

FINAL MEETING SUMMARY

HANFORD ADVISORY BOARD

June 4-5, 2014

Richland, WA

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

Executive Summary

Hanford Advisory Board (HAB or Board) action

The Board adopted four pieces of advice regarding:

- FY 2014 Lifecycle Scope, Schedule and Cost Report
- FY 2015 Presidential Budget and FY 2016 Budget
- 100-D/H RI/FS, Draft A
- Proposed Amendments to the Consent Decree from DOE and Ecology

The Board also adopted one letter on congratulating Matt McCormick on his recent retirement from DOE-RL and approved an EMSSAB letter on DOE-EM's budget. The Board approved a revision to their ground rules and preamble as well as submitting HAB Advice #268 as public comment for 100-F RI/FS, Rev. 0.

Board business

The Board will hold one committee meeting in June (River and Plateau Committee). The Board also identified preliminary September meeting topics.

Presentations and updates

The Board heard presentations on:

- CRESP Hanford Site-wide Risk Review Project
- Tri-Party Agreement agency program updates

Public comment

No public comment was provided.

HANFORD ADVISORY BOARD

June 4-5, 2014 Richland, WA

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

The Board meeting was audio-recorded.

Welcome, Introductions, and Announcements

Steve Hudson welcomed everyone to the meeting, noting the different meeting format. He asked for Board members to give their impressions after the meeting on whether the evening meeting was effective in drawing a larger public presence. The Executive Issues Committee (EIC) will discuss the format and feedback during the July leadership workshop.

Jeff Frey, U.S. Department of Energy – Richland Operations Office (DOE-RL), noted that the Board is meeting in accordance with the Federal Advisory Committee Act (FACA). He said he looks forward to seeing if more public comment is provided given the evening schedule and to provide feedback on the meeting format.

Cathy McCague, EnviroIssues Facilitator, reviewed the meeting agenda and objectives.

Steve confirmed adoption of the March meeting summary and provided an overview of the documents provided to the Board for review, including the proposal for revision to the Board guidelines and preamble, proposal to submit HAB Advice #268 as comment during the 100-F Remedial Investigation and Feasibility Study (RI/FS), Rev. 0 public comment period; proposal to submit a letter on independent expert review panel on tank vapors; and two letters from the DOE-Environmental Management (EM) Site-Specific Advisory Board (SSAB).

Susan Leckband, Washington League of Women Voters (Regional/Environmental Citizen), said she recently presented to the EM Advisory Board, as well as Leadership Tri-Cities, whom she invited to follow Board information and attend the meeting.

Susan announced that Board member Liz Mattson gave birth to a daughter on May 13.

Steve read a letter written to thank DOE-RL's Matt McCormick for his many years of service with the Board. Steve presented the letter to Matt on Thursday. Matt thanked the Board for kind words and great experiences over the past 10 years. He said cleanup of Hanford has been his best job and he is grateful to leave federal service while working at Hanford. Matt said he has spoken about the HAB's uniqueness with DOE-Headquarters (HQ) as part of turning over to new leadership. Matt said that because of the HAB's diverse viewpoints and passion, Hanford has made great strides, and without HAB, Hanford would not have the public's support, trust, or confidence. Matt congratulated retiring Board members Norma Jean Germond, Keith Smith, and Jeff Luke on their many years of service to the Board.

Susan asked Board members to sign cards at the back table for those retiring from the Board. Steve noted that the retirees will be honored more formally during the 20th Anniversary celebration in September.

Steve introduced Kris Skopec, DOE-RL Community Involvement and Public Affairs Specialist, who will be working with the Board as a representative of DOE. Kris said she is glad to be serving at Hanford after a long career with the federal government.

Draft Advice: FY 2014 Lifecycle Cost and Schedule Report

Introduction of advice

Jerry Peltier, City of West Richland (Local Government), said the Fiscal Year (FY) 2014 Lifecycle Scope, Schedule and Cost Report (Lifecycle Report) does an excellent job providing context for how Hanford operates and projecting costs for cleanup projects in the future. The advice has been prepared to ask DOE to consider producing the Lifecycle Report only when changes to the baseline schedule have changed and to include cost estimates for long-term storage or other future unknown costs. Jerry said nothing significant has changed in the past few iterations of the Lifecycle Report, and it is a costly document to produce. Jerry noted that Hanford will need a long-term storage solution given the stall in the deep geologic repository plan, but those costs are not reflected in the Lifecycle Report. The Lifecycle Report also does not currently reflect loss of funds in future budget cycles.

Agency perspective

Stephen Korenkiewicz, DOE-RL, said DOE has requirements to be met in the Lifecycle Report and they do their best to present the right data in the right format. Stephen said the advice is accurate and DOE will consider the Board's comments as they always do.

Jeff Frey, DOE-RL, said issues with the Lifecycle Report pertain to the timing of when information is available and when changes are made. He said it is not practical to be able to represent current issues in the document because data has to be phased and double-checked before the Lifecycle Report can be produced.

John Price, Washington State Department of Ecology (Ecology), said he agrees with the advice except the point on only issuing the Lifecycle Report when there is a change. John said Ecology sees the value of producing the report every year and wants to see that continue.

Dennis Faulk, U.S. Environmental Protection Agency (EPA), said the first Lifecycle Report provided good information but subsequent iterations have not provided new information, so he is in favor of not producing the document every year. He suggested the Board ask the DOE to produce the document on an identified schedule, potentially every five years, rather than based on major changes to the schedule. Dennis said EPA will not renegotiate Tri-Party Agreement (TPA) milestones, so DOE will not receive a revised schedule but will be late meeting the milestone. In this case, a revision to the Lifecycle Report would be appropriate to reflect the significant changes in cost.

Board discussion

The following key points were noted during the Board discussion:

- Board members expressed concern in reducing the frequency of the Lifecycle Report, as the costs reflected in the document can change based on other factors than just changes to the baseline schedule. Additionally, the Lifecycle Report is based on a data collection cycle, and skipping a year will mean following out of the data collection mode and may lead to errors. Some Board members believe the Lifecycle Report is a good opportunity to review DOE's expectations for how much cleanup actions will cost. The Board was one of the driving factors in getting the Lifecycle Report to be produced in the first place. The Board determined to change the advice to ask DOE to evaluate whether there is need to reissue a new document, as it is an opportunity for cost savings should no changes need to be made.
- One Board member indicated it will be difficult for DOE to provide more precise cost estimates. Dennis said DOE already provides cost estimates based on the baseline, which may or may not be what actually moves forward.
- Jerry clarified that the FY 2014 Lifecycle Report does not reflect any information past September 30, 2013, so the document will always be one year behind. The schedule reflected in the document does not relate to on-the-ground schedules for contractors. Jerry said nothing will change between this year's report and the next because no changes have been made to the baseline. Stephen said the range of alternatives provided in the document is helpful, and while it would be beneficial to plan to details and help with a decision, that is not what the document is designed for. The document portrays the cost and schedule to be as compliant as possible. Stephen said that even though the cycle of information is completely current, DOE is trying to represent what they think they can do with funding to be compliant.
- One Board member asked if the Lifecycle Report is meeting the purposes the Tri-Party agencies and Board envisioned for it, as it seems people are confused about the document's mission and intent. Dennis said the Lifecycle Report has three purposes: to give a snapshot of what cleanup will cost, examine the range of alternatives, and provide information to Congress.

After minor editorial changes were made, the Board confirmed the advice.

Draft Advice: FY 2015 Presidential Budget and FY 2016 Budget

Introduction of advice

Ed Revell, TRIDEC (Local Business), said the advice was developed after conversations with the Tank Waste Committee (TWC) and River and Plateau Committee (RAP), as well as after the May Public Budget Workshop. Ed said the workshop provided a lot of information and received great participation from Board members. The advice has gone through many internal revisions, but the advice bullets have remained basically the same, with most changes focusing on the background. Ed noted that the outcome of the Consent Decree negotiations between Ecology and DOE may have a significant impact on the upcoming year budgets. Ed said many Board members participated in development of the advice and he appreciated the process of identifying guiding principles with TWC and RAP before developing the advice.

Susan said the EIC received a presentation on the HAB Operating Budget during their recent meeting and determined to propose adding another advice bullet asking DOE to request an increase to RL100 to ensure the Board has enough funding to operate effectively. Susan noted that DOE-HQ has asked their boards to meet at a minimum of six times per year, while the HAB has been reduced to four meetings per year because of budget shortfalls. Susan apologized for the lateness of the advice point but stressed the importance of an increase in funding for the Board.

Agency perspectives

Ben Harp, DOE-Office of River Protection (ORP), said DOE always requests a compliant budget but are unsure of what that figure is currently. He said the HAB budget could be put in priority order for the analytical building blocks. Ben corrected the milestone date for building new capacity for leaking tanks from 2019 to 2022.

Jeff said the strontium barrier discussed in advice point six needs to be included in the background.

John said Ecology has provided the Board with copies of their FY 2016 budget letter. The letter is written for the second year of the budget because Ecology still has time to influence it, rather than the first year (FY 2015) which has already been incorporated into the Presidential Budget. John said that in previous years, the letter has addressed priorities, but this year it addresses funding needs for compliance and where DOE is not being compliant. If DOE does not fund what is identified in the letter, there will either be an environmental impact or increased cost in later years, so it is important to fund Hanford at a compliant level.

Dennis said Hanford's 2015 Vision is having a negative impact at Hanford, because Congress thinks most of the work is already done so are funding DOE at a lower level. Dennis suggested the Board request DOE-RL and ORP be funded at a level that allows them to meet their legal obligations for cleanup.

Board discussion

The following key points were noted during the Board discussion:

- One Board member said the advice does not reflect the Board's position on leaking tanks, as the Board has previously advised for leaking tanks to be addressed as soon as practicable, not immediately, and for AY102 to be prepared for pumping. Additional capacity must be built before AY102 can be pumped. Another Board member pointed out that the State of Washington has issued an order for DOE to pump AY102 beginning in September 2014, and the current budget request does not request enough funding to be compliant with that legally binding order. John said the issue of capacity and pumping of AY102 are both addressed in Ecology's budget letter, requesting funding for AY102 to be compliant. But John noted that under the current Consent Decree, additional capacity in the double-shell tanks (DST) is not required, but both issues are currently under appeal. Ben said AY102 will be funded, but the Board pointed out that specific funding for it is not identified in the budget request. Because no additional funds have been requested, taking the funding from another project will only add to the \$1.5 billion shortfall.

Ben said he will look into the funding source, but said it might be included in the basic operations cost, which would not necessarily be available to the Board.

- Board members agreed to support the EIC's addendum advice point concerning funding for the HAB beginning in FY 2015. One Board member asked to specifically identify the minimum of six meetings as a request from DOE-HQ.
- The Board discussed the treatability tests requested in the advice, with a few acknowledging that the Board might not know enough about the subject to weigh in. The intent for the advice point was not to approve reclassifying high-level waste (HLW) to transuranic waste (TRU), but to request a test for the dry waste to see if it is safe for Resource Conservation and Recovery Act of 1976 (RCRA) compliant storage. After which Ecology would determine if a dry waste form would be suitable for on-site storage, as it may be easier to vitrify than sludge. The advice asks for a small test to see if it would be feasible. John noted that the Washington Department of Health would also be involved in this testing and determination process, as well as a radioactive waste (RAD) material permit and licensing requirement. One Board member suggested removing the specifics of the treatability test and price as it potentially conflicts with commercial contracting; the advice should support a technology and request it be tested. The Board agreed to the change, acknowledging that the issue has been discussed at length by TWC.
- The Board agreed to add language to the advice to request DOE work with the local Tribes on restricted and cultural access resolutions before moving forward with solutions for strontium.
- One Board member stressed the importance of DOE asking for full funding, because if they do not ask for it, they will not receive it. Currently, DOE is not asking for enough funding to be compliant with their TPA obligations.

After the Board discussed minor language changes, the advice was adopted.

Draft Advice: 100-D/H RI/FS, Draft A

Introduction of advice

Dale Engstrom, Oregon Department of Energy (ODOE) (State of Oregon), said the advice met consensus in RAP in April, with many issue managers working on the draft. Dale explained the 100-D/H Area is a combined reactor area along the Columbia River where one contaminant plume runs from one site to the other, but each site still has its own set of problems. The advice says the Board supports the decision to proceed with remediation of 100 D/H through a pump and treat system for chromium, but asks DOE to re-evaluate pumping other contaminants back into the ground. The advice suggests that TPA consider more aggressive approach for strontium. Dale said the advice includes a request to cleanup seven waste sites below the 50 foot cleanup level that will take between 100 and 190 years to reach residential screening activity levels. Additionally, the advice advises against waiving the need for Ecology's review of the area based on its proximity to 100 H.

Agency perspective

Jim Hanson, DOE-RL, thanked the Board for the advice and said DOE will take it into consideration as they work through negotiations with Ecology on the 100 D/H Area. He noted DOE will not be able to respond to the advice until negotiations have ended.

Nina Menard, Ecology, echoed Jim's appreciation and intention to consider the advice through the negotiation process.

Dennis said EPA is the authorizing agency on the 100 D/H area but are not engaged in the day-to-day negotiation process. But ultimately, they are the decision makers. Dennis said the advice does a good job of laying out the Board's rationale behind what they are advising. Dennis suggested an addition to a background paragraph to be specific as to what to do with contaminants should they be brought closer to the surface.

Board discussion

The following key points were noted during the Board discussion:

- One Board member stated his concern with asking DOE and Ecology to complete another expensive review of the waste sites when the information is transferable from the site nearby. The Board has asked for government efficiency in a number of instances and this advice does the opposite. Dennis said he is not sure how EPA HQ will decide Ecology's request to waive the review, but he also does not expect much new information should the review be conducted. Nina said Ecology also does not expect new information. Dale said it would be risky to set a precedent for being exempt from important review processes, and ODOE believes there are significant differences between 100 K and 100 D/H, enough to need a separate review.
- One Board member asked how much it will cost to remove additional contaminants from the sites. Dale said no evaluation has been completed to determine how much it would cost to remove other contaminants from the waste site. The Board agreed to ask for such an alternative to be a part of the evaluation process. Dennis clarified that DOE cannot inject contaminated water back into the aquifer if it is still above risk-based standards.
- One Board member spoke to the spawning area in Hanford Reach, noting its significance and proximity to the 100 D/H area. He asked that the plume barrier addressed in the advice not be restricted to the identified 200 to 300 meters should it need to be longer and more protective. He reminded the Board of DOE's responsibility of long term stewardship (LTS) and asked if LTS can be specifically identified in the advice. Dale said LTS will not change the approach or remediation plan for the area as it occurs outside the timeframe of the proposed plan.
- The Board discussed contaminants of concern and whether to identify them specifically in the advice, but determined to leave the focus general so as not to accidentally leave out a contaminant, giving DOE reason not to remove and treat it. The advice asks DOE to consider all contaminants of concern under the final Record of Decision (ROD).
- The Board discussed including language about DOE working with local Tribes and made an addition to the advice background to reflect the important partnership.

After minor changes, the advice was adopted.

Draft Advice: Proposed Amendments to the Consent Decree from DOE and Ecology

Introduction of advice

Susan said the advice expresses the Board's concern about the ongoing negotiations about the proposed amendment to the Consent Decree and lack of information provided to the Board. The 40-day timeframe for negotiations has ended. The Board proposes to submit the HAB Values white paper to ask the Tri-Party agencies to be open and transparent during their ongoing discussions and when they come to agreement. Susan said the Board understands there are legal reasons for why the agencies may not be forthcoming with information, but they may be able to share something.

Agency perspective

Ben said DOE has met with Ecology on several occasions, and he believes the advice to be fair in terms of the level of information the Board would like to receive. Ben said that negotiations and discussions will be ongoing even though the 40 days is over.

Suzanne Dahl, Ecology said the advice is a wise move and a good way for the Board to communicate their values on information sharing with the Tri-Party agencies. Both negotiating agencies submitted proposals in March for the amendment to the Consent Decree, and Suzanne advised the Board to review the publically available documents to see what negotiations are like. The Consent Decree does not require additional negotiations after the 40-day period, but Ecology is currently considering their options and will tell the Board when they make a decision about moving forward.

Board discussion

The following key points were noted during the Board discussion:

- The Board asked for clarification on the negotiation process after the 40 day period allotted by the Consent Decree. Suzanne clarified that the 40-day negotiation period is conducted in good faith, and continued discussions afterward are to the discretion of the agencies. At this point in the process, either DOE or Ecology can make a proposal for moving forward. If that proposal is not agreed to by the other agency, it can go before a judge for a decision.
- The Board discussed adding the words "to the extent permissible" to the advice to demonstrate that they are aware there is certain information in a negotiation process that cannot be shared. One Board member noted that the agencies determine how much information they share, not their lawyers, and as this is a major public policy issue, the discussions should be held in an open forum that would include input from the HAB. The Board discussed multiple negotiations from the past that have included collaborative work with the HAB and negotiations should continue to include the HAB and public moving forward. Ben said DOE has framework document and

technical resolution meetings planned for later in the process, but they are not yet firmly scheduled.

After minor changes, the advice was approved.

Presentation: CRESA Hanford Site-wide Risk Review Project

Jennifer Salisbury, Consortium for Risk Evaluation and Stakeholder Participation (CRESA), thanked the Board for allowing her to present today. Her presentation is provided as Attachment 1. In addition to her presentation, Jennifer made the following key points:

- In January 2014, the Secretary of Energy charged CRESA with analyzing risk at Hanford and to develop a methodology for analyzing risk into the future. Risk will be rated from low to high based on the complex methodology. The program is scheduled to run through September or October 2015.
- The purpose of the analysis is to look at currently ongoing remediation efforts and out for the next 50 years. Further analysis may examine Hanford in the long term, from 150 years to 1,000. Jennifer noted that making predictions that far into the future would be difficult.
- Through the analysis, CRESA will conduct risk rating, not risk ranking. No decisions will be made concerning the sequencing of projects.
- The analysis will address all aspects of cleanup at Hanford and look at the potential for risk to workers, the public, cultural resources, ecology, and natural resources.
- A preliminary methodology has been identified and CRESA is preparing for six pilot projects to test it. The pilot cases are based on characteristics that reflect the sources on site. The methodology will be adjusted based on pilot project outcomes.
- The Core Team working on the pilot projects will meet the week of June 16 to present on the pilot cases, review lessons learned, and adjust the methodology accordingly. On June 19, CRESA hopes to have a draft methodology to share with the public.
- The methodology will then go through another pilot program and the Core Team will meet again in September. All meetings are quarterly.
- An Interim Progress Report will be published in October.
- CRESA would like to include Tribes, stakeholders, and other state and federal agencies in the review process as much as possible. Three public comment periods are available to review the methodology and final report, and Jennifer encouraged the Board to participate as much as possible, including in the Core Team meetings which will be open to the public. Jennifer said the Core Team would be interested in hearing presentations from the Board.
- A project website (www.cresp.org/hanford) is available that lists the opportunities for public input, and anyone who provides an email address via the website will be placed on the project mailing list.

Jennifer provided a handout with further information on the CRESA project and Board involvement. The handout is provided as Attachment 2.

Dennis said he is participating in the CRESA Core Team to provide EPA expertise, but he sees the deliverable as a CRESA product. Dennis thinks the methodology matrix is too complex, but EPA will determine whether to continue participation after the results of the pilot projects and if they believe the project adds value.

Board questions and response

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

Q. Will the presentation be available electronically?

R. Yes.

Q. Please explain the six pilot projects and the rationale behind them.

R. The pilot projects are organized based on contaminant source, for example contaminants in the soil, groundwater, and the deep vadose zone. We found some areas where there is enough documentation to do an analysis. We tried to categorize and vary the activities to see how the risk matrix works in the separate units of Hanford because they all work differently.

Q. Does CRESA work with a future land use premise? When the methodology provides an answer does it provide something tangible like land use?

R. Yes. The risk rating will be for how the manager's manage. For example, demolished buildings may be a high risk to workers but the contamination can be dealt with easily, as opposed to contaminations in soil and groundwater. We are working with the Hanford Land Use Plan as well as land use input from the Tri-Party agencies.

C. I encourage you to look at the Board meeting schedule and engage with us as much as possible.

R. We would like to come back to the HAB with a more technical presentation.

C. I understand that DOE is charging CRESA with the task of looking at risk at Hanford, but this makes us nervous. The DOE principles of this project see it as prioritizing what to do and what not to do at Hanford based on risk.

Q. CRESA will define risk but not risk management?

R. For this project, CRESA is only conducting a risk rating, not ranking. We have provided ranking on other projects.

Q. The tanks themselves represent risk, and managing those tanks might create another risk. Do you look at remediation of the tanks or just the contaminant source? Do you look at the risk of managing the risk?

R. If remediation is being contemplated we will look at it from that perspective, and if not, we will look at the current state.

Q. How do you consolidate the risk that you have categorized?

R. That is a part of the methodology that has not been completed yet, but at some point we will integrate the risks and impacts.

Q. There is a difference between the odds of something happening and risk. What factors go into risk and how do you weigh probability? What risk are you looking at? It could be safe to walk away from Hanford and just monitor the tanks because the risk is low, and that is a dangerous idea.

R. Active remediation is ongoing and we are going to analyze past its end dates. If institutional controls end in 100 years, we will look out past that.

C. It is important to remember who is paying for this project and if they get to edit the report before it is finalized.

R. The mandate for this project is to be independent, seamless, and transparent. We are professionals, and if there were a predetermined outcome, we would not participate.

C. Risk is a big word. It is important to mention cultural resources with this project because the Columbia River is one big archaeological site, and the Hanford Reach has a cultural site that is 1,000 years old. If there is going to be a risk assessment, it needs to be about how risk is remediated. Risk to the Columbia River will be high because of the danger to fish and spawning. The tribes do not want our sacred sites, burial grounds, or hunting and food gathering sites put at risk. All four local tribes need to be included in this project to talk about how risk is going to be mitigated and managed specifically for tribal resources.

R. The CRESP charter for this risk review specifically identifies cultural resources as part of the evaluation, along with employee and ecological risk. We have spoken with the four tribes and want to continue to engage with them.

C. I think DOE will use this risk assessment to justify focusing on the greatest risk, providing a good excuse for not completing other projects. This report is moving forward without an understanding of what is going to be done with the risk information.

Q. The CRESP website says this project is to support DOE in sequencing of decisions and to make more effective sequencing decisions. Does the TPA determine the cleanup schedule?

R. We will provide the technical risk that will inform decision making. This review is not intended to supplement the TPA or Consent Decree. You will have to ask DOE how they intend to use the information.

Q. The matrix in your presentation demonstrates risks with unacceptable consequences even though their probability is low. There are some risks with such unacceptable consequences that evaluating their risk as low seems irresponsible. How will you address something identified as low probability and low risk? Is there an unacceptable consequence?

R. We are taking that into account. Managers will determine what is acceptable and what is not. We are not sure how this matrix will be used at this point but we are working towards how it will be integrated. Our scientists and Core Team will determine how it makes sense, in addition to public comment and your input. Please provide comments to ensure we are approaching this the right way.

EPA: DOE does not have the authority to make sequencing decisions on their own; that responsibility lies with the TPA agencies based on regulatory standards. CRESP will be releasing a report on salmon in the upcoming months and I encourage you to look at it as an example of what their Hanford report will look like. It draws conclusions, but does not make the jump to recommendations. EPA is being cautious. I do not want a product that makes it harder to do our jobs.

C. I am concerned with documentation, methodology and reproducibility. DOE has methods in place to do what CRESP is doing, so will you incorporate that methodology to make sure it is reproducible?

R. We want to develop methodology tailored to the Hanford Site based on what is already out there. Material prepared by DOE and Hanford will form the basis of the assessment. We will be relying heavily on existing resources.

DOE: I understand the skepticism on how this product will be used and the discomfort about how risk-based end states have been run in the past. DOE hopes this assessment produces a tool that incorporates diverse risk in an integrated fashion, which is something we have struggled with in the past. Remember that decisions about balancing risk are made at all different levels, and this product will have little impact on TPA decisions.

C. It is important for the Board to be involved with CRESP's assessment and product moving forward, because the intelligence and expertise of the Board is more important than what CRESP comes up with. We know what needs to be done based on the funding received. We need to continue to make strong decisions and protect the people of this region from what is dangerous at Hanford.

Tri-Party Agreement Agencies – Program Updates

U.S. Department of Energy – Richland Operations Office (DOE-RL)

Stacy Charboneau, DOE-RL, provided a presentation on the recent accomplishments at DOE-RL. Her presentation is provided as Attachment 3. In addition to the information contained in the presentation slides, Stacy said:

- DOE-RL's FY 2015 budget is slightly up, yet the budget for the River Corridor will be going down as DOE gets closer to completion of cleanup. The budget will help complete the Plutonium Finishing Plant (PFP) milestone for 2016.
- DOE-RL recently celebrated contractor CH2MHill's performance in safety hours and hosted a Health and Safety Expo that attracted approximately 50,000 visitors.

- DOE-RL completed a mock-up of how to remediate the vertical pipe units (VPUs) in 618-10 Burial Ground. The 94 VPUs will be remediated in 2015.
- The Sludge Annex is being prepared in K West Basin. The waste will be taken to T Plant and stored in cells that are better for packaging TRU waste before eventually moving to the Waste Isolation Pilot Plant (WIPP).
- The waste in the glove boxes at PFP has been cleaned out and separated from the rest of the system. Some boxes will be kept in place as DOE moves closer to demolition, at which point the roof will be removed and the glove boxes can be lifted out with a crane, reducing worker risk.
- A better hazard analysis is needed for one glove box at PFP, as recently a large bang and flame emitted while crews were performing cutting activities. The work is stopped until an analysis can be completed, but there was no loss of contaminant. Liquid samples have been taken and DOE is awaiting results. Other areas will also be evaluated for hazard awareness at PFP.
- In the Central Waste Complex, some of the larger items waiting for disposition have been covered for weather enclosures. DOE maintains the waste containers under an order with Ecology and the two agencies are working together on how to move the large items through a disposition path.
- A skid has been installed in the 200 Area that adds capability for going after additional plumes in the 200 West pump and treat.
- Additional monitoring wells have been installed in the 100 BC Area.
- Washington Closure Hanford sent contaminated vaults to ERDF in the last quarter, which is a big accomplishment for the site.

U.S. Department of Energy – Office of River Protection (DOE-ORP)

Ben Harp, DOE-ORP, provided a presentation on the recent accomplishments at DOE-ORP. His presentation is provided as Attachment 4. In addition to the information contained in the presentation slides, Ben said:

- DOE works closely with their contractors to ensure the feed for the Waste Treatment Plant (WTP) meets requirements.
- Tank farms have a slightly increased budget in FY 2015 to build the infrastructure to feed WTP. The logistics of moving the waste around such a large site is a challenge.
- Retrieval of C Farm will be complete by September 30, 2014. The last C Farm tank for retrieval, 105, is currently in the startup process. DOE is sending a letter to Ecology requesting to forgo the third technology phase on tanks 105 and 112 as they feel it is not needed, even though the tanks fall under a separate completion criteria.

- Funding is in place to begin work on the 10 tanks in A103 in the next few years. DOE proposed changes in the Consent Decree to employ lessons learned from C Farm, which include putting the retrieval structure in place all at once rather than tank by tank.
- In AY102, inspections of double-shell tank (DST) integrity have increased to every three years and have extended condition review based on recent issues. DOE has determined the tanks were properly dispositioned by engineering. The leaking tank in AY102 is being inspected weekly and there are land changes in areas where the material is accumulating. DOE will continue weekly inspections and measurements to ensure there is no breach of the secondary containment. DOE is working toward pump and treat for AY102 as ordered by Washington State until the agreement can be worked through.
- After the May 29 tank vapor exposure, two of the six exposed workers went on for further evaluation and DOE's medical provider will need to clear them before returning to work. DOE will be conducting an independent study on the tank vapors with representatives from Savannah River National Laboratory. DOE is working with effected employees and contractors on safety and worker's rights. Other engineering controls to protect employees from chemical vapors are being analyzed.
- Recent accomplishments in the WTP complex include progress for the Low-Activity Waste (LAW) Laboratory, which is proposed for startup in 2022 and establishes a path for other future milestones. The DOE proposal for WTP is to send direct feed to the LAW facility, which would require two new capital facilities: one for pre-treating the direct LAW feed for solids and cesium removal, and a facility that would segregate waste and mix it in order to meet the requirements for WTP. This Tank Waste Characterization Staging Facility would reduce DOE's testing program and allow the Pretreatment Facility (PT) an earlier startup. The new facility would have particulate size reduction capabilities to sample and prove the mixed waste can be fed into WTP. Both of the proposed facilities are funded in FY 2015.
- Technical teams are working on WTP issues of erosion and corrosion, among other technical issues for HLW. DOE believes the technical issues can be resolved and the timeframes for PT and HLW can restart. DOE will be considering how much redesign is needed to resolve technical issues for the facilities.
- The review of the Consent Decree amendments includes looking at milestones DOE proposes, but there will be additional milestones down the road when DOE makes critical decisions and rebaselines for construction and operation.

Washington State Department of Ecology

John Price, Ecology, provided a presentation on the recent accomplishments at Ecology. His presentation is provided as Attachment 5. In addition to the information contained in the presentation slides, John said:

- Jane Hedges is currently attending an intergovernmental meeting to talk about national issues of cleanup.

- The Air Operating Permit is renewed every five years and Ecology recently released the latest edition. It includes a few new requirements to make sure the air at Hanford is compliant.
- 350 members of the public attended four State of the Site meetings. John thanked the Board for their support of the meetings and said Ecology was pleased with them.
- Ecology presents on Hanford cleanup across the Northwest, with increasing requests for presentations and additions to their listserv.

U.S. Environmental Protection Agency (EPA)

Dennis Faulk, EPA, provided an overview of the recent accomplishments at EPA. Dennis said:

- The 100 F Area advice is not aligned with the regulator's perspective and inconsistent with what was heard during the March sounding board. The difference between what DOE and the regulators are proposing and what the Board is proposing is \$140 million. The Tri-Party agencies were able to make clarifying changes to the proposed plan based on information from the sounding board.
- EPA recently went through voluntary layoffs and early retirement offers. Dennis is currently short-staffed as Larry Gadbois retired and Emy Laija is on assignment in Seattle. He asked the Board to be patient with the EPA Hanford office as they deal with the changes.
- The Hanford 2015 Vision has not helped project budget needs to Congress, and has been more of a hindrance than helpful. He proposes using a different mantra for Hanford..
- The DOE-RL update included information on the McCluskey Room, which was planned for cleanup in 1990 but is only now moving forward. Dennis suggested the Board look to see how much cleanup for that room would have cost in 1990 versus today as a comparison when DOE pushes projects out.
- The uranium skid unit in 200 West will allow better treatment of more groundwater in the 200 Area. Dennis is pleased funding was in place to make this monumental change.
- The ramifications of the accidents at WIPP will be significant for not only Hanford but the entire DOE-EM complex. Projects and shipments of waste off site will be delayed, including K Basin sludge and the 324 Building. Dennis stressed his concern for project milestones and underfunding.
- DOE has petitioned for a waiver of placement criteria for land disposal restrictions at ERDF, but it is tremendously hard for EPA to do so. EPA-HQ will need to make the decision, and they expect to see a proposed plan in the next few months.

Board questions and response

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

C. The Board needs funding in order to continue our work for Hanford and this community. Please request the needed funding to ensure we can meet the DOE-EM recommendation for six meetings per year, continue to be effective, and produce important advice. The Board will struggle with the allocated funding for RL100 in FY 2015, so we are asking DOE-RL to increase their budget request for FY 2016.

Q. How far from 200 West Pump and Treat is DOE currently pumping? What is the uranium skid and where will it come from? Was the 200 West Groundwater Facility going to treat the uranium?

R. [DOE-RL] The 200 West network extends to about one-third of the total area, currently, and encompasses a two-mile plume around tank farms. The uranium skid gives us the added capability of removing uranium from the wells. We will install new wells to do so. We hope to extend this capability to other plumes in B, BX, and BY Farms in other areas. The skid should be deployed in FY 2015 but will depend on funding. The 200 West Groundwater Facility was designed with expansion capabilities for treating uranium but the exact treatment unit is not in place. The skid will be placed and additional wells will be used to extract the uranium. It will also be important for perch water in the 200 East Area.

Q. What vapors are coming out of the tanks?

R. [DOE-ORP] There are 56 chemicals of potential concern that were used in the Processing Plant. There is a list online for your review.

C. Kaiser Hill has recently declared Rocky Flats' cleanup complete and I look forward to when we can say that for Hanford. This is good news for the whole complex.

Q. What is the Hanford Workforce Restructuring Plan?

R. [DOE-RL] It is the process used for restructuring, not a layout for future layoffs. We need to revise the process for how we restructure, and that is what we're doing now.

Q. What are DOE's thoughts on the serious situation at WIPP and the potential for it to take three years to reopen? What is the reality of having to store the waste we intended to ship to WIPP onsite and funneling money from other sites to get WIPP back online?

R. [DOE-RL] Experts from Hanford and across the complex are at WIPP right now trying to solve those problems. Your timeframe estimate is in line with others, and it will be an expensive fix. For Hanford, we were not planning to ship waste in that three-year timeframe, but the impacts to both RL and ORP stands to be understood, as well as the pace for future shipments and which sites will be prioritized. We have 7,500 drums above ground retrieved TRU waste, some of which are degrading and we are looking into how to repackage them.

[EPA] Idaho National Laboratory continues to produce drums of waste for WIPP and they will need to be offsite by 2018, so they will be in the queue ahead of us. We will not be shipping for a while.

Q. Is DOE planning to build interim facilities to store the drums already offsite that were in route to WIPP?

R. [DOE-RL] We have not heard of the need for a facility, but the cause of the explosion at WIPP has been identified and is contained to certain drums from Los Alamos. DOE will work on a path forward for repackaging them.

Q. What are the areas of disagreement in the Consent Decree amendment negotiations?

R. We have already given as much information as we can.

Q. What are the conceptual agreement packages in terms of RCRA permitting?

R. [Ecology] There are 10 different attachments for each RCRA chapter. We have worked with EPA and Ecology's Hazardous Waste Program to determine guidelines for what those chapters should look like, and they are called conceptual agreements.

Q. One of the findings after the chemical vapors exposure was that one worker developed organic brain damage. These exposures are real; people are getting hurt. . When is DOE going to take action to protect workers now rather than wait for the findings of a review team? Why are workers not wearing supplied air when they open tanks, as recommended by a report from 1992?

R. [DOE-ORP] The independent review team will make recommendations, and we are looking into respiration in the A Complex and other areas as well as how we respond to dangerous events. The Vapor Solution Team will be looking into all aspects and steps involved with exposures. There are different safety concerns for when workers wear supplied air, so we have to analyze that as well. Respiration protection depends on what we know to be in the tanks. Kevin Smith, DOE-RL, said during the State of the Site meetings, that one exposure is too many, and he is taking a personal interest in the matter.

C. The Vapor Solution Team will not have any influence on changes to labor and industries. It will take Congress or legislation to have an impact on worker's safety and compensation at Hanford.

Q. DOE mentioned identified solutions for the PT Facility. Will you present that information to the HAB?

R. [DOE-ORP] We are planning a briefing with TWC and will discuss criticality, mixing, erosion, and corrosion.

C. We have been asking for the results of the Secretary of Energy's framework document for over a year, but we still do not know what it says or what it is informing. It is an uncomfortable feeling.

C. The workers not wearing respirators are always given a choice to wear protection and they are equally at fault if they choose not to. Adequate protection should be made a condition of employment if you really want to protect people.

R. [DOE-ORP] The choice is whether or not to upgrade the protection. We still need to plan safety based on the contaminants identified.

Q. Why are vapor safety concerns treated so differently than other safety hazards? Protection is not voluntary for other work on site, and when injuries happen elsewhere, the worker's are believed. Hanford is not serious enough about solving this issue.

R. [DOE-ORP] This is a serious concern. We know more about this problem now than we have in the past, so we are taking it more seriously.

Q. Is there an update on the PFP milestone?

R. [DOE-RL] PFP will be slab-on-grade in FY 2016 if we receive the funding we have requested, but we are not confident we will get it. We are looking into how to be ready for demolition.

Q. I have heard there is a shortage of mask cartridges for workers in Tank Farms, are you aware of that?

R. [DOE-ORP] We will check into that issue for you.

Public Comment

No public comments were provided.

Committee Reports

PIC

Steve spoke on behalf of the PIC chair and vice-chair who were unable to attend the meeting. PIC is in the process of collecting feedback on the State of the Site meetings. Steve asked the Board to respond with their impressions via email to determine what worked and what did not work. The next PIC call is scheduled for June 18 and the committee will focus on the results of Tri-Party agencies' public involvement survey. The next in-person meeting is scheduled for September.

BCC

Jerry said BCC's priorities every year are to comment on the current Lifecycle Report and provide advice on the Hanford budget. Jerry thanked the committee for their hard work as both priorities seem to overlap. BCC does not currently have pending items in their work plan, but they will be reviewing DOE's workforce restructuring plan when it's available and determine whether to provide advice. Jerry noted that based on budgets of recent years, DOE should be looking for a more economical way to run the site.

RAP

Pam Larsen, RAP chair and City of Richland (Local Government), acknowledged RAP members. In May, RAP completed the 100 F Area advice and discussed budget priorities to emphasize urgency in some areas like the 618-10 Burial Ground and 324 Building rather than create a priority list. The committee also received a briefing on the Waste Encapsulation and Storage Facility (WESF) and voiced their concerns about the viability of the concrete being used there. RAP will be meeting on June 10, and will receive a briefing on Central Plateau cleanup and what is funded. RAP will also have an update on PFP and discuss LTS, TRU on the Central Plateau, and lessons learned from the transition of 100 F to LTS.

TWC

Dirk Dunning, TWC chair and ODOE (State of Oregon), recognized the great work of TWC members, noting the committee is always looking for new members and fresh perspectives. During the May meeting, TWC looked into the proposed Consent Decree changes and met jointly with HSEP to talk about safety culture and tank vapor issues. The committee also held an open forum to provide space to discuss other topics or issues. TWC will look into the technical issues of the vapor exposures in their next meeting scheduled for August. Dirk said the committee will meet via conference call in June and possibly July to work towards August. Dirk suggested all committees provide time for an open forum as it was very beneficial for TWC.

HSEP

Rebecca Holland, HSEP chair and Hanford Atomic Metal Trades Council (Hanford Work Force), thanked committee members for their hard work. HSEP met in May and had a few joint topics with TWC. The committee also saw a demonstration of “Dress/Undress” to see how workers protect themselves on site. The committee also had an opportunity to see various forms of respiratory protection first hand. HSEP will not have a meeting in June or July, but the work plan for August is very full. Rebecca said the committee will talk about the Employee Concerns Program and receive a briefing from its new director. They will also discuss safety culture, tank vapors, DST flammable gas issues, and hopefully follow up on the safety report due to be published in the upcoming months.

National Liaison/ EMSSAB

Shelley Cimon, National Liaison and Public-at-Large, spoke about the new Designated Deputy Federal Officer (DDFO) for DOE-EM, David Borak, noting his experience in overseeing intergovernmental groups and fostering relationships between different entities. Hanford hosted the EMSSAB chairs meeting in April where the group heard presentations and updates from David Borak and Jack Craig, Assistant Secretary for DOE-EM. They said DOE-EM used to manage 107 contaminated sites but has reduced its footprint 90 percent, down to 16 contaminated sites. Tank waste will be a large item to complete in the upcoming years. Jack Craig said the level of funding DOE-EM is receiving is a problem, as it does not even cover inflation. They stressed the importance of the EMSSAB and their power to make an impact with the sites. Shelley noted the two EMSSAB letters for the Board to pass today that have to do with the DOE-EM budget and the different sites working collectively. Shelley said the Boards need to work together more often as there is more power behind a larger voice. She will distribute an email to the Board describing cleanup progress at other waste sites in the complex.

Shelley spoke to the recent accidents at WIPP, noting that the plan of action is down to two phases: focusing on the release of radioactive material and determine the direct cause of the release, working towards total recovery. But funding will be a big issue, and money will need to be funneled from the other sites to complete recovery. Waste that was in line to ship to WIPP is now being taken elsewhere and is compromised, as it was not designed to be stored elsewhere. Idaho National Laboratory is among the sites with a buildup of waste to ship to WIPP.

Shelley noted that the disposition pathway for low level mixed waste is available online, but not for TRU waste. She will look into how to get access to the TRU waste information.

Steve said the EMSSAB meeting was very successful and he thanked Shelley for attending the meeting and reporting back to the Board. He said HAB has more advice writing experience than the other EM boards, so the HAB representatives are often asked to participate in crafting the EMSSAB advice.

EIC

Steve said the draft letters for the Board to review today are products of the EIC, as well as other items of Board business. Steve asked the Board to provide feedback as to whether the SharePoint site is a valuable resource and how it can improve to assist committee and Board communications. He noted that some have experienced difficulty asking the site and he asked that they share those experiences with the facilitation team. He also asked that they provide feedback on the Google email distribution lists and whether they are helpful and efficient. The EIC is currently working on the agenda for the July Leadership Workshop and welcome any input on topics the Board thinks they should be addressing. Steve especially asked for input on the calendar to make sure it does not miss any important scheduling conflicts. The EIC hopes to schedule more Board meetings in the upcoming years to be in accordance with DOE-EM policy for 6-12 meetings a year.

Susan encouraged Board members to pass the EMSSAB letters for Steve's signature as they are essential in representing the one voice of the complex's advisory boards. She said the boards need to tell the right story to the right people in order to gain more public support, and that story will be strong with one voice.

Board Business

Proposal for the revision of Board guidelines and preamble

Steve said the EIC revised the Board guidelines to highlight best behavior practices while attending meetings. Steve read the draft preamble to the Board, noting the Board has not had a preamble before, but it is important to emphasize the passion and commitment that drive members and make it an exceptional organization. No edits have been received to the preamble and guideline changes.

The Board discussed the placement of the preamble in the HAB Process Manual and need to remind Board members to silence their electronics and take calls in the hallway. The preamble and guideline changes were adopted. A new poster will be made to post at meetings reminding Board members of appropriate behavior.

Proposal to submit HAB Advice #268 as comment during the 100-F RI/FS, Rev. 0 public comment period

Steve said he wrote a short introduction for the advice asking the Tri-Party agencies to accept the previously written advice as comment on Rev. 0 of the 100-F RI/FS.

Dennis said he does not believe Advice #268 adequately reflects the views of the Board, based on what he heard during the sounding board of the March meeting. He said the advice is not in line with what the regulators propose, which is unusual for the Board. Dennis said the Board is asking for a technology that will cost an additional \$140 million, but the agencies do not believe it works and think the money can be better spent rather than going after one extra data point above the drinking water standard.

Board discussion

- Multiple Board members expressed their discomfort with the March sounding board, noting that the advice was carefully crafted by a committee with more extensive knowledge on the 100-F RI/FS and requested technology. They acknowledged that it is interesting to hear the diverse opinions of the Board, but it may establish a precedent that not all Board members were well-informed. A sounding board is not intended to replace the Board's consensus process on well-developed advice.
- One Board member supported submitting the advice as public comment to ask for remediation to a level that is as low as reasonably achievable. He noted that submitting the advice this way still allows the Tri-Party agencies flexibility in determining whether the evaluation of the technology the Board is asking for is reasonable. He said the Board was unaware at the time the advice was written of how expensive the technology would be.
- One Board member said the Board has more information and confidence in apatite barriers now but it is still important for the Board to comment on the need for further remediation to protect cultural resources and the Columbia River.
- One Board member said she supports the advice going forward as public comment because of the work the committee put into it, and she respects the committee process and trusts it.

The Board agreed to submit Advice #268 as public comment on the 100-F RI/FS.

Proposal to pass EMSSAB letters

Steve said the Board needs to decide whether he can sign the EMSSAB letters on behalf of the Board, and noted that no changes can be made to the advice; it is only a yes or no vote.

Susan said the EMSSAB recognized that each site needs to be funded to cleanup needs and legal agreements, as well as milestones. The letter expresses the EMSSAB support for full funding while the individual boards should also issue their own support. Susan said there is more power in sending this request together with the other boards and she supports it being signed.

Steve said the second letter from the EMSSAB is about providing information to the general public and to develop systems for communicating the positive benefits from successes of remediation. Steve said

smaller boards do not have the outreach or education efforts the larger boards do, so they have asked for support. Information needs to be exchanged more easily and readily.

Proposal to submit letter on independent expert review panel on tank vapors

Steve said the EIC had some concerns about the draft letter, so asked Susan and other issue managers to rewrite it to better suit the tone and format of a letter without losing the key points, rather than advice. He said the Board Process Manual is very clear about the differences between Board letters and advice, as a letter is for informational guidance and advice is for formal policy.

Shelley said the original letter was too close to advice but it is still important for the Board to weigh in on their expectations for the independent expert review panel. The focus of the new draft is to go on record with the Board's concerns about the escalation of worker exposure to tank vapors, to support the development of an effective engineering controls program for vapors, and applaud the formation of the panel and efforts being taken on site.

Board discussion

- Multiple Board members expressed discomfort with the EIC having re-written the letter, noting that the new draft changes the intent of the original letter written by HSEP. They asked that the original letter be sent back to committee for advice development for the September Board meeting. However, they stressed the importance of going on record with DOE to ask for the independent review to actually be independent and to take immediate action to protect workers, not wait for the results of the panel's findings. Steve said the original letter commented on a product that the Board does not know anything about yet and made factual errors. The EIS rewrote the letter fully intending for HSEP to provide advice in September once they have reviewed the panel's findings.
- One Board member asked for a more in-depth presentation on how the tank vapors are being evaluated, noting the lack of information being provided to the Board. Another Board member asked specifically for the expert panel to present to the full Board.
- One Board member said the original letter was intended to impact the panel's work before they produce a report, not after, and waiting to produce advice in September will be too late.
- One Board member noted that HSEP had full consensus on the letter going forward as written and believes it is critical to go on record with DOE as soon as possible.

The Board determined to send the letter back to HSEP to be developed into advice for the September Board meeting. HSEP will ask to hear an update on the review panel in August and their findings that will help inform advice. The Board discussed working with processes that would better allow the Board to comment on issues as they arise, rather than spend too much time waiting while advice is developed.

Board discussion

- The Board confirmed Steve's signature for the budget letter.

- One Board member pointed out that B Reactor is already a designated landmark, making one of the statements in the letter asking for designation inaccurate.
- One Board member identified another factual error, noting that Fernald was never a uranium plant but a feeds material production center. He also noted that B Reactor has never been remediated, but only preserved.
- Steve said he will address the identified errors in the remediation letter with the EMSSAB during the next meeting for correction. He will bring the corrected letter back to the HAB at a future Board meeting for approval.

Preliminary September Board meeting topics

Steve reviewed tentative meeting topics for the September Board meeting.

- Agency updates, including an annual report
- FY 2015 Board Work Plan and Priorities
- FY 2015 Calendar
- 20th Anniversary Celebration
- Class 3 Modifications advice (tentative)
- EMSSAB remediation letter
- 100 F Area presentation (tentative)
- ERDF ROD Amendment advice (tentative)
- New member orientation
- Board efficiency report findings presentation

Cathy noted that the September meeting will be held at the Pasco Red Lion Hotel, rather than in Seattle.

Closing Remarks

Cathy reviewed scheduled committee meetings and conference calls.

The meeting was adjourned.

Attachments

Attachment 1: CRESP presentation

Attachment 2: CRESP handout

Attachment 3: DOE-RL agency update

Attachment 4: DOE-ORP agency update

Attachment 5: Ecology agency update

Attendees

HAB Members and Alternates

Tony Brooks, Member	Jerry Peltier, Member	Mike Korenko, Alternate
Tom Carpenter, Member	Maynard Plahuta, Member	Theresa Labriola, Alternate
Robert Davis, Member	Gerry Pollet, Member	Bob Legard, Alternate
Lynn Davison, Member	Howard Putter, Member	John Martell, Alternate
Sam Dechter, Member	Keith Smith, Member	Jonathan Matthews, Alternate
Gary Garnant, Member	Richard Stout, Member	Kristin McNall, Alternate
Norma Jean Germond, Member	Art Tackett, Member	Emmett Moore, Alternate
Floyd Hodges, Member	Gene Van Liew, Member	Melanie Myers-Magnuson, Alternate
Rebecca Holland, Member		Brad Peck, Alternate
Steve Hudson, Member	Richard Bloom, Alternate	Ed Revell, Alternate
Gregory Korshin, Member	Shelley Cimon, Alternate	Tom Rogers, Alternate
Pam Larsen, Member	Dirk Dunning, Alternate (phone)	David Rowland, Alternate
Susan Leckband, Member	Dale Engstrom, Alternate	Richard Smith, Alternate
Jeff Luke, Member	Barbara Harper, Alternate	Margery Swint, Alternate
Armand Minthorn, Member	John Howieson, Alternate	Jean Vanni, Alternate
		Steve White, Alternate

AGENCY, CONTRACTOR, AND SUPPORT STAFF

Jeff Frey, DOE-RL	Dennis Faulk, EPA	Aimout Bunn, PNNL
Kristen Skopeck, DOE-RL	Robbie Biyani, Ecology	Wayne Johnson, PNNL
Mark Heeter, DOE-RL	Dieter Bohrman, Ecology	David Wellman, PNNL
Karen Lutz, DOE-RL	Madeleine Brown, Ecology	Cathy McCague, EnviroIssues
James Zeisloft, DOE	Dan McDonald, Ecology	Tammie Gilley, EnviroIssues
Carrie Meyer, DOE-ORP	Nina Menard, Ecology	Melissa Thom, EnviroIssues
John Neath, DOE-RL	John Price, Ecology	Sharon Braswell, MSA
Jim Hansen, DOE-RL		Mark McKenna, MSA
James Hanson, DOE-RL	Ron Brunke, CHPRC	Mark Frei, Longenecker & Associates / MSA
Alex Teimouri, DOE-RL	Scott McDonald, Dept. of Health	Peter Bengtson, WCH
Mona Wright, DOE-RL	Jeff Hunter, WRPS	Mike Lawrence, Consultant

MEMBERS OF THE PUBLIC

Emily Bays, Hanford Challenge	Michael Gochfeld, CRESP	Pedro de la Torrette
Joanna Buuger, CRESP	Roldofo Mendoza	Barb Wise
Annette Cary, Tri-City Herald	Alan Nayazah, CTUIR	John Wolliford
David Kelly	Jane Sander	