FINAL MEETING SUMMARY

HANFORD ADVISORY BOARD
February 9-10, 2012
Richland, WA

Topics in This Meeting Summary

This is only a summary of issues and actions in this meeting. It may not fully represent the ideas discussed or opinions given. Examination of this document cannot equal or replace attendance and public participation.

Executive Summary

Board action

The Board adopted one piece of advice and one letter concerning:

- 100 K Area RI/FS and Proposed Plan (advice)
- PW 1,3,6 and CW-5 Record of Decision (letter)

Board business

The Board will have committee calls and meetings in February. The Board discussed:

- Updated HAB Process Manual
- Orientation to the HAB SharePoint Site
- Preliminary April Board Meeting Topics

Presentations and updates

The Board heard and discussed presentations and updates on the following topics:

- Tri-Party Agreement Agencies – Program Update
- Waste Treatment and Immobilization Plant Safety Culture
- 2012 Board Reappointment Process
- Current and Out-year Budgets

Public comment

Public comment was provided.

HANFORD ADVISORY BOARD
February 9-11, 2011 Richland, WA

Susan Leckband, League of Women Voters and Board chair, called the meeting of the Hanford Advisory Board (HAB or Board) to order. The meeting was open to the public and offered periodic opportunities for public comment.

Board members in attendance are listed at the end of this summary, as are agency and contractor representatives and members of the public.

Four seats were not represented: Franklin and Grant Counties (Local Government), Central Washington Building Trades (Hanford Workforce), Heart of America Northwest (Regional Environmental/Citizen), and the University of Washington (University). Liaisons not represented include the Confederated Tribes of the Umatilla Indian Reservation (Ex-Officio).

The Board meeting was audio-recorded.

Welcome, introductions, and announcements

Susan Leckband welcomed the Board and reviewed the meeting objectives and agenda.

Susan Hayman, EnviroIssues, provided instructions for accessing GoToMeeting for those on the phone and reviewed Board ground rules.

Susan Hayman reported that the November meeting summary was certified within 45 days and posted to the Hanford website.

Tri-Party Agreement Agencies – Program Updates

Department of Energy Office of River Protection (DOE-ORP)

Stacy Charbonneau, DOE-Office of River Protection (DOE-ORP), provided an update on DOE-ORP activities; her presentation is provided as Attachment 1. In addition to her presentation, Stacy noted:

- Since the November Board meeting, DOE-ORP has developed a One System Integrated Project Team that consists of employees from both Washington River Protection Solutions (WRPS) and Bechtel National (Bechtel).

- In November, DOE hosted an open house for information on the Waste Treatment Plant (WTP) that was attended by over 300 people. A similar open house will be held in the spring.

- Large-scale treatment for the Pretreatment Facility (PT) is ongoing and includes recommendations on mixing in the PT vessels from the Defense Nuclear Facilities Safety Board (DNFSB). Additionally, concrete design for the PT is complete.

- The Switchgear Facility will be turned over for commissioning later this year.

- Steve Pfaff, DOE-ORP, is leading the Integrated Project Team to address DNFSB Recommendations 2011-1 and the DOE-Health, Safety, and Security (DOE-HSS) Report. Steve will review the reports and safety culture progress later in the day. Stacy said DOE wants to do a better job listening to employees.

- All DOE-Environmental Management (DOE-EM) complexes are experiencing fiscal strain, and Hanford has not received the President's Budget for fiscal year (FY) 2012. Hanford has been appropriated enough to remain Consent Decree compliant. Due to the low budget, however, DOE-ORP will not be going forward with tank closure or supplemental treatment. They will still address technical issues for the PT, but progress for the facility will be slowed.

- The Tank Closure and Waste Management Environmental Impact Statement (TC&WM EIS) will be finalized at the end of April 2012.

Stacy played the Tank Waste chapter of the *Hanford Story* that was recently completed; the video is also available on the Hanford YouTube page.

U.S. Environmental Protection Agency (EPA)

Dennis Faulk, U.S. Environmental Protection Agency (EPA), reviewed recent accomplishments, ongoing projects, and near-term projects for EPA; his handout is provided as Attachment 2. Dennis said the last six months have been difficult at Hanford, as the site is coming away from an amazing two years of progress funded by the American Recovery and Reinvestment Act (ARRA). Dennis said he participated in the recent Intergovernmental Meeting where he participated in a dialogue with the New Mexico Department of Natural Resources and Environment. As a result of the dialogue, New Mexico is interested in helping to streamline plutonium efforts and making the Waste Isolation Pilot Plant (WIPP) more accessible.

Dennis said EPA is working hard to prepare the 100 K, 300 Area, and 200-UP-1 Feasibility Studies (FS) and Proposed Plans ready for public comment. He noted that the 100 K Area Proposed Plan was originally of poor quality, and they have been working with DOE to improve it. EPA will present the documents to the National Remedy Review Board March 27-29, 2012, and the proposed plans will be out for public comment in the May to July 2012 timeframe. Dennis said the Tri-Party Agreement (TPA) agencies will seek input from the Board on whether the documents need more public involvement. The records of decision (RODs) will be issued by September 30, 2012.

Dennis spoke to the asbestos safety and exposure concerns that have been raised on site over the past six months. The EPA Inspector General issue a report on the matter, and EPA is working to gather answers to the questions raised. Dennis noted that employee concerns were filed over asbestos issues, and EPA and DOE are working to resolve the concerns.

Dennis said a path has been set forward for removing the vertical pipe units from the 618-10 Burial Ground, and the TPA agencies have also recently developed an approach for addressing the contamination in the 324 Building, B-Cell.

Dennis spoke to the milestone change package signed by the TPA agencies last fall that provided relief on near interim milestones. He said DOE has already delivered work plans for the delayed interim milestones and are proposing characterization for 24 additional waste sites in the West Area. Dennis said the TPA agencies originally believed that Milestone-15-00 (M-15-00) was not in danger of non-compliance of the December 31, 2016 deadline, but the agencies will have to engage in discussion to see if the milestone

can really be accomplished without having to push out other projects. Dennis noted that field investigations for M-15-00 will have to begin in 2013 to maintain compliant.

Dennis said he has found the 2012 Lifecycle Scope, Cost, and Schedule Report (Lifecycle Report) to be valuable and easy to use. He said he would like to continue a dialogue with the Board on the document's usefulness. Dennis also asked that the Board help the TPA agencies define the 2015 Vision, as he believes EPA has a different definition of 2015 Vision success than DOE, in regards to groundwater.

Washington State Department of Ecology (Ecology)

Jane Hedges, Washington State Department of Ecology (Ecology), said many Ecology staff members are present at the Board meeting, and she hopes Board members will introduce themselves to the new hires. Jane provided a presentation on recent accomplishments and near-term projects for Ecology; her presentation is provided as Attachment 3.In addition to her presentation, Jane noted:

- Jane was appointed to the DOE-EM Advisory Board (EMAB) in September 2011, and she encouraged Board members to come to her with concerns to be carried forward to the EMAB.

- Board issue managers have been working with Ecology on public involvement and engagement for the Site-wide Permit. The public comment period will be May 1 to September 30 (120 days) in order to extend past the September Board meeting to allow the Board to provide any needed advice.

- The Landfill Barrier Workshop was held at Ecology on February 1 and 2, 2012, and it was attended by many Board members and others from around the country via the web. The presentations were easy to understand for the public, and a video of the workshop will be put online.

- Reaching younger audiences through public involvement has become a priority for Ecology, and they have visited schools and sponsored events to engage students on Hanford topics and history.

Department of Energy Richland Operations Office (DOE-RL)

J.D. Dowell, US Department of Energy-Richland Operations Office (DOE-RL), provided a presentation on recent accomplishments and near-term projects for DOE-RL; his presentation is provided as Attachment 4. J.D. said he finds great value in the diversity of Board discussions, and he believes it to be the most efficient way to get input from a broad spectrum of stakeholders. In addition to his presentation, J.D. noted:

- Safety, performance, and efficiencies are the priorities for DOE, with safety as the main focus.

- In terms of total Hanford cleanup, DOE-RL and DOE-ORP are working together on the big picture by sharing information and making consensus decisions.

- Crews working in the 618-10 Burial Ground are removing up to 20 drums of contaminated material per day, and they expect to find up to 2,000 drums throughout the excavation process.

- 100,000 tons of material was removed from the 100 F-57 waste site within an eight month timeframe. DOE removed waste to a total of 45 feet to reach the groundwater plume.

- Groundwater was not reached until 75 feet in the D and H Areas, so there is no need to use a pump and treat system.

- DOE will go out to the public to receive input on aesthetic values for the 105-K East Reactor Safe Storage Enclosure. J.D. encouraged Board members to visit the K Area, as the landscape and view-shed changes daily.

- DOE is coordinating with Bonneville Power to relocate power lines in the C Area in order to remove a plume in the 100-C-7 waste site.

- It is critical to remove the Remote Mechanical A and C glove boxes from the Plutonium Finishing Plant (PFP). 168 glove boxes have been removed to date, with another 70 remaining. 60 percent of the workforce at PFP recently changed, but the working environment is now very safe.

- DOE has a goal to treat one billion gallons of groundwater in FY2012; they already have 303 million gallons towards their goal. The 200 West Pump and Treat System is scheduled to come online in summer 2012. The 100-HX Groundwater Treatment Facility currently treats 700 gallons per minute.

- The Environmental Restoration Disposal Facility (ERDF) contributed to the disposal of a record 2.25 million tons of waste material in FY2011, 20,000 tons of which was treated chromium waste. ERDF truck drivers reached nine million safely driven miles before a recent accident that resulted in three days worth of remediation. The truck involved in the accident did not contain any radioactive material, and the driver was uninjured.

- Elevated levels of technetium 99 and magnesium have been found in the Deep Vadose Zone. DOE will provide an update to the River and Plateau (RAP) committee.

- DOE-RL has received two percent less in appropriations for FY2012 than in FY2011. The President's Budget will be released on February 13.

- 1,790 people took part in the Hanford site tours in FY2011. 60 tours are scheduled for FY2012.

J.D. spoke to the employee concerns regarding asbestos on site and said DOE and contractors have taken immediate action to investigate the concerns, monitor for exposure levels, and begin remediation. Employee concerns addressed asbestos at recently remediated waste sites, and managers investigated the issue within a few days of the concerns being issued. J.D. said no employees have been exposed to asbestos, and remediation has been effective. He said he is very grateful to the employees who voiced their concerns.

Board Questions and Response

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

Q. Will information on the natural gas pipeline be available on the Hanford website?

R. DOE will provide a link to the online information.

Q. Please explain the contrasts between DOE and EPA on the 2015 Vision.

R. The biggest contrast is in the groundwater program. EPA believes the completion of the 2015 Vision to include a functioning and operating groundwater system that will address contaminants along the River Corridor. EPA hopes the final decisions along the River Corridor will include more groundwater cleanup, but they have not been provided with the baseline cost estimates, and the funding may not be available to complete the work.

Q. A notice about the TC&WM EIS published this morning mentioned that no supplemental information or additional EIS work is required for the final EIS. How was that result determined?

R. DOE received 5,000 comments on the TC&WM EIS from members of the public and cooperating agencies. Supplemental analysis of the comments and responses determined that no additional work was needed. Some changes were made based on comments, but the changes were not significant to require the document to go back out for public comment. The supplemental analysis is available on the National Environmental Protection Act (NEPA) website. Ultimately, the document addressed what it needed to address.

Q. Are any of the bottles being retrieved in the 618-10 Burial Ground labeled as Transuranic (TRU) waste? And if so, is it still treated the same as unlabeled bottles?

R. DOE is not aware of any bottles that have been labeled. The bottles are handled so remotely that the process does not allow workers to get close enough to examine labels that may be partially intact. Any TRU waste will be disposed of as TRU waste.

Q. Will the current WTP operator also operate the new laboratory at WTP? What is the future for interface between the other laboratories on site? Who will provide oversight of the end product?

R. The future operator of the WTP has yet to be determined, but DOE believes they will also operate the laboratory. The purpose of the laboratory will be for process sampling and will be operational after WTP is operational. The 222-S Laboratory will do tank characterization, tank sampling, and preparation for tank retrievals; it will assist in understanding what is in the tanks before they are sent to WTP. The 222-S Laboratory will also be online after WTP. Tank farm operations and WTP operations will eventually be integrated as one tank waste system, so the same organization will provide oversight of the end products of both laboratories.

Q. What is the schedule for the large-scale integrated testing for tanks?

R. According to the Implementation Plan for the DNFSB Recommendations 2011-1, large-scale testing will be ongoing through FY2015. The parts that feed into design verification for WTP will be done by 2013. Work beyond that is based around the operability of WTP and evolution of waste acceptance criteria.

Q. If installation of the tanks begins in FY2012 and completes within two years, will large-scale testing still be completed first?

R. DOE has hold points in place to ensure that tanks that have been specifically identified as potentially problematic for mixing and the design of mixing will not be installed in the facilities until large-scale testing is complete. These issues are a number one priority and some construction of the PT is being slowed accordingly. The schedule now depends on the outcome of large-scale testing and the budget moving forward. Bechtel has not asked for a delay in WTP startup.

C. The best way of increasing efficiencies on site and in the budget is through a formal and enhanced work plan for the site; it is not through scattered, inconsistent, and unreliable methods for achieving worker input. The process needs to be formal. If DOE is serious about efficiency, contractor management needs to be examined, because in some places it is very poor. The Mission Support Alliance (MSA) contract does incorporate advanced work planning on site, and it should be expanded site-wide.

C. The asbestos issue is more serious than some think. It takes very little exposure to develop a permanent disease. I am pleased that the DOE and contractor response to employee concerns was positive and prompt.

> *R. A lot of the concern with the asbestos issue started with the 284 West Powerhouse. The EPA Inspector General was contacted to see if Hanford was conducting removal of asbestos. The Inspector General's memo addressed asbestos concerns at other non-Hanford facilities as well. DOE has now supplied asbestos information to the EPA National Works Group that addresses asbestos issues. Any work change for compliance will be based on the National Works Group report.DOE believes that they are already compliant with asbestos protocols and are working to make sure asbestos control methods are applied appropriately. EPA noted that there aren't currently any alternative asbestos methodologies and the current methodology is rigorous and provides little flexibility.*

Q. It sounds like EPA didn't know about DOE work relating to asbestos before the issues were raised. Did DOE and the contractors have all the necessary permits for the work they were doing?

> *R. All the work being done is under the Superfund removal program, therefore no additional permits are required. DOE followed all necessary protocols for the 284 West Powerhouse.*

C. The Tri-Cities need to be aware of any asbestos concerns that may be transmitted from Hanford through the air.

Q. The Board has asked for early review of draft permits before they are issued for public comment, and any permits to be published in May should be available now. Can the Board be allowed a review period?

> *R. A few of the permits are only close to be being complete. Once they are complete, Ecology will post them on the Hanford website and notify the Board of the review period prior to public comment.*

Q. What, if any, design will be needed to adapt the current WTP design to be able to use gas as its primary fuel source?

> *R. The timing of the gas pipeline and the completion of WTP design is a challenge. DOE will need to determine whether the switch to gas operations is done before or after commissioning. DOE is unsure how extensive the effort will be to switch from a diesel system to a gas system; the design and construction phases could potentially both be several months. Transition of the facility may wait until after commissioning so there is not a delay in startup of the WTP.*

Q. What is the low activity waste (LAW) bulk process pipe installation?

> *R. It's within the LAW system capability where the bulk of the piping will be complete in FY2012. It doesn't have anything to do with potential early LAW operation.*

C. The 2015 Vision is great in terms of earning funding, but now seems to be a good time to start thinking about the 2020 Vision.

Q. Is it true that the well sampling effort for groundwater has been severely curtailed by the last round of layoffs?

R. DOE will check on the numbers of employees who were supporting that effort before and after ARRA funded work. Groundwater sampling is paramount to the groundwater program, so the integrity of sampling has to continue. It is a priority.

Q. There seems to be a lot of information from those on site that WTP will go over budget and will not be able to make the current schedule, but we only hear positive information from DOE. The Board would appreciate any indications of going over budget or a lax in schedule because it will affect the rest of the programs. What are the facts about WTP at this point in time?

R. A Construction Progress Review was conducted last fall and was issued in November 2011. It spoke to a potential cost growth of $800 to $900 million dollars for WTP. We do have a concern that we will not be able to support the modified funding profile, which requires additional funding during peak construction years when the risk is higher. The $690 million flat funding profile supports the cost needs of WTP, however, the contingency funding was back-end loaded (like most DOE-EM projects are). So when we realized risks early in the project and planned to carry funds over to cover the peak construction years, those funds weren't available to cover the peaks because we used those dollars to address immediate risks. The $690 million funding profile was created because it is defensible to Congress. The FY2012 budget does support the modified funding profile. The budget request for FY2013, based on the modified funding profile, is $970million. DOE is concerned about not being appropriated enough in FY2013 to support the current modified funding profile.

Some recent technical issues for WTP have revolved around plutonium oxide and its particle size that is in approximately ten tanks. The cost for characterizing all of the waste in 177 different tanks is cost prohibitive. We will characterize as we remove the tanks and queue up the waste feed. We know that we have a number of samples and process knowledge that provides information on what is in those tanks. However, this information is not enough to determine waste acceptance criteria. It is possible that the tanks that received waste from the PFP have plutonium oxide particles higher than what WTP is designed to accept. It is important to keep in mind that these tanks will not be removed for another 20 years and there are other technologies available to deal with the waste. It is against better judgment to hold the design and startup of WTP for tanks that DOE won't deal with for 20 years. DOE is working to establish waste acceptance criteria to complete WTP so they understand how well the vessels do with mixing. DOE has good assurance of the first 5 to 15 years of waste that WTP will accept, so that is what they are basing the criteria on. There are holds in place for the tanks of concern, but DOE is going ahead with what is planned.

C. I appreciate DOE's swift action with the asbestos issue, but what if it had happened after DOE is no longer in control of Hanford and the issue and resolution rested with the National Parks Service? In that case, there would not be enough resources to fix the problem. When we talk about long-term stewardship, we need to realize that we would not have a prompt reaction like we have now.

C. It was a great experience for a few of the RAP issue managers to visit the 618-10 Burial Ground recently. I have asked for the same information we received to be provided in briefing form to local

emergency responders, and it has not yet happened. I am making that request again now. I encourage all Board members to share information with local people and agencies as much as possible.

Draft Advice: 100 K Area Proposed Plan

Issue manager introduction

Shelley Cimon, Public-at-Large, introduced the advice and reviewed the background of its development. Draft A of the 100 K Area Proposed Plan was made available to both the Board and the regulating agencies in late fall, 2011, and it was apparent that there was large disconnect between where the document was and where it needed to be. The TPA agencies began to edit the document immediately, and the RAP began to review it. Shelley noted that the 100 K Area Proposed Plan will influence the rest of the River Corridor decision documents, so it is important to make sure it is done correctly. She said a proposed plan is part of the multi-tiered process and is preceded by human and environment risk assessments, a remedial investigation and feasibility study (RI/FS), and an evaluation of remediation alternatives. Shelley said the advice is longer than normal advice because it is in response to a RI/FS and proposed plan that are still in development, and it is important to address all issues to inform the rest of the River Corridor documents. Shelley thanked DOE for allowing the Board to view the documents before they go out to the public.

Dale Engstrom, Oregon DOE (State of Oregon), said the advice started as suggestions to the TPA agencies but became much more and deserved to have the weight of the full Board behind it. He said the documents are important because they set the process by which there is a remediation plan and end result for the waste sites along the River Corridor. Dale noted that all 11 advice points are important, and he encouraged the Board to move forward with the advice.

Agency perspective

Jim Hansen, DOE-RL, is the DOE lead for the K and H Area RI/FS documents. He said the 100 K Area Proposed Plan was submitted in September 2011, and DOE has been working collaboratively with the regulating agencies as well as RAP throughout the process. Jim spoke to meetings with the RAP to answer questions on the content of the document, which is 4,000 pages. EPA is the lead regulating agency on the 100 K Area Proposed Plan, and DOE has been working to resolve many of their comments, as well as with Ecology. Comment resolution with the regulators will go through April 2012, and a new draft will be submitted in July. Jim said the format of the document has been updated, making it easier for readers to find different sections. He said it is important to clarify that there will be a decision for each waste site within the document. He said DOE is eager to get the document right.

Dennis said the 100 K Area Proposed Plan is the most disappointing deliverable EPA has received; the document needs a lot of work, and EPA with DOE on improvements. Dennis said EPA would like to approve a Draft B before the new draft goes out to the public, but that would take additional time and money. He said DOE is working to make the RI/FS and proposed plan process better. Dennis said the Board's comments align well with EPA's comments. EPA would like to see the Columbia River Component and risk assessment addressed in the proposed plan, but neither is included in Draft A. He noted that the agencies likely will not agree on the risk assessment, as the document is already in revision four. The risk assessment has been separated into more manageable pieces for supplemental work. Dennis spoke to another major problem with the 100 K Area Proposed Plan, which is that the proposed technologies for waste site remediation are not clear. He said that after discussion with DOE, he is now clear on the intent of the technologies and believes it will be clearer in the next version of the document. Dennis said he is not entirely comfortable with the technology solutions as outlined in the document, but

noted that it will be important for the Board to comment on how they feel about the technology, such as soil flushing. Dennis noted a few of the items still unresolved between the agencies, including the scenarios used in the document and evaluation of the former Hanford orchards. Dennis said the deliverable date is September 30, 2012, and he hopes the agencies can come to resolution by late May in order to reach that date.

John Price, Ecology, said that since Ecology is a non-lead on permit action documents, they have only reviewed the 100 K Area Proposed Plan, and not the RI/FS. In a Memorandum of Understanding (MOU) with EPA, Ecology is supposed to identify issues, and the early review has allowed them to do so effectively. He said he appreciates that DOE released the document in an early form. John reviewed slides that identified the key issues for Ecology, including the former Hanford orchard lands, the tribal use scenario, and implied use of institutional controls (ICs). Ecology's issue with how the orchards are characterized in the 100 K Area Proposed Plan is that it's not detailed enough for the magnitude of the issue, given that there is arsenic and lead in the soil that people will be exposed to. John noted that Ecology believes the arsenic and lead from the orchards to have been spread around site, as concrete from the orchards has been used elsewhere on site. He also noted that Ecology has asked DOE to clarify their open and unclaimed land statements in respect to Ecology's partnerships with local tribes. Ecology has asked DOE to specify what types of ICs will be used in irrigation or non-irrigation scenarios.

Board discussion

Lynn Davison, Hanford Workforce, recused himself from participating in this advice discussion due to a potential conflict of interest.

The following are the key points noted during Board discussion:

- The Board will be able to review Draft B of the 100 K Area Proposed Plan, which is due to the regulating agencies 60 days after comment resolution ends. There will be 30 days for review, and the new draft will include information on soil flushing.
- The Board agreed to include a new advice point on including IC specifics in the ROD, as ICs need to be identified in order to receive funding for implementation. The Board would also like to see DOE specify what their definition of an "IC" is for purposes of the document. The new advice point language will be written to demonstrate that the Board is still not in full support of the use of ICs.
- EPA is asking DOE to evaluate different cleanup options for the Hanford orchard lands for purposes of the RI/FS process.
- The Board agreed to more specific language when addressing plumes and contaminants of concern, but noted that the language is confusing because the terminology used in the 100 K Area Proposed Plan is confusing and non-descript. One Board member noted that the term "suspect plume" is inaccurate, but the Board agreed to leave the term in the advice as this term is used in the document.
- EPA noted that the orchard lands and lead and arsenic issues are important to EPA and Ecology. While lead and arsenic are present throughout Central Washington, those contaminations are not on the EPA National Priorities list, and the contamination at Hanford is on this list. The contamination has to be addressed regardless of how it got there. Dennis noted that addressing the contamination is different than cleaning it up.
- The Board discussed the advice language addressing their preference for use of a hybrid adaptive remediation alternative rather than Alternative 2 as identified in the 100 K Area Proposed Plan.

The agencies asked that the Board clarify what they mean by "hybrid." The Board prefers that the agencies first use the Remove/Treat/Dispose (RTD) approach for remediation before implementing technologies such as soil flushing.

- Jim explained that the soil flushing technology will be coupled with a down-gradient capture and bio-infiltration system in areas where an aquifer continues to contribute chromium to the groundwater. He both Alternatives 2 and 3 include the use of RTD to meet the preliminary remediation goals (PRGs). RTD will be the first method used, but DOE would like the flexibility to implement soil flushing in order to address unsuspected complications.
- A hybrid alternative would include the expansion of the RTD system as identified in Alternative 3, but with the flexibility to use other technologies when necessary.
- The Board determined to eliminate the reference to a hybrid alternative. The advice and background before the advice will reference the Board's support of Alternative 3, which advocates for RTD and an expanded pump and treat system. The Board can adapt their support after clearer soil flushing language is provided in Draft B of the document. The Board did not want to appear to be in support of soil flushing or Alternative 2 at this time.
- The Board noted that part of their preference for RTD is because it can be implemented immediately, while other technologies will still need to go through large scale testing before being proven for use at Hanford. Dennis noted that soil flushing is a proven technology, but DOE will still have to identify in the ROD where they will be implementing the hybrid technologies. Jim said the document will include a table that identifies areas for RTDs and areas for other technologies.
- The Board may choose to write more advice on alternative technologies in the future in order to address all concerns with hybrid adaptive remediation techniques.

- The Board discussed the importance of DOE addressing remediation in culturally sensitive areas and updated the relevant advice language.
- The Board adapted language relating to uncertainties in measurements for water samples when injections wells are used for both monitoring and sampling.

The Board made additional minor language changes to the advice. The advice was adopted.

Dennis said the timing of the Board's advice is perfect, as the regulating agencies will either agree or disagree with how DOE responded to their comments by the end of the following week.

Draft Letter: PW 1,3,6 and CW-5 Record of Decision

Introduction of advice

Shelley provided an overview of the draft letter and reviewed the Board's history with the PW 1,3,6 and CW-5 process and ROD. She said the Board has issued three separate pieces of advice concerning the waste sites and the need for RTD and permanent remedies. The Board provided Advice 247 on the PW 1,3,6 and CW-5 Proposed Plan in July 2011, and the advice asked DOE to remove as much waste as possible. The Board also advised that the proximity of cesium to ground surface required action, and that the TPA agencies should host public meetings on the PW 1,3,6 and CW-5 Proposed Plan. 318 comments were provided on the ROD, and the TPA agencies hosted public meetings in four locations. The comment period was July to August 2011, with an extension through September. Shelley noted that the public also requested removal and disposal of the plutonium in the waste sites. The TPA agencies responded to the

Board advice, saying that the advice would be considered and responded to in the response to comments attachment to the ROD, which was signed on September 30, 2011 in order to meet all requirements and milestones. Shelley noted that the waste sites are classified as high waste, and the ROD included a soil vapor extraction system as a remedy.

Shelley said the participants of the December RAP meeting unanimously decided that the ROD had missed the mark and did not accurately incorporate or consider the Board's advice or public comment. She said the purpose of the draft letter is to draw attention to how the TPA agencies responded to the Board's advice, what was missed, and express the Board's dissatisfaction with the TPA agencies plan to leave a lot of plutonium and other contaminants in the soil. It also addresses the skeptical sentiment that plutonium is not mobile and is contrary to the Board's belief. Shelley noted that the letter is addressed to the TPA agencies, not just DOE.

Agency perspective

Greg Sinton, DOE-RL, noted that the TPA agencies response to Board Advice 247 is now available on the Hanford website. He said he is sure DOE will consider the Board's letter.

Dennis said EPA does not normally respond to letters, but it is important for the Board to voice their displeasure and provide a clear record on how they stand with the ROD. Dennis said EPA will probably never provide a point-by-point response to advice, because they try to respond from a policy perspective. He noted that the TPA agencies have traditionally provided the Board with a response summary and cover letter when advice relates to Superfund decisions. He said the response summary is a legal document and needs to be consistent with what is in the ROD. Dennis noted that advice provided prior to a proposed plan stage does not require the same response, though the TPA agencies are willing to provide the response summary on the website out of ease.

Board discussion

The following are the key points noted during Board discussion:

- One Board member disagreed with the notion that plutonium is a risk to leave in the soil. He cited professional experience with plutonium and concluded that plutonium is only dangerous if inhaled. He noted that inhaling plutonium is hard to do if it is underground. He said plutonium has a long half-life and requires a large quantity to be dangerous. He does not believe that plutonium is the most hazardous material at Hanford. The Board member disagreed with the overall tone of the letter, noting that it is driven by a perceived plutonium risk.
    - Dennis noted that there is quite a large quantity of plutonium on site.
    - The Board discussed the public's perception of plutonium and agreed that given what was heard at the public meetings, the public wants the plutonium removed from Hanford to the extent possible, and their reasoning is not based on a misperception of plutonium's risk. The Board noted that even if plutonium is only dangerous through inhalation, it is still a substance that was not present before the Manhattan Project, and therefore it is the TPA agencies' responsibility to remove it.
    - Plutonium and TRU waste risk will be discussed during a RAP meeting.

- In regards to EPA responding to advice only from a policy perspective, it was noted that the other agencies have adapted their advice responses to be point-by-point as some items tended to be missed. The Board now expects responses to be point-by-point.

- The Board addressed the question of whether it is appropriate to ship all retrieved plutonium to WIPP to be treated. Dennis noted that most of the plutonium is above 100 nano-curies per gram, and there is a limit on how much can be shipped at one time.

- National experts on the topic of caps and barriers recently attended the Barrier Workshop held at Hanford, and they agreed that a cap cannot be designed to last 500 years. The Board noted that there is uncertainty for the long term of plutonium and even experts wouldn't know what to do with it if it remained in the ground for a long period of time.

- Board members believe the TPA agencies are still unaware of exactly what is present in the waste sites in terms of quantity, activity, and acidity. More data should be provided before a solution is implemented.

- The Board agreed that the letter is a follow-up to advice stating that they would like plutonium to be removed from underneath the cribs. DOE said they would remove two feet of contaminated soil that would result in removing the majority of the waste. In actuality, the removal of two feet is only 51 percent of the estimated amount of plutonium in the waste site, and the Board believes this is an inadequate removal amount. DOE could remove an additional 15 feet and reach 90 percent removal of plutonium.

- One Board member referenced a 1990 letter from Ecology that stated plutonium is mobile and will reach groundwater within seven years.

- The Board updated the letter language to say that when the agencies reference Board advice, they need to reference not only the most relevant advice, but all relevant advice.

The Board made additional minor language changes to the letter. The letter was adopted.

Waste Treatment and Immobilization Plant Safety Culture

Presentation on DOE's Implementation Plan

Steve Pfaff, DOE-ORP, provided a presentation on DOE-ORP's safety culture implementation plan; it is provided as Attachment 5. Steve began his presentation by noting that many people, including Board members, have contributed input to help DOE improve the overall safety culture of Hanford. He said DOE has been working on safety culture for over 20 years, and it is a lot of work, as it is a program that everyone on site participates in. He said safety culture is hard to measure, but it is measurable through honest discussions with employees. He said safety culture is in behavior and slated values. Steve noted that that DOE has updated their Integrated Safety Management (ISM) Guide to include information on the importance of leadership, membership, and organizational learning.

In addition to his presentation, Steve noted the following:

- The Chief of Nuclear Safety for DOE-EM, Jim Hutton, is present for the Board's sounding board on safety culture, and he is one of many people responsible for safety at Hanford.

- The DOE-HSS Report 2010 was the result of a request from DOE-EM to perform an independent assessment of the nuclear safety culture at WTP. The report was both positive and negative, and DOE-HSS followed the Nuclear Regulatory Commission's (NRC) criteria for assessing safety culture.

- The Secretary's memo on Nuclear Safety at DOE was distributed to all federal employees on December 5, 2011. The memo expressed nuclear safety policy.

- The DOE Implementation Plan for the DNFSB Recommendations 2011-1 was implemented by a national DOE response team; it was not a local Hanford effort.

- DOE and Bechtel are individually forming Safety Culture Teams to address all safety culture reports and develop and track corrective actions for safety culture resolution.

- Employees have been provided with copies of all of the relevant safety culture reports, and they have been encouraged to read them.

- The timeline for responding to the DNFSB recommendations is as follows: DOE will report to the DNFSB with a corrective action plan (CAP) in April 2012; the CAP needs to be completed by April 2012; and the DNFSB will review safety culture progress at Hanford in May 2013.

- DOE is currently developing an effective survey to measure safety culture progress at Hanford.

Steve encouraged Board members to read all relevant safety culture reports. He noted that DOE received input on safety culture without being prompted by any accident event. Stacy noted that DOE-ORP management is in attendance for the sounding board and have made a commitment to listen to the Board's input. Jane said Ecology's senior managers are also in attendance, and she noted the importance of this critical and serious topic.

Issue Managers' Framing

Laura Hanses, Non-Union/Non-Management Employees (Hanford Workforce), said both the Tank Waste Committee (TWC) and Health, Safety, and Environmental Protection (HSEP) committees have been discussing the technical issues addressed in the DNFSB recommendations, including pulse-jet mixers, hydrogen gas generation, and the potential for a nuclear criticality. Laura said they are also concerned about management communication practices regarding the potential safety problems with the engineering, design, and operations of the WTP. She said the committees are questioning whether employees actually feel safe raising concerns and if management does enough to address or resolve those concerns. Laura noted that the committees could not agree on a path forward for advice so they decided on a sounding board. She said that Secretary of Energy Chu committed to deliverables for the DNFSB recommendations, and many of the deliverables address what the committees would have provided in advice. The committee will continue to discuss safety culture and are considering advice at a future point.

Laura said the committees have engaged in wide-ranging discussions that involve concern over major policy issues and approaches, specifically including:

- The need to urgently resolve technical issues related to tank mixing.
- A concern that DOE may misunderstand the original meaning and intent of what "safety culture" is and how it relates to disaster prevention.
- A desire to focus on improving the ISMS as a tool to integrate all of the safety issues.

She said it became clear through discussion that committee members may have different interpretations of industry terminology, and that key ideas need a very thorough airing between all parties.

Keith Smith, Public-at-Large, reiterated that the TWC and HSEP committees were in much disagreement over potential advice and how to advise DOE, but that the sounding board will allow DOE to reflect on Board comments as they implement the CAP. He said everyone is hoping to leave with a better idea to be communicated effectively about how to develop and maintain a strong safety culture.

Sounding Board

Each Board member and alternate was allotted three minutes for his/her comment, and could choose to pass. Susan Hayman invited each Board member or alternate seated at the table to comment, and then invited those members and alternates seated in the gallery to come to the table if they wished to make a comment. Once all Board members and alternates had the opportunity to comment (round 1), Susan offered an additional (round 2) comment opportunity to all members and alternates.

This question was provided as a prompt:

- What do Board members believe needs to happen to design, construct, and operate the WTP successfully and safely?

The following is a summary of Board member and alternate comments, rather than a word-for-word transcription.

Jerry Peltier, Local Government, City of West Richland
I spent over 20 years working in construction on site. Westinghouse did a good job with their safety culture and programs throughout the years, and it has improved the working relationship of all of their people. The problem is when there is early retirement and new, younger people join the Hanford workforce. So much of the culture and brain trust is eliminated in early retirement. We need to make sure we continue to invest in the safety programs and culture, even though contractors may change and programs may fail. We need to work on the culture of the programs and ensure employees feel like they are part of the culture. Every single rule developed on site has been the result of a hazardous accident; that's why we wear hard hats, etc. Conduct of operations needs to be built into the safety process, and managers and others who implement safety programs need to believe in their benefit and follow through.

Keith Smith, Public-at-Large
In order to ensure the WTP is built properly and safely, we have to rely on teamwork, which goes from senior management all the way to field workers. In order to do so, you need to have strong management that has an unflinching commitment to a safety culture that reflects the teamwork theme. Management needs to support the process. ISM is the framework from which you should develop safety culture; it's understood by both the workforce and management. Failure to successfully implement ISM comes from frequent contractor and manager changes, as well as the failure of DOE to communicate its importance. ISM should be a factor of employment; senior managers should be told to do it correctly or look for employment elsewhere.

Rebecca Holland, Hanford Workforce, Hanford Atomic Metals Trade Council
I am an employee at WRPS working in the tank farms. I have been with Hanford for almost 26 years. This is an important topic for everyone in this room, the whole workforce, and the Tri-Cities community. I am disappointed in the safety culture surveys that were provided to WRPS employees. The questions were misleading, rankings were sometimes out of order, and the overall quality of the surveys was unprofessional. It did not show a huge commitment from DOE. I can see how some of the answers may

have been skewed due to the survey format. Employees need to have buy-in to the safety culture, and management does, too. Employees at WTP and the tank farms need to be on the same page for safety and commitment, as both areas rely on each other for successful operation.

John Howieson, Local/Regional Public Health, Physicians for Social Responsibility
The importance of this issue is obvious, and I do not have sufficient knowledge to comment at this time.

Gene Van Liew, Local Environmental, Richland Rod and Gun Club
I have concerns about the construction of WTP moving forward while the design has still not yet been finalized. I am also concerned with the impacts of employment, with many being laid off and then rehired in certain areas. Finally, the issue of safety is being recognized, and the credibility will come from the union workers who will be able to speak up without fear of retaliation. Environmental safety issues are still to come.

Tony Brooks, Local/Regional Public Health, Benton-Franklin Public Health
I spent my youth working in a research laboratory where we handled radioactive materials. There was safety culture in place to protect us, and it is important for safety culture to be present at WTP and elsewhere. Too often safety people are regarded as the safety police that will punish you for messing up. If there is a safety culture rather than safety police, you will have made a huge advancement, and it sounds like you are making progress. Safety culture should be designed to help workers, not punish them.

John Stanfill, Tribal Government, Nez Perce Tribe
No comment.

Lynn Davison, Hanford Workforce, Non-Union/Non-Management Employees
My comments are not based on knowledge of events at the WTP, but are based on my experience with workforces to establish a healthy, growing safety culture. In these situations, you need to have committed leadership that has walked the walk and is motivated by caring about the people they work with and the success of the programs that govern them. If there is a gap in the leadership chain where the rules do not trickle down, safety culture doesn't work; information from the top needs to be relayed correctly and followed up on. If the program isn't working, management should analyze what went wrong rather than retaliate. I think you are doing a good job and are working in the right direction.

Mike Korenko, Public-at-Large
I am the vice-chair of the HSEP committee and have germane experience working in hazardous environments. The first breakdown of ISM is in behavior. Management needs to care about employees, listen, have respect, and get feedback. A 360 review of DOE and contractor site management is the only way to analyze where there is a breakdown in safety culture and communication. When I completed a 360 review, I saw that the bottom 5 percent of managers were the ones causing most of the problems on site, so we fired them. The second breakdown for ISM is that ISM works for operations, but not the project, which is something we collectively missed. The functional requirements for the WTP were not done properly, and that is where the breakdown is occurring; the current contractor is only supposed to get the plant to run, not operate for a long time. Future projects need to integrate safety management to include cultural and application elements.

Tom Carpenter, Hanford Workforce, Hanford Challenge
I am at Hanford because of safety culture; I started coming to Hanford in the late 1980s to talk to people who had been fired for raising issues. I wish we weren't still talking about this, because even then there was a series of reforms, but the program feel apart because Hazel O'Leary, former Secretary of Energy, left office. Her program had zero tolerance for reprisal. A congressional hearing in 2000 looked into why the program failed and determined it was because we continually fail to implement reforms. And now

here we are again. Internal and external agencies are now looking into Hanford safety culture, so it's serious. But there are still instances across the world where scientists are afraid or are unable to speak out, like the NASA scientists who warned officials about defaults in the Challenger structure. They knew the Challenger would blow up and couldn't stop it. There have been plenty of times recently where there have been disasters, and we need to do disaster prevention; key people need to know they can speak up. Only 30 percent of respondents to the DOE-HSS survey said they feel they can challenge decisions; only 50 percent said they can approach management about concerns. I am worried that key concerns are not coming forward when they should. Behaviors matter, not pronouncements, and DOE needs to deal with the problems as they arise.

Ken Niles, State of Oregon, Oregon DOE and Water Resources
I want to read an excerpt from HAB Advice 81, issued in December 1997, the topic of which was Hanford safety concerns:

> "It is mandatory that DOE nurture a safety conscious work culture at the Hanford site. All must ensure that employee concerns and investigation programs are credible by visibly holding management, supervisors, and workers accountable to standard environmental safety and health policies. There should be visible management and worker accountability for accidents and any retribution against employees for reporting accidents, injuries, safety concerns, or other safety issues. Incentives for improving safety performance should be structured to encourage open and straightforward identification of safety concerns within both the DOE and contractor organizations. Environmental, safety and health performance objectives and agreements should be incorporated at a significant level into incentive fee arrangements with the contractors."

We've been down this road before and we will be there again. The Oregon DOE staff does not have a way to gage the level of the safety culture problem, as well as the level of response. Everyone in this room wants the WTP to be built and operate as intended, and for workers and the public to be safe. I was not initially convinced that DOE is taking this seriously, but I am now, and there will be a lot of deliverables based on the Secretary of Energy's comments. I am interested in seeing DOE's response.

Art Tackett, Local Government, Benton-Franklin Regional Council
This is a management issue to the greatest extent, and the site leaders should be analyzed. If they don't buy into safety culture, there is critical disconnect.

Norma Jean Germond, Public-at-Large
I live in Oregon, and Oregon's real concern is the safety of the whole region and the Columbia River. It is important that this particular area thrive successfully and safely. I want WTP to work well, but I am concerned that it is only 62 percent designed and already through many billions of dollars. But in the end, I don't care how much it costs to make it work well. I want to see the waste get to the plant for as much vitrification as possible. There have always been safety issues at Hanford, and the environment is not open or transparent. But it is slowly changing, and it is positive to see that there is now a greater effort. It is unfortunate when there is a breakdown between the top and the bottom; mid-managers and contractors can mess up safety wise. People need to feel they can speak without retribution. I hope DOE works hard with the contractors that are changing all the time to educate them and convince them that safety culture is the best way to operate and make people and the environment safe.

Jean Vanni, Tribal Government, Yakama Nation
I have concerns that I would like the TPA agencies to address: who is going to be responsible for the future of safety concerns, and how will the culture be institutionalized into WTP operations?

Steve Hudson, Regional Environmental/Citizen, Hanford Watch of Oregon

Safety culture problems are typically systemic, and efforts to rectify them are difficult. Training and issue identification rarely work. We rarely give enough time to train workers or management to deal with these problems, and change takes a long time. When we train technicians, we need to train them not only in skills but in what has happened at Hanford and in the culture. I suggest that workers take part in internships after training to get a feel for how the site works. New employees should learn what is expected at Hanford in terms of safety, and there needs to be a larger community to respond to any problems.

Rob Davis, Local Government, City of Pasco
Safety culture means different things to different people. To some it means that they have their safety gear on while they work, and others believe is means safety in design and how something is built. I think that we as managers and directors are doing our employees a disservice by using acronyms to define safety. We need to say Integrated Safety Management rather than just ISM. When we talk about safety in design, we need to talk about the process, how it works, and what our priorities are. Different working groups have different priorities, and they all need to be integrated into one big project. We also need to follow through with quality and quality management programs, because too often we end up with products that don't match up. We need to look at a quality culture, too.

Larry Lockrem, Local Government, Benton County
I have seen many different views of safety culture through this process and through my 25 years of working on site. People look at safety in terms of money. People in the middle of a bell-shaped curve budget need to be looked at for how they are applying safety in their day-to-day activities. I have seen many different safety programs come and go through cycles, like the vapor program. Where does the buck stop? Someone needs to be the leader and implement the process. It has to be DOE, and they have a long way to go.

Sam Dechter, Public-at-Large
DOE has studied how to improve safety culture, but they have not yet succeeded in making it persist. There is too much hiding behind the contractor, and DOE is reluctant to tell contractor senior management to do a better job. We need high-quality, demanding leadership. I once had a job where I had to report at least one problem per week. If I didn't think there was a problem, I had to find one. At another job, I overlooked contractor work that was being done inside a storage and equipment facility, assuming that they knew how to do their job. They hired someone to do some painting in the facility, and I paid little attention. Unfortunately, a young painter fell and was killed. The lesson I learned was that by virtue of your management position, you should know everything that is happening, otherwise you are as guilty as the person committing the safety or waste violation. DOE hasn't been able to make safety culture persist because there have been fatalities, like in 1994 and 1995, after a new safety program has gone away.

Dan Serres, Regional Environmental/Citizen, Columbia Riverkeeper
We are talking about safety as it relates to technical issues, and until those issues are fully aired, we will not know whether WTP will work or explode. My constituency always asks me whether the WTP will work. We need to have a transparent airing of all of the technical issues that haven't been resolved. I would like to thank the TWC for all of their work on this topic.

Pam Larsen, Local Government, City of Richland
The health and safety of workers is important for the elected officials of the Hanford Communities. We have met with DOE, the contractors, and the Secretary of Energy about our concerns, and we are convinced they are committed to resolving our concerns. There was a new contractor many years ago at Hanford that worked very hard to fix their negative image of employees not being able to raise concerns. They put mechanisms in place for zero-retaliation feedback, including an action committee where people

could go to ask questions. The contractor was committed to working transparently, and they were very successful. A few years later, I had the opportunity to ask those workers face-to-face if they were comfortable raising issues, and they whole-heartedly agreed that they were, and it was because of their managers. Communication with managers and safety needs to be institutionalized so that concerns can be brought up without having to involve the newspapers.

Laura Hanses, Hanford Workforce, Non-Union/Non-Management Employees
Safety concerns are not limited to WTP, because it is not some unique island at Hanford.
Workers at WTP will be integrated with the rest of the operations workforce. A safety conscious work environment is needed to foster a safety culture and we need to actively engage employees. Rating employees for staff reductions is detrimental and needs to stop. Rating is subjective and discourages workers who are on the downhill side to retirement from being vocal. To foster a strong work environment, retention needs to be based on length of service time at Hanford.
Experience cannot be quantified in a number. Any employee who has experience and is still a good worker should be more highly valued over an inexperienced worker.

Dick Smith, Local Government, City of Kennewick
I was incensed by the action taken recently against an employee who raised concerns and was removed from his position. If employees can't raise concerns without fear of retaliation, they won't raise concerns, which will result in management being unaware of real problems. DOE has had problems with communication and coordination between the tank farms and WTP, which has resulted in the lack of an integrated system of working between the two teams. Inefficiencies result in increased exposure, and I've not seen anything to improve the inefficiencies. We are working towards integration, but I would like to see the two teams communicate more. Technical staff needs to be able to raise concerns without fear, and management needs to be able to tell employees to come to them with concerns rather than raising them in public. There are still concerns about the operability of some parts of WTP; we need to keep those concerns in the forefront if we want it to operate successfully.

Mecal Samkow, State of Oregon, Oregon Hanford Cleanup Board
The Oregon Hanford Cleanup Board has also received presentations on safety culture, and it's interesting to see that the information is different. I have been fortunate to have been educated in science management, as well as to have seen the first hand, long-lasting effects of nuclear disasters like Chernobyl. Some of the children born after the disaster there are slightly green in color and are disfigured. When I hear about the possibility of an unplanned criticality, my mind jumps to more than just safety culture. We are invested in large-scale, contractor decision, engineered technology risks, not small matters. There are reports that are not providing the right information. I am not concerned with culture as much as I am a giant catastrophe. I want to see a list of issues at the WTP, with issues that have the potential to cascade identified. I would like to see what would happen if there is a WTP disaster, like large-scale flooding, etc. We need to have a plan that is beyond general safety culture. I would be interested in seeing employee surveys that are conducted by an external source. I would like to see more international minds involved in solving engineering problems. Remember that DOE works for us, not the contractors.

Susan Leckband, Regional Environmental/Citizen, Washington League of Women Voters and HAB Chair
The Board wants to see WTP succeed; it is the lynch pin of cleanup for the Hanford site. We want the tank waste retrieved and stabilized, but we want it done safely and successfully. Safety and schedule can affect management decisions. Safety culture needs to be clear to those in middle management, as we have seen that upper management has good intentions. But when you get down to the mid manager and they are presented with not getting their bonus if they don't meet a deadline, that's where safety is a problem. In the past, senior management has left their offices to go to the ground to talk to people and be visible. I

recommend that senior management takes time to reinforce safety culture with their workers to demonstrate that it is a priority.

Bob Suyama, Public-at-Large
I am the vice-chair for the HAB and a retired worker from Hanford, Rocky Flats, and Los Alamos nuclear sites. This is déjà vu. Every couple of years we have an opportunity to focus on safety, but if there was really a safety culture on site, we wouldn't have to go through this cycle. I remember an employee of mine at Hanford that had a shelf devoted to the promotional material associated with every new, exciting, and ultimately failing program at Hanford. Safety programs are put into place to solve problems, but are pushed aside when something else comes along. We can't just implement another program; there needs to be a cultural change. Don't let the programs fade away, and ensure that managers that are replaced by leaders that are as consistent in safety culture as the last manager was.

Liz Mattson, Hanford Workforce, Hanford Challenge
The sounding board is a helpful way to hear from all Board members on a subject that we've been talking about for a long time. Safety culture was a big draw for me when I became involved with the HAB in 2007. One of the biggest concerns with WTP is the issue of responsibility, who will be responsible in the future, and who will be held accountable if it doesn't work. My concern is that the responsibility will be shifted onto future generations, as those currently involved in decision making will be retired or gone. Culture is about taking responsibility every day to ensure that the plant will work, as it is a vital part of cleanup. We can't afford to have to go back to fix things that we can fix now. Another recurrent problem is the shift in leadership. I'm glad we're finally admitting that it is a problem and are trying to address it. Unless you acknowledge there is an issue, you can't fix it.

Paige Knight, Regional Environmental/Citizen, Hanford Watch of Oregon
Technical and safety issues have not been addressed with the public and Hanford workers for a long time. I have said in the past that we need to be told the truth, because what we think is far worse. The initial secrecy of the Manhattan Project has contributed to DOE's secrecy now. There is a very strong history of DOE being called out for mis-management and poor oversight of its contractors, but workers still get the blame. I am concerned about DOE's continuing defensiveness. We have to have the principles of behavior project and system-wide; openness and honesty is not a system. The workers should be a part of building the safety culture, and there should not be a hierarchy. Workers have good ideas when they are given the support to express their ideas. It is scary to only address minimum safety instead of the future functionality of projects, and it is difficult to continue safety culture when management, contractors, and subcontractors come and go. Too often the agencies don't see the problems until they are slapped with it publicly. The Tri-Cities, the region, the country, and future generations cannot afford for WTP to fail; it's an economic necessity.

Dirk Dunning, State of Oregon, Oregon DOE/Water Resources
This topic is difficult for many different reasons. I have worked on nuclear issues for a long time, and the most critical safety issues being in the early part of the project. Issues that lead to disasters typically begin with assumptions of what can and cannot happen, and what will and will not happen. Whatever is ruled out does then occur. The corporate culture for safety begins early, and the culture becomes more rigid, for good or for bad, as each new person is hired. Late in the project, it is difficult to see where the problems started and how to change them, since everything becomes locked into place as an entity both of people and of technical things. You can see that in the design of WTP, where design ideas were put into place early on that said we were going to use dark cells and that we were going to make the plant smaller to save money. Because of that, we tightened things up and ended up having to use things like pulse jet mixers without having the design information we needed for those. Until we can back up and verify what the assumptions were, which are often not written down, it's really hard to find where the beginning is and where the issues are that are actually going to be the real problems. The DNFSB pointed out the

early-on safety concerns that could eventually lead to catastrophes and major safety issues later on. Day-to-day occupational issues are easier to focus on. The DNFSB made two technical recommendations and then went on to talk about safety culture, and in doing so, they did focus on the right things, but they also confused people because the phrase safety culture itself is one that I think people don't understand. We don't all agree on safety and culture and safety culture. If we go to the beginning of where those phrases started, they're from Chernobyl and the disasters that followed that. This is where the talk was not about everyday safety, but about where the design safety issues are built into the facility.

Maynard Plahuta, Local Government, Benton County
If there were three things I would suggest for all managers to the lowest supervisor, it would be: don't let cost override safety, integrate design and operation safety issues, and don't ignore the habitual complainer. One time I worked with an employee who complained about everything, and 99 percent of the time it turned out to be nothing. But the one time they did have a point we didn't listen. There are a number of employees that management tends to disregard. Listen to everything your employees say and then determine its worth.

Steve White, Regional Environmental/Citizen, Columbia Riverkeeper
I'm not a technical person; I'm an environmentalist. My job for a long time was to work with various two-legged cultures. This culture that we're talking about is a learning curve, and it takes time for there to be a shift in cultural mores. The shift needs continual focus; DOE was exceptionally behind the learning curve and I hope it's not too late for WTP.

Second Round (HAB members were provided the opportunity to make additional comments)

Jerry Peltier, Local Government, City of West Richland
I want to make a statement, but it may be incorrect, and I apologize ahead of time. I spoke about the startup phase of WTP with a DOE-ORP employee about a year or two ago, and I was told that Bechtel is the startup contractor. I have not seen DOE issue any kind of new contract for who is functionally going to operate the plant. If it's going to be CH2M Hill Remediation Company, it will be an absolute disaster to transfer ownership of the plant without an integrated management team of people who are going to go through startup and operate the plant after the startup phase is complete. No contractor can be absolutely new to the plant and figure out how to operate it on day one. Unfortunately in a plant of this magnitude, the "On" button doesn't always work.

Keith Smith, Public-at-Large
I want to elaborate on what others have said about behaviors, because it is key. If senior management behavior is not consistent, there's going to be a problem. A few years ago, I assisted in an ISM System (ISMS) review of the tank farms, and the senior manager in charge of tank farms was transparent about his dislike of an outside team intruding in his ISM. The field teams there just thought of ISMS as the flavor of the day. It takes only the slightest negativity from senior management to become something significant. The attitudes of upper and mid-management on site at that time translated into safety issues and ultimately serious consequences. Years ago, we did a behaviors-based safety training at Hanford, and it pointed out how the attitudes really contribute to overall safety management. At that point, I encouraged all senior managers to look their mid-managers and supervisors in the eye to communicate the importance of ISMS and what was expected of them. The changing of management contributes to failed ISMS, and it's DOE's responsibility to make sure that doesn't keep happening.

Tony Brooks, Local/Regional Public Health, Benton-Franklin Public Health
Our safety is quite good compared to many other things when you think of how many thousands of miles our trucks drive without accidents, how many days we go without accidents on site, etc. It seems like I'm

getting mixed messages onto what the dangers really are as I sit and listen to the comments. My question is what are we comparing our safety to?

Mike Korenko, Public-at-Large
I want to pass on some concrete suggestions on things that I had to learn the hard way. First, something discovered in the 360 analysis is the failure of human nature to be introspective. In previous cases, the worst managers actually thought they cared about their workers. The offenders do not believe they are the offenders, and it only becomes obvious through comments from others. Every person has a sphere of influence, and that resonates well with employees. I encourage DOE to embrace the concept. Leadership is important, but too many layers of management is difficult. When I oversaw 1,200 people at Westinghouse, I determined that there would be no more than two layers of management below me. It was very effective. The following year, we were the only site outside of Savannah River that had a million hours between accidents. I don't know what the layers of management are for WTP, but DOE should examine them. Also, there needs to be risk identification and mitigation at this state of the project. We need to know what risks are there and what we are going to do about it. We don't want to be surprised.

Tom Carpenter, Hanford Workforce, Hanford Challenge
In my view, there has been an inappropriate focus on the person who brings up a concern. The people who put their careers on the line, even though they know there might be risk, are the ones taking the responsibility. The appropriate focus should be on the people suppressing the concerns. This thought actually comes from the NRC and their thoughts on a chilled work environment at commercial nuclear plants. They have been struggling with this issue for over 25 years. They finally solved it by saying if there is a person who fears reprisal or retaliation, the NRC will investigate immediately and determine if it is true. The problem will be addressed whether it is true or not. It's a communication issue among the workforce. The NRC has tools for dealing with people who hand out retribution, like kicking them off the site, issuing civil or criminal penalties, and suspending licenses. This has had a dramatic effect on the commercial nuclear industry, and now they have their acts together. This is not the case at Hanford. When people raise concerns at Hanford, nothing happens. Hanford should look at following the NRC model.

Agency Responses

Jane thanked Board members for their comments and said she thinks it was a very thoughtful and civil dialogue. The comments will be very helpful for the agencies. Jane said the TPA agencies cannot afford for WTP to be a failure, and it is the state's responsibility to ensure that they are doing what they need to do as a regulating agency to make sure failure doesn't happen. Jane acknowledged that the agencies have a hard time addressing individual issues, but noted that the issues are technical in nature. She said Ecology accepts responsibility for dealing with concerns, and she said she hopes they have demonstrated that they have an open, confidential venue for raising concerns. She said she hopes DOE can work on their speed for responding to concerns. Ecology holds DOE responsible for safety. Ecology believes that safety exceeds schedule and cost, but they do expect DOE to respond to concerns in a timely manner so that cost and schedule are not disregarded. Jane said Ecology is very appreciative to have heard the conversation.

Stacy said she appreciates everyone comments. DOE recorded the sounding board to make sure nothing was missed. Stacy addressed concerns about the employee surveys, noting that a new, well-designed survey will be distributed to all Hanford employees. Stacy said DOE appreciates that contractors put together their own surveys to try to understand their own safety culture, but it's time to get a baseline for Hanford. A request for proposal has been put out to find an external source to conduct a Hanford wide (DOE and contractors) survey, and Stacy hopes all employees will take part. She said this could be the first of many yearly surveys to keep track of how safety culture is working on site and how DOE is

improving. Stacy said it takes time to change a culture, and it is unclear about how the culture will move forward as WTP transitions from design into construction into operation. She referenced the DNFSB recommendations and the DOE implementation plan for the actions and commitments DOE has made to the DNFSB to address their concerns. DOE knows implementation will take time and has therefore incorporated review periods into the plan to see how they are doing while transitioning takes place at WTP. Stacy said she appreciates Board members who have made the distinction between day-to-day concerns and nuclear operations concerns. She said safety and safety culture is not as easy to understand as it seems it should be. Stacy said she would also like to address who will be responsible for operating WTP, noting that the commissioning phase alone is at least a three-year effort. Right now, the schedule shows completion of WTP construction in 2016, with commissioning lasting through 2022. Stacy said instructions for operation are currently being developed for 2022, and Bechtel is responsible for delivering a working plant. She said DOE hopes a strong safety culture will develop with the engineers working on WTP today that will carry through to the people who will be operating it in the future. DOE will be on site for a few decades, and they need to figure out how to endure with a safe environment for the workers and the community so the plant is delivered successfully.

Steve Pfaff, DOE-ORP, said the timing of the sounding board is perfect because the team that has been formed to review safety culture is currently reviewing the safety reports from multiple agencies. Obvious safety culture problems are being extracted from the reports and the recommendations. The team will carefully comb through the reports to identify all of the issues and subsequently act upon them. Steve noted that the team does have a deadline, but is still working thoroughly. Steve said he wants DOE to be as transparent as possible through this process. He said he feels that his office does not have the correct system for employees to raise concerns, but that some contractors already have processes in place. Zero Issue Threshold Identification Systems are used throughout the site and DOE-ORP needs it in their own office so employees make the effort to communicate issues and see them resolved. Steve noted that many Board members mentioned the sustainability to safety culture and program efforts and said that it is very important to get the culture and programs institutionalized, especially in the light of the fact that there is always some employee turnover. New employees need to understand what is expected from the beginning of their employment, and all employees, from management to workers, needs to employ the same safety culture emphasis. Management will need to visit the field more often to see what workers are really dealing with, how they are being treated, and if their concerns are being raised and dealt with. Steve said he has spoken with Tom Carpenter before about the NRC's program for dealing with employee concerns, and DOE-ORP will be looking into it. Steve said many employees are now working together in integrated teams; they are working towards a one-system approach that DOE is participating in as well. The one-system approach is also taking on the issue of safety culture, and the team includes both federal workers and workers from both contractors. Steve said safety culture will be an ongoing effort, as people fail every day, there are conflicting priorities, and some issues rise to the front and push other issues aside. Steve said it is DOE's responsibility to keep raising the issues of safety culture to keep it in everyone's minds as the site moves ahead. DOE is committed to working very hard on safety culture.

Board Discussion

Mecal asked if there is anything policy wise that needs to change to help remedy the contractor turnover problem. Milestone dates, budgets, and new contracts seem to be some of the fundamental issues. Mecal noted that DOE is legally required to be open to new contractor bids. She asked if policy changes could help at this point in the WTP turnover process. Stacy said safety culture is not about policy, but about making sure employee behaviors exemplify expectations. DOE does its work through contractors, and DOE will be going back through existing contracts to see if something can be done to reinforce safety expectations from DOE. An acquisition strategy for future operations at WTP is still being developed, and it includes who the future contractors may be and what they need to be successful. Bechtel is the commissioning contractor, and as such, they must deliver a plant that operates as DOE expects. Stacy

noted that the signing of the Consent Decree in October 2010 shifted the contract; prior to that, Bechtel was required to deliver a functional plant, not operational. Now the goal for 2022 is to show that DOE can provide sustained operations of the WTP. The difference between the start of operations and sustained operations is the three year commissioning window outlined by the Consent Decree milestones. Stacy said DOE is in the process of revising the Bechtel contract for the second milestone which is ensuring the plant will operate, not just start.

Maynard asked if DOE-RL is involved in the new safety culture proceedings. Stacy said there are several DOE-RL employees participating in the response team to the DNFSB and DOE-HSS report findings and recommendations. Many are involved in the local project team led by Steve Pfaff to address safety concerns locally, and a few of them are here today. There are also a few taking part in the DOE-Headquarters (DOE-HQ) safety culture team.

Paige said her first introduction to systematic programs on the large scale was at Hanford, and she has had the privilege of learning about systems thinking. Paige said she is teaching systems thinking on a human level, and she believes the answer to safety culture is not in technical changes but in human changes. Paige offered her systems thinking flash cards to DOE. She noted that a system's structure reflects behavior. Safety culture needs to be developed with the workers, not put upon them by a hierarchy. Paige also noted that a systems thinker changes perspective to increase understanding. Stacy thanked Paige for the offer and noted that DOE-ORP is made up of many engineers and other technical people, and their communication follows as such. Stacy said DOE-ORP is trying to address behavior sciences in their response to recommendations. Paige said the Board brings a more human perspective to Hanford and hopes the technical community and the Board will meet in the middle.

Steve Pfaff noted that the DOE-HSS report is provided on the back table, but he encouraged people to get online and look at the supplemental information, which is where they will find information on behaviors.

Jean said she is glad to hear that DOE-RL is also responsible for responding to the safety culture reports and recommendations. Jean said she heard Stacy say that DOE hopes the safety tenants continue, and Jean would like to know where the safety tenants can be found. Jean asked Ecology if there have been any identified areas of potential safety risk either in the design or general construction of WTP. Stacy referred Jean to the DOE-HSS report supplemental information that contains the nine tenants for safety culture. Dan McDonald, Ecology, said many people in the community are already aware of a few potential safety risks at WTP, including erosion and corrosion issues. The pulse jet mixers have a potential for criticality, and there are also seismic issues at WTP. He said the TPA agencies have been aware of all of these issues for awhile. Ecology is working with DOE and their contractors as the issues continue to evolve. Jean asked if Ecology anticipates any future areas of risk. Dan said that Ecology reviews the WTP design and the basic systems associated with the design. They work with both DOE and contractor engineers on issues that become apparent. Dan noted that not all issues are identified in the first round of design review, but that as issues continue to emerge, like corrosion and erosion, the more the issues are vetted to ensure everything is covered.

Tom said one of the problems in an environment where people are afraid to raise concerns is that there are issues that go left unsaid, leaving others unaware of problems. He said there are issues at Hanford that have never been brought up. He asked how DOE intends to address issues they might have missed in the past because people were afraid of retaliation. He asked if there is a program in place for people to come forward with pending issues. Stacy said both DOE and WTP have made concerted efforts to have people bring issues forward outside of the normal processes. WRPS and Bechtel both have problem identification reporting systems already in place; any employee can raise issues in this system, even if it's outside of the design review process, or day-to-day activities, or engineering perspective. Stacy said DOE has focused and messaged very hard on the transition from design to construction commissioning, and she

is worried that this has led to concerns about messaging too hard. What DOE meant to do was to encourage people to bring other concerns forward because the project is progressing quickly towards design finalization. Design is on track to be completed by 2013 and Stacy hopes any remaining concerns will be brought forward before then. Tom asked how employees will be protected if they do come forward with issues, and he wants DOE to consider it.

(Note: An opportunity for public comment followed the sounding board and subsequent discussion. A synthesis of the public comment can be found on page 32 of this summary).

Committee Reports

River and Plateau Committee (RAP)

Pam acknowledged RAP committee members and thanked them for their hard work. She said that in January, the committee spent a significant amount of time discussing the 100 K Area RI/FS and Proposed Plan and started development of the PW 1,3,6 and CW-5 ROD letter. Topics for February include a discussion the Hanford Site-wide Permit, a briefing on the 300 Area RI/FS and Proposed Plan, a joint topic with PIC on Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) cumulative risk and remediation in the K East Reactor, and the plan forward for the vertical pipe units in Burial Grounds 618-10 and 11. There will also be a debrief on the Ecology barriers workshop, which brought in experts from around the country to provide an update on current barrier technology. Pam said a group of issue managers have been working with Ecology for over a year to help make the 14,000 page Hanford Site-wide Permit accessible and understandable for public involvement. She said she is confident the Hanford Site-wide Permit will be released in the spring because the key document managers have a personal commitment. Pam noted that RAP topics for March may include discussions on the U-Canyon, Deep Vadose Zone, and TRU waste retrieval, which will include a conversation on the definition of TRU waste. The February RAP meeting will be held on February 15.

Dennis noted that a big take away from the barriers workshop was learning how much data is available on barriers, and that there won't be hundreds of barriers in place at Hanford.

Tank Waste Committee (TWC)

Larry thanked TWC members and issue managers for their hard work and commitment. He also thanked Cathy McCague, EnviroIssues, for her hard work for the committee over the past few years, and he recognized Jessica Ruehrwein, EnviroIssues, for now serving as the TWC committee facilitator.

Larry said that in January, the committee worked with HSEP to come to consensus on the DNFSB recommendations on technical issues and safety culture for Board advice. The issues were very complex, so TWC recommended the sounding board on safety culture at WTP. The January TWC also focused on glass storage and the selection process, and DOE will provide a video in February on what the glass facilities should look like. Larry said TWC hopes to advise the Board on the topic in late spring. Larry said the committee was briefed on secondary waste treatment, and they will be following it in the next few months in order to prepare advice in the summer. Larry said that also in January, DOE and the Nez Perce Tribe provided presentations on contamination movement and budget constraints in the C Farm. Larry said he and Pam Larsen updated the Benton County Commissioners on the topic, and he noted that the committee has a full agenda for February. Larry encouraged more Board members to participate in the TWC, as there are many issues and not enough people or issue managers to address them.

Health, Safety, and Environmental Protection Committee (HSEP)

Keith acknowledged HSEP members and thanked them for their hard work. He said the committee will have a meeting on February 14 at 9:00 am, and he noted that it seems HSEP has met more in the last year than ever before. He said they will be talking about radiological safety issues in the tank farms and the problems with the employee reporting concerns program. He said Glenn Podonsky, DOE-HSS will speak to the HSS report on safety culture and the findings they made during their review of DOE-ORP and the WTP. Keith said HSEP will debrief from the safety culture sounding board during the February meeting. He said HSEP will continue to track tank vapor issues, ISM, and the Beryllium CAP in the next six months.

Jerry asked if HSEP will be following up with public comments made after the safety culture sounding board. He said it became obvious through the comments that while DOE is saying the safety culture problem is being fixed, some employees believe it to still be broken. Susan Leckband said HSEP can look into the comments if they believe there to be a pervasive policy issue pertaining to the concerns, but that they cannot become involved with the individuals.

The Board discussed how to respond to public comments and determined to make more of an effort to follow up with individuals and thank them for taking the time to provide public comment. Public comment sign-in sheets will be updated to include space for providing contact information should the commenter wish the Board to follow up with them. Susan Leckband said the Executive Issues Committee (EIC) will work to develop a policy for dealing with public comment and will make sure those who wish to provide comment understand how their comment will or will not be dealt with; the developed policy will be brought before the full Board for approval. The Board agreed that they would like to respond to comments in a more meaningful way, and many members voiced concerns that people who make public comments have concerns about Hanford that the Board should help follow up with. Many Board members noted how disappointed they were that those who provided public comment about safety culture were not approached by the agencies after day one of the Board meeting.

Steve Pfaff said the timing of the sounding board was very important, and the public comments got the attention of Jim Hutton. He said the sounding board was recorded to provide to other sites in the DOE-Environmental Management complex so they can see issues that were raised by the Hanford community, which are similar to concerns at other sites. Steve said the agencies do not view the Board as an advocacy group, even though many members represent advocacy groups. He said he is also concerned about how to follow up with those who made public comment, and while some at DOE are familiar with the particular cases brought up, he can't make any promises about how they will deal with the comments. He said DOE knows they need to continue to improve the safety programs and that not everyone on site feels safe. Steve said DOE will have to continue to rely on safety indicators from self-assessments, the people being assessed, and the Board. Steve acknowledged that the employee rating system needs to be reviewed. He said DOE will rely on HSEP and the Board to continue to provide advice on how to move forward with safety culture improvements, as well as how to measure improvements. He offered to speak individually with anyone else who has concerns.

Dick asked if employees are aware of the criteria for which they are rated, and he would like to know what the criteria is. He said employees who are aware of the criteria will be more equipped to deal with it. Steve Pfaff said he is unsure of how the rating process works but that it should be looked into.

Budgets and Contracts Committee (BCC)

Harold Heacock, BCC vice-chair and TRIDEC (Local Business), said the committee submitted advice on the Lifecycle Report last fall and the 2012 version of the document is now available. He said the committee will have a meeting in March to work on more detailed advice concerning the Lifecycle Report and will be focusing on it for the next few months.

Public Involvement and Communications Committee (PIC)

Steve Hudson said all HAB members are PIC members by default, and many of the issues already addressed by other committee chairs are also cross-cutting issues for the PIC. The purpose of the PIC committee is to address how to best provide the public with information on how to participate at Hanford. Steve invited Board members to attend PIC meetings and noted that they are conveniently scheduled for the Wednesday before each Board meeting. He said the February meeting addressed timely topics for public involvement, including topics that don't necessarily correspond with an upcoming decision. The PIC would like to see the topics identified taken back to Board members and to their constituencies. Steve said the PIC identified six technical issue opportunities for 2012, including UP1, the Hanford Site-wide Permit, 100 K Area and 300 Area Proposed Plans, the Hanford out-year budget, WTP, and the TC&WM EIS. Of the six topics, PIC will focus on the Hanford Site-wide Permit, the 100 K Area and 300 Area Proposed Plans, and closing the loop with the TC&WM EIS for public involvement opportunities. PIC also discussed the importance of the State of the Site meetings and will work towards agreement on how to advise the agencies. Steve said he always encourages PIC members to read HAB information available online, which includes the Convening Report on the establishment of the Board. He encouraged Board members to read the Convening Report as it talks about the Board's structure and values. He also encouraged Board members to read the 2012 Lifecycle Report and/or its Executive Summary, the System Plan 6 Executive Summary, and the DOE comments in the PW 1,3,6 and CW-5 ROD Responsiveness Summary. Steve said Shelley Cimon's notes from the intergovernmental meeting also provide insight into the chief overarching themes, issues, and concerns of other sites and other people who are dealing with the same issues as Hanford.

National Liaison

Shelley Cimon reported that she attended an intergovernmental meeting in December, and she spoke to the overall themes of the meeting, which included sticking to the DOE-EM vision, reaching decisions through consensus, being transparent, and learning. Shelley said DOE-EM is reorganizing their division to make more of an impact on field work. She said there will now be one secretary for TRU waste, one for high-level waste, and one for spent fuel. The agency will be re-baselining and looking at the end state risk basis analysis, but will not reassess risk. David Huizenga, Acting Assistant Secretary for DOE-EM addressed the meeting and spoke to DOE's focus on providing input to drive public policy and noted that DOE has not done an accurate job of communicating the effects of the budget to Congress. Shelley said it was reported that $6 billion was spent last year over 17 sites and it resulted in a 66 percent footprint reduction and a 5-month lead on the schedule. Shelley said the DOE-EM Technology Road Map is a living document but will not be updated, but DOE-EM is unified under the goals that were outlined in the document. Shelley said there was a communications panel at the meeting that was interesting to attend, but that the panelists did not mention the importance of advisory boards for communication. She noted that another overarching theme of the meeting was that everyone wants a fully compliant budget. Shelley said it is more important than ever for DOE-EM and the Board to keep their eyes on the prize of public policy. She said there was acknowledgement of supporting the Waste Isolation Pilot Plant, and other topics addressed included storage capacity for high-level waste and interim storage. Shelley said some sites are seeing huge turnover in officials, which is a big concern for DOE-EM. David Huizenga said he expects the site managers to take care of communications with the public, but Shelley said she would like to see the PIC do more work and a better job this year as well.

Pam said she also attended the intergovernmental meeting and said she is confident in the restructuring of the agency to address concerns and empower field managers to make their own decisions at Hanford. Pam said she spoke with a few people at the meeting about the PW 1,3,6 and CW-5 ROD and realized that DOE-HQ was responsible for the push back on getting more waste cleaned up. She noted that the people

who wrote the Keystone Report never thought the HAB would work, but she is pleased to see that the Board has succeeded in spite of the conveners.

Steve said he was surprised to see how much public involvement was stressed at the intergovernmental meeting and asked Shelley if anyone addressed how to pay for the increased level of public involvement efforts for the upcoming year. Shelley said budget was not addressed.

Dick noted that the Technology Roadmap was reviewed by an outside source, and the summary of that review is available online. He encouraged Board members to read the summary.

Jerry asked if the intergovernmental meeting addressed what to do with high level waste now that the original plan has been abandoned. Dennis said the Blue Ribbon Commission is working on the issue, and that one city in New Mexico may be interested in being considered as a location.

Site-Specific Advisory Board (SSAB)

Susan Leckband said the SSAB is having a planning call the week of February 13 and an in-person meeting in April. She said Hanford will host the October SSAB meeting, the dates of which are still to be determined.

Executive Issues Committee (EIC)

Susan Leckband said Ken Niles attended the Wednesday night EIC meeting to make a presentation to task the EIC with development of advice that clearly summarizes and articulates HAB values. She said they will work on the topic and bring it before the full Board. She said they discussed the placeholders for the committee meetings, which included participation from the agencies who discussed their ability to support the meetings with their current placeholders. The EIC decided to interchange the committee call placeholders for RAP and HSEP. All other committee calls will retain their original placeholders. Susan said the EIC discussed public involvement opportunities at committee meetings. Members of the public will be seated in the perimeter seating around the table, but may be invited to the table for particular points of discussion. Susan said all committees will be tasked with comparing their work plans with what they have actually been working on. This will be compared to the TPA agency priorities for the Board. She said the EIC discussed the balance of technical issues with policy level advice; one solution the EIC agreed to implement is to ask a non-technical person to participate in advice development with other issue managers to ensure it is comprehensible at a high level.

Dennis said he would like the committees to tell the agencies if they were off base with the priorities and fulfilling them as they were outlined last May.

Liz encouraged Board members to take on the task of writing advice, as it seems the same people are continually writing the advice. She encouraged those who wish to take on advice to work with a more seasoned partner on their first drafts.

Board Business

HAB Chair and Vice-Chair Selection Process

Susan Leckband reminded the Board that this is her last year as chair, and the new chair selection process will take place later in the year. She said vice-chair Bob Suyama has determined that his schedule will not

allow him to take on the role of chair, so he has offered to step down from vice-chair in order for the newly elected chair to follow in Susan's footsteps for the remainder of her term.

Bob said he gave Susan Leckband his letter of resignation earlier that morning, and he read his letter aloud for the Board. Bob said he is stepping down in order to facilitate the selection process for the HAB's next chair, but that he will continue in his position until a new vice-chair can be nominated and appointed. Bob noted that he believes he would not be able to accurately perform the responsibilities of the Board chair should he be asked to do so. Susan Leckband thanked Bob for his hard work on the Board and said she looks forward to his continued participation. She noted that the person selected as vice-chair will not necessarily become the Board chair, but it would be a good learning opportunity. She said the chair selection process will not be limited to the newly-elected vice chair and that anyone will be able to run for chair.

Susan Hayman spoke to the process of vice-chair and chair selection as outlined in a succession plan that was approved by the Board in 2006 (Attachment 6). She said it is a very detailed and specific formal process, and it is what the Board will follow to select the new Board chair. She said that if the newly-elected vice chair wants to continue through the selection process for chair, that person will have been well trained by Susan Leckband. But if they would like to remain vice-chair, that would be fine, too. She said the vice-chair selection process does not constrain the fall election process for chair. Susan Hayman said she is currently accepting nominations for both the Board vice-chair seat, as well as chairs and vice-chairs for the committees. She asked that nominations be emailed to her after the nominator has confirmed the person being nominated is willing to accept. Nominations for the new HAB vice-chair need to be submitted by the end of February. If more than one person is interested in the seat, there will be an electronic voting process in the absence of a March Board meeting.

Shelley nominated Steve Hudson for the Board vice-chair seat, and she said Steve has accepted the nomination and is interested in continuing on as Board chair in the fall. Shelley noted that the opportunity to act as vice-chair effective immediately allows the new vice-chair to shadow Susan at the April SSAB meeting. Bob reiterated that if a new vice-chair does not attend the April SSAB meeting, there will be a new vice-chair and a new chair at the next SSAB meeting, providing no continuity of leadership.

The Board discussed concerns about the election process, including the quick timeframe and potential unfair advantage of the newly elected vice-chair over those who may be interested in the chair seat in the fall. Susan Hayman reminded the Board that the vice-chair selection process was brought before them in fall 2011 and everyone agreed to the process at that time. The Board discussed that while it would be helpful for the new vice-chair to attend the SSAB meeting in April, the opportunity should not drive the timing of the vice-chair selection. The Board stressed that the selection of a new vice-chair should not preclude anyone else from being nominated for the chair in the fall, and that the new vice-chair will have the option of choosing not to run for the chair seat.

The Board agreed that the vice-chair selection process should be made more formal. The Board agreed to assign a nominating committee to propose a process for vice-chair selection and require all nominees to submit a letter of intent and commitment. The new vice-chair will be selected at the April Board meeting, and the nominating committee will consist of Norma Jean Germond, Pam Larsen, Ken Niles, and Becky Holland.

Updated HAB Process Manual

Susan Hayman said there have been changes to the HAB Process Manual recently, as it has been updated to better reflect how the Board operates. This document will be provided to HAB members and posted on the soon-to-be-launched HAB SharePoint site, and that the agencies would like to post it to the HAB

website. She asked that Board members review the updates before it is made public on the website. She noted that the most recent version of the Process Manual will always be kept on the SharePoint site, as changes are typically made throughout the year.

Bob said the Process Manual is a living document, and as such, he has already made a note that the Board would like to revisit how they respond to public comment. He would like to see the policy developed for public comment inserted into the Process Manual. Bob also suggested that the vice-chair nominating committee be made official in the document. Susan Hayman noted Bob's suggestion and agreed that the 2006 letter outlining the chair selection process should also be appended.

Orientation to the HAB SharePoint Site

Susan Hayman and Tammie Gilley, EnviroIssues, provided an overview of the new HAB SharePoint site. The site will be used primarily as an internal source for document editing and storing. Final documents will still be posted to the DOE HAB website. Tammie will be the SharePoint site administrator, and each Board members and alternate will have their own unique login and password. All relevant HAB documents, like the MOU, governance documents, and ground rules, will be linked on the SharePoint site. Tammie reviewed the multiple folders that will be used to store individual committee files and participant lists, draft advice, current Board meeting information, meeting summaries and agendas, etc. She said the most recent HAB Events-at-a-Glance email information will be uploaded to the website every week, and there will be a link to the Hanford public involvement calendar. Meetings generally not intended for public attendance, like issue manager meetings, will be included on the SharePoint calendar. The site will host a tool for issue tracking, so anyone new to the committee can see what the committee has or will be reviewing. This tool is currently not under each committee folder as there are so many cross-cutting topics, but it can be adjusted to suit the purposes of the Board.

Board Discussion

The following are the key points noted during Board discussion:

- Board members felt that issue managers should be able to protect certain advice drafts in order to allow time to lock the advice from further edits. Board members could also create their own versions of draft documents without altering the original document. The Board will need to agree on which process would work best. Susan Hayman noted that any editing system on SharePoint would be better than the current editing process of emailing back and forth.

- It may be difficult for Hanford employees who are also Board members to access the site from Hanford computers. EnviroIssues will help Board members to work around any firewall issues.

- Board members gave permission for EnviroIssues to post meeting pictures on the site.

- Any forms uploaded to the SharePoint site will be provided in a PDF fill-able format when available, though some DOE forms may only be available in other formats.

- Board members should refrain from posting advocacy messages or materials on the SharePoint site.

Tammie said passwords and login information will be available at the April Board meeting.

Preliminary April Board Meeting Topics

The Board discussed topics to be addressed at the April Board meeting. Topics include:

- Presentation by Ken Niles on the Weldon Springs barrier cap.
- Potential advice for State of the Site meetings (tentative).
- TC&WM EIS update.
- Budget advice (tentative).

EnviroIssues will work with the committees to update the topics prior to the April Board meeting.

Updates

2012 Board Reappointment Process

Paula Call, DOE-RL, said the Board is authorized under the Federal Advisory Board Act, and therefore has to be managed by a federal agency. DOE has the responsibility to maintain the Board's charter and membership, as well as provide an annual report to DOE-General Services. Paula noted that the HAB is different from other advisory boards in that it has an MOU with the TPA agencies, which requires a custom scope and membership that DOE does not determine. Paula said the HAB Convening Report determined which interests need to be represented on an advisory board for Hanford. Paula said DOE has been working hard to make the member appointment process more transparent and orderly.

Paula provided a presentation on the reappointment process (Attachment 7). In addition to the presentation, Paula noted:

- Interim appointments occur when a seat vacancy occurs in between membership cycles. Interim appointments are then submitted through the regular nomination process.
- For 2012's reappointment process, there were six new nominations for Board alternates, three of which were for the vacant Public-at-Large seats.
- The reappointment process is annual, but members are only reappointed every two years. Half of the Board members and alternates are reappointed in one year, and the rest the next year.

Dieter Bohrmann, Ecology, spoke to the process for filling the vacant Public-at-Large seats, noting that Ecology and EPA are the leads for this appointment process. Dieter said the TPA agencies engaged in a robust advertising campaign to solicit nominations for the seats, focusing on advertisements within the Tri-Cities. He noted that one advertisement was places in Spanish. He said they received 22 applications (15 men, 7 women) for the vacant seats; applicant ages ranged from the mid-20's to the 70's. Dieter said that of the six interviews conducted, the TPA agencies nominated two candidates that they hope to see appointed for the June Board meeting. Dieter's presentation is included in Attachment 7.

Current and Out-year Budgets

Paula reported that the HAB is operating at a lower than average budget this year, but it is what was expected. She encouraged anyone with questions to contact her directly. A chart depicting FY2012 HAB Expenses as of January 31, 2012 is provided in Attachment 7.

Public Comment

This section reflects public comments from both Thursday and Friday of the Board meeting.

Jan Catrell said she recently applied and was interviewed for one of the vacant public-at-large seats on the HAB. She said she was not selected, but wanted to make the commitment to come from her home in Bellingham to meet the Board. Jan spoke to her many years spent working and training in the handling of nuclear materials for the Department of Homeland Security. She also served as the Hazardous Materials Coordinator while working in border protection. Jan said some of her training for hazardous materials took place at Hanford, and that part of her work with an international program allowed her to teach foreign border control officials about radiation detection. Jan said she has worked with many agencies and state departments on radiation issues and has a great interest in the topic. She noted that she retired from the Department of Homeland Security in 2008. Jan said she has served on the National Health and Safety Committee that looked at health issues there were a concern for national security, and she thinks Washington D.C. should care about safety issues at Hanford. Jan thanked the Board for listening to her comment and said she wanted the Board to know how much she would like to serve the Board.

Shannon Cram, University of California – Berkley graduate student, said she is doing her graduate work on the politics of cleanup. Shannon said she is struck by is the interesting disconnect between fundamental uncertainties, like chemical composition of the waste in the tanks, and our simultaneous need for certainty in the design of the WTP, which is supposed to work by a certain date and for a certain cost. She said she is concerned as a member of the public that certainty will be pushed aside in order to meet the milestones. Obviously, if the DOE builds a plant by a specific date and it doesn't work, they have missed the integrity of why there are milestones in the first place. Shannon asked how design can be completed without having first characterized the waste.

Stacy Charboneau, DOE-ORP, responded to Shannon, noting that DOE does have process knowledge of what is in the tanks. This knowledge was used to determine the functional requirements for what needs to go through the WTP, and the contractor will build the plant using those requirements. Stacy said there is uncertainty in the variations of the waste that is in the tank farms, related to particle size, phosphates that can gel and clog systems, etc. Stacy said that to answer all of those questions without characterization is an impasse DOE faces today. She said they recognize there are a few decades worth of work left, and the best decision is to build what they can with the information available. Stacy noted that the greatest effort for WTP may be that 96 percent of the waste gets treated there while 4 percent must be treated elsewhere, but that it's time to get started.

Allen Fridlund said he worked at Hanford for 28 years but accepted the employee buy-out in October 2011 because he was afraid of getting fired. He said he thought he would be fired because he followed procedures and raised concerns; he said he made suggestions for how to make things better but was never contacted for follow-up. Allen said a number of his coworkers were fired for filing too many concerns, and there was a significant drop in how many concerns were filed for the six months afterward because other employees were scared away. Allen described the process he went through to bring safety concerns forward, including speaking with a vice president of Human Resources and Glenn Podonsky. Allen noted that at least Glenn listened to his concerns in person, but that neither conversation led to any progress for resolving any of his concerns. Allen said the employee concerns process is not difficult, but it doesn't work because those responsible fail to act. Allen asked what it would take to get his concerns acted upon.

Dr. Walt Tamosaitis thanked the Board and agencies for their time. He said he was a manager at WTP for over seven years until he was fired by Bechtel in 2010. Walt said he now has a job where he has no contact with others because DOE and the URS Corporation (URS) are trying to make an example of

people who speak out. He said that a strong nuclear culture is made when workers are not afraid to speak out, are listened to, and receive feedback. Walk said many technical issues still remain at WTP in addition to the pulse jet mixing problems. No one knows what the waste feed will be. Walt asked how a chemical plant can be designed without knowing what the waste feed will be. He noted that the project costs keep increasing without any explanation of the technical issues. Walt said that he is currently involved in a lawsuit with Bechtel and URS, and he wants the Board to know that those companies legal efforts against him are funded by tax-payers' dollars. There have been many reviews of safety culture at Hanford, and the heart of the matter seems to be that there is a delay in DOE and contractor follow-up and follow-through. Walt said Bechtel's mantra is to build something, be paid, and be gone, and it needs to stop. He said DOE needs to create one big list of all issues at WTP and review all of them. He encouraged the Board to ask questions and get the right information, including what the WTP will actually cost. Walt said everyone wants WTP to be successful, and DOE needs to tell the truth. He said he does not want to see an albatross on the Hanford horizon.

Murray Thorson said he worked at WTP for eight years in ion exchange and their associated problems from a testing standpoint. He said he left WTP because it was his job to work on fixing problems, but no one ever acted on his solutions. Murray left to work at WRPS in a group that addresses operability issues in November 2011. Murray said he believes there to be many imbedded, serious flaws with the operability of WTP, and they stem from there not being a future operator on site to ask if the plant will work in the long-term. The problems need to be fixed now before they are too expensive to fix in the future. Murray said there needs to be an issue resolution process for screening for important issues, and he has outlined what he thinks the process should be (Attachment 8). The process should include a design team, a screening team, and individual issue teams to work through the problem; parties from outside of WTP should be asked to participate. The teams should come up with recommendations to provide to a management team that has the authority to fix existing problems. Currently, design authority does not lie with Bechtel, and no one is looking at the long-term operability of the plant. Murray said there needs to be an operating contract in place so those contractors can say whether or not they concur with the design. It's good to say that we have the procedures in place but need to make sure people with concerns are not retaliated against. Actions speak louder than words. Murray said that people who complete their designs within the deadline get promoted, and then they go on to punish the people who bring up the design's flaws.

Shelly Doss said she worked at the tank farms for 23 years and was laid off in October because she had a history of raising safety concerns. She said when she used to work for other contractors she was thanked for raising concerns because it was part of her and everyone else's job. But when WRPS became the contractor the environment changed drastically, and she was fired almost immediately. Shelley said she spent a long time rising through Hanford and ended up in a position that she was good at, but then WRPS slowly began taking away her responsibilities. She said she knows of surveys and interview assessments that have been done on site that have been skewed because the same employees are interviewed over and over again. She said this is done because the contractors know those employees will provide the answers they want to hear. Shelley spoke to the employee concerns programs that don't actually help employees because the program managers only call employee's bosses to ask why they are complaining. Shelley said she wants to see WTP built correctly so it functions successfully in the future. To be successful, design flaws needs to be fixed now. The waste needs to be treated whether the WTP is the answer or not. Shelley said employees are afraid to speak out at Hanford and she is afraid that the WTP will be defunct after DOE actually learns what the waste feeds are. She thanked the Board for their time.

William Bricker said employees both in the field and in the offices in Richland are worried about safety culture. He said it's good that the issue is being taken up the management chain, as it hasn't in the past. William said he was laid off by a Bechtel subcontractor in 1995 because they knew he would be bringing issues forward. He said that no matter how many concerns are brought up, or jobs are shut down because

of safety concerns, DOE will never know how many people are actually in danger. William spoke to the project driven companies of the mid-1990s whose mottos were "faster, cheaper, safer," and said that no company can ever accomplish all three. Project driven management drives employees away from Hanford because they want to be safe at work. William noted that exempt employees do not have any protection against retaliation, and that the union employees believe they will be protected but it doesn't happen that way. Employees have been discouraged from filling out employee safety surveys truthfully, as a result of the chilling effect from reprisals. William said the surveys are not being portrayed accurately, and he noted a survey in 2002 that he filled out exactly the same as three of his coworkers. When William asked to see the surveys with negative results, as his was, management could only locate one negative survey. William said the survey results misrepresented the actual surveys, which managers apparently stifled. He said surveys should only be conducted by an outside source so that they are handled objectively and factually. Health and safety is very important to Hanford workers, especially those who work at the reactors. William said that employees don't feel listened to, and they become careless because they feel no one cares about them.

Susan Leckband thanked the public for their comments, and said the Board hopes there is a good outcome. She reiterated that the Board and the public want to see the WTP work properly.

Closing Remarks

Susan Leckband thanked everyone for attending. The meeting was adjourned.

Attachments

Attachment 1: HAB DOE-ORP Update
Attachment 2: EPA 2012 Focus
Attachment 3: Ecology Agency Update
Attachment 4: HAB DOE-RL Update
Attachment 5: Safety Culture: Presentation to HAB
Attachment 6: Nominating Committee, Re: Selection of New Board Chair, 2006
Attachment 7: 2012 HAB Membership Package Status
Attachment 8: Handout: Murray Thorson

Attendees

HAB MEMBERS AND ALTERNATES

Tom Carpenter, Member	Howard Putter, Member	Mike Korenko, Alternate
Tony Brooks, Member	Dan Serres, Member	Larry Lockrem, Alternate
Robert Davis, Member	Keith Smith, Member	Liz Mattson, Alternate
Norma Jean Germond, Member	John Stanfill, Member	Emmett Moore, Alternate
Harold Heacock, Member	Bob Suyama, Member	Shelley Cimon, Alternate
Floyd Hodges, Member	Eugene Van Liew, Member	Vince Panesko, Alternate
Rebecca Holland, Member		Mike Priddy, Alternate
Paige Knight, Member	Al Boldt, Alternate	Dave Rowland, Alternate
Pam Larsen, Member	Lynn Davison, Alternate	Mecal Samkow, Alternate

Susan Leckband, Member	Sam Dechter, Alternate	Richard Smith, Alternate
Ken Niles, Member	Dirk Dunning, Alternate	Margery Swint, Alternate
Bob Parks, Member	Laura Hanses, Alternate	Art Tackett, Alternate
Jerry Peltier, Member	John Howieson, Alternate	Jean Vanni, Alternate
Maynard Plahuta, Member	Steve Hudson, Alternate	Steve White, Alternate

AGENCY, CONTRACTOR, AND SUPPORT STAFF

Steve Balone, DOE-RL	Pamela McCann, DOE-ORP	Erich Evered, MSA
Paula Call, DOE-RL	Steve Pfaff, DOE-ORP	Terry Noland, MSA
JD Dowell, DOE-RL	Scott Samuelson, DOE-ORP	Barb Wise, MSA
Jim Hanson, DOE-RL	Dennis Faulk, EPA	Bruce Ford, CH2M Hill
James Hansen, DOE-RL	Rod Lobos, EPA	Kimberly Tebrugg, CH2M Hill
Cameron Salony, DOE-RL	Dieter Bohrmann, Ecology	Jeff Lerch, WCH
Greg Sinton, DOE-RL	Jane Hedges, Ecology	Joy Shoemake, CHPRC
Julie Goeckner, DOE-HQ	Dan McDonald, Ecology	Susan Hayman, EnviroIssues
Jim Hutton, DOE-EM	John Price, Ecology	Tammie Gilley, EnviroIssues
Alex Teimouri, DOE-EM	Maria Skorska, Ecology	Jessica Ruehrwein, EnviroIssues
Stacy Charboneau, DOE-ORP	Robin Varljen, Ecology	Melissa Thom, EnviroIssues
	Sharon Braswell, MSA	

MEMBERS OF THE PUBLIC

William Bricker	Shannon Cram, UC Berkley	Bob Legard, CWB and CTC
Annette Cary, Tri-City Herald	Gloria Cummins	Julie Robertson
Jan Catrell	Shelly Doss	Walter Tamosaitis
	Allen Fridlund	Murray Thorson