Operable Units as opposed to a fixed two-foot remediation depth.

Dale noted negotiations between DOE and regulators regarding 200-PW-1, PW-3, and PW-6 remediation plans were ongoing, and he stated that the negotiations provided the Board with the opportunity to provide input and perspective before decisions were finalized. Dale noted that the general recommendation of the draft letter was that DOE and regulators should negotiate RD/RA Work Plans that “chase contamination” as opposed to only using the two-foot dig rule

Attachment 8: Hanford Advisory Board Draft Letter on the Remedial Design/Remedial Action Work Plan for the 200-CW-5, 200-PW-1, PW-3, PW-6 Operable Units, DOE/RL-2015-23 (Draft B)

Board Discussion

Note: This section reflects individual questions, comments, and responses, as well as a synthesis where there were similar questions or comments.

Q. The 200-PW-1, PW-3, and PW-6 waste sites had a number of different remedies depending upon different characteristics of the waste site. The “two-feet plus” strategy is for waste sites in the high-salt waste group. Does the letter need to recognize this distinction?

R. [EPA] No, that is not necessary.

Q. Does the letter need to more specifically quantify the amount of waste within the operable units?

R. [EPA] There is a lot of plutonium in these sites. If DOE were to excavate deeper and more mindfully (e.g. at the head end of the trench), significantly more plutonium could be captured.

Board members noted that the letter was well written and that it compiled past HAB advice very effectively. The Board adopted the letter with no changes.

Update on the Board Fiscal Year 2016 Work Plan

Steve briefly reviewed the HAB FY 2016 Work Plan⁹, noting that activities and actions associated with several of the topics had moved out into future quarters of the FY. Steve also noted that the topics of the 324 Building and the 618-10 Burial Grounds were elevated from the Work Plan’s holding bin and incorporated into the “River Corridor projects” topic.

In addition to holding bin topics, Board members noted that they would like to confirm that 200-PW-1, PW-3, and PW-6 and the Waste Encapsulation and Storage Facility were highlighted within the body of the Work Plan.

Preliminary April Board meeting topics

Cathy reviewed the following tentative meeting topics for the April 2016 Board meeting:

- Discussion and action on the WTP communications approach white paper
- Briefing on safety culture in preparation for the upcoming sounding board in June 2016
- Budget advice
- Agency updates
- Committee reports
- Presentation of HAB Annual Survey results

Attachment 9: Hanford Advisory Board Draft Fiscal Year 2016 Work Plan (Action Overview)

Closing Remarks

Steve thanked Board members for their attendance, thoughts, and decisions. The meeting was adjourned.

Attachments

Attachment 1: Richland Operations Office Agency Update (DOE-RL presentation)

Attachment 2: Office of River Protection Agency Update (DOE-ORP presentation)

Attachment 3: Hanford Advisory Board Draft Advice on Transportation Infrastructure Updates Safety Consideration

Attachment 4: Tri-Party Agreement and Milestone Tutorial (Ecology presentation)

Attachment 5: Hanford Advisory Board Draft Advice on Tri-Party Agreement Proposed Changes to Hanford Central Plateau Cleanup Work and Schedule

Attachment 6: Guidelines for Process and Development of HAB Annual Work Plan

Attachment 7: Hanford Advisory Board Draft Letter on the Consortium for Risk Evaluation with Stakeholder Participation

Attachment 8: Hanford Advisory Board Draft Letter on the Remedial Design/Remedial Action Work Plan for the 200-CW-5, 200-PW-1, PW-3, PW-6 Operable Units, DOE/RL-2015-23 (Draft B)

Attachment 9: Hanford Advisory Board Draft Fiscal Year 2016 Work Plan (Action Overview)

Attendees:

HAB MEMBERS AND ALTERNATES

Gabe Bohnee, Member	Tom Galioto, Member	Liz Mattson, Member
Antone Brooks, Member	Gary Garnant, Member	Ken Niles, Member
Don Bouchey, Member	Floyd Hodges, Member	Bob Parks, Member
Janice Catrell, Member	Becky Holland, Member	Jerry Peltier, Member
Shelley Cimon, Member (phone)	Steve Hudson, Member	Mecal Seppalainen, Member
Alissa Cordner, Member	Gregory Korshin, Member	Bob Suyama, Member
Sam Dechter, Member	Pam Larsen, Member	Gene Van Liew, Member
Earl Fordham, Member	Susan Leckband, Member	Dawn Wellman, Member
David Bernhard, Alternate	Mike Korenko, Alternate	Mike Priddy, Alternate
Richard Bloom, Alternate	Bob Legard, Alternate	Emily Peterson, Alternate
Amoret Bunn, Alternate	Larry Lockrem, Alternate (phone)	Dan Serres, Alternate (phone)
Gary Busselman, Alternate	Kristen McNall, Alternate	Richard Smith, Alternate
Shannon Cram, Alternate	Rudy Mendoza, Alternate	Margery Swint, Alternate
Dale Engstrom, Alternate (phone)	Emmett Moore, Alternate	Jean Vanni, Alternate
Jeff Hunter, Alternate	Edward Pacheco, Alternate	Helen Wheatley, Alternate

AGENCY, CONTRACTOR, AND SUPPORT STAFF

Stacy Charboneau, DOE-RL	Dennis Faulk, EPA	Jennifer Colborn MSA
Kristen Holmes, DOE-RL	Dieter Bohrman, Ecology	Jennifer Copeland, MSA
Jon Peschong, DOE-RL	Jane Hedges, Ecology	Ross Potter, MSA
Geoff Tyree, DOE-RL	Nina Menard, Ecology	Sharon Braswell, NorthWind/DOE-ORP
Kevin Smith, DOE-ORP	John Price, Ecology	Mark Freshley, PNNL
Jim Lynch, DOE-ORP	Tom Rogers, WDOH	Peter Bengtson, WCH
Yvonne Levardi, DOE-ORP		Tammie Gilley, EnviroIssues
Alex Teimouri, DOE-EM		Cathy McCague, EnviroIssues
		Brett Watson, EnviroIssues

MEMBERS OF THE PUBLIC

Katherine Bittinger	David Gutowski, DNFSB	Mecal Seppalainen, OHCB
Al Bolt (phone)	Dan Leone (Phone)	
Annette Cary, Tri-City Herald	Kelsey Shank, SN3	