

FINAL MEETING SUMMARY

HANFORD ADVISORY BOARD

June 5-6, 2009

Kennewick, WA

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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 two pieces of advice concerning 1) the expansion of the Environmental Restoration Disposal Facility (ERDF), and 2) the Fiscal Year (FY) 2010 budget request and American Recovery and Reinvestment Act (ARRA) funding. The Board also authorized its chair to sign a Department of Energy – Environmental Management Site Specific Advisory Board (EM-SSAB) letter regarding a green initiative for recyclable materials within the DOE complex. The Board adopted a letter to DOE-Richland Operations Office (DOE-RL) about systems criteria for the remediation of waste at Hanford.

Board Business

The Board discussed the annual leadership retreat and its outcomes, and heard committee updates. The Board will have committee calls in June and committees will meet in June. The Board selected Bob Suyama, Public-at-Large, as its new vice-chair. The Board also reviewed its processes and ground rules, and decided to pursue hiring a subject matter expert to help review the Tank Closure and Waste Management Environmental Impact Statement (TC&WM EIS), Committee of the Whole meetings and hiring a subject matter expert.

Presentations and updates

The Board received updates from the Tri-Party Agreement (TPA) agencies about ARRA funding; FY 2009, FY 2010 and FY 2011 budget request; the federal budget process, and; the Central Plateau cleanup strategy. The Board participated in a breakout session to identify questions, concerns and positive aspects of the Central Plateau cleanup strategy.

Public comment

No public comment was provided.

HANFORD ADVISORY BOARD

June 5-6, 2009; Kennewick, WA

Susan Leckband, Non-Union, Non-Management Employees (Hanford Work Force) 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 ongoing opportunities for public comment.

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

Three seats were not represented: Franklin and Grant Counties (Local Government), Physicians for Social Responsibility (Local/Regional Public Health), and the Confederated Tribes of the Umatilla Indian Reservation (Tribal Government).

Welcome, introductions and announcements

Susan welcomed the Board to Kennewick. The Board recognized the contribution and enthusiasm of Jim Trombold, a Board member who recently passed away. He will be missed. Susan also recognized Ray Isaacson, a former Board member who also recently passed away.

Dirk Dunning, Oregon Department of Energy (State of Oregon), announced that Ken Niles, Oregon Department of Energy (State of Oregon), was name the co-convener of the State and Tribal Government Working Group.

Greg deBruler, Columbia Riverkeeper (Regional Environmental/Citizen), announced that Columbia Riverkeeper is celebrating its 20th anniversary.

Earl Fordham, Washington State Department of Health (WDOH), noted that a fact sheet about Tri-Cities cancer rates was available at the meeting.

Pam Larsen, City of Richland (Local Government), announced the DOE technology workshop on June 9 and 10 at Washington State University – Tri-Cities Consolidated Information Center (CIC).

Board meeting goals included:

- Receive reports from/about the Tri-Party Agreement (TPA) agencies, 2009 Board leadership retreat, American Recovery and Reinvestment Act (ARRA), and the Central Plateau cleanup strategy.
- Discuss and take action on draft advice/letters for:
 - Green initiative for recyclable materials within the Department of Energy (DOE) complex
 - Systems engineering criteria for remediation of Hanford wastes
 - Environmental Restoration and Disposal Facility (ERDF) expansion
 - Fiscal Year (FY) 2010 budget request
- Receive a tutorial on plutonium toxicity
- Conduct routine Board business, including:
 - Committee reports
 - National liaison and Environmental Management – Site Specific Advisory Board (EM-SSAB) updates
 - Review the results of the 2008 Board self-evaluation
 - Selection of the board vice-chair
 - Other appropriate Board business

Susan Hayman, EnviroIssues, apologized for the cramped meeting room space and reminded Board members to “share the air time” by holding themselves to one comment or question plus a follow-up. She will come back to those who have additional comments or questions.

Susan Leckband reminded Board members that it is important to stay for the entire meeting to ensure there is a quorum for advice adoption. She also announced that it is the 15th anniversary of the Board.

The Board meeting was audio-recorded.

Confirm April meeting summary adoption

Board members did not submit any major changes to the April meeting summary. The April meeting summary was finalized and adopted over email within the operating ground rules requirement of 45-days after the meeting.

The adopted April summary was confirmed. It is available on the HAB website.

Committee reports

Health, Safety and Environmental Protection Committee (HSEP)

Keith Smith, Public-at-Large, announced that HSEP will meet next week to discuss tank vapor protections, site infrastructure and how DOE will accommodate the influx of ARRA workers. The committee may prepare draft advice for the September Board meeting. Keith noted that the Board's beryllium advice (HAB Advice # 217 and #218) received attention nationwide. He hoped it continues to draw attention to problems with beryllium and potential exposure pathways. Susan Leckband directed a reporter to the beryllium program representative at Hanford. Gerry Pollet, Heart of America Northwest (Regional Environmental/Citizen), and Keith were asked to meet with the beryllium awareness group that represents people diagnosed with beryllium sensitivity and beryllium disease. Gerry said they appreciated the Board's advice and thought it creates greater awareness of the disease and helps those already affected.

Budgets and Contracts Committee (BCC)

Gerry said HAB Advice #213 regarding ARRA funding generated much discussion. BCC recently had a briefing on the 2010 budget request and ARRA funding, and developed draft advice for Board consideration. Gerry said it is difficult to look at the 2010 budget picture without knowing more about ARRA funding.

Gerry said he was disappointed that DOE was unable to share integrated priorities and funding in its response to Advice #213. BCC will discuss the response at its next committee meeting. Gerry asked that advice responses be distributed to all committee members instead of including the responses in the entire correspondence list.

BCC will have a committee meeting in June. Gerry would like to have a Committee of the Whole and public meeting on 2011 budget guidance. BCC will review an inspector general report about contractor scopes and review processes, as well as the Mission Support Contract (MSC) scope of work. BCC would like to see the scopes of work for the other major site contracts. He said these scopes are dependent on plans for ARRA funding, which are still under development. Gerry thought decisions about Hanford cleanup are made more in the budget process than anywhere else.

Norma Jean Germond, Public-at-Large, encouraged issue managers to review advice responses and follow up with agencies if needed.

River and Plateau Committee (RAP)

Maynard Plahuta, Benton County (Local Government), recognized Bob Suyama for his support as committee vice chair. RAP met in May and discussed purge water management, ERDF draft advice and Central Plateau cleanup strategy. He emphasized the importance of the Central Plateau cleanup strategy. RAP will meet in June to follow up on the Central Plateau cleanup strategy as well as review the revegetation and restoration of fire-damaged areas on site, Resource Conservation and Recovery Act (RCRA) site-wide permit, and Comprehensive Environmental Restoration, Compensation and Liability Act (CERCLA) decision documents.

Tank Waste Committee (TWC)

Larry Lockrem, Non-Union, Non-Management Employees (Hanford Work Force), recognized TWC members and reviewed the past year's work:

- Updated tank waste system plan (HAB Advice #209). Issue manager: Ken Gasper, Benton County (Local Government)
- System criteria to guide selection of optimum paths for treating Hanford wastes (HAB Advice # 214). Issue manager: Mike Korenko, Public-at-Large
- Surface storage capacity for vitrified high-level waste needed to facilitate completion of Hanford cleanup (Advice #215). Issue manager: Mike Korenko
- Nuclear Regulatory Commission (NRC) final report of the Waste Treatment and Immobilization Plant (WTP) regulatory processes
- WTP tour (led by Delmar Noyes, DOE-ORP)
- Presentation on the Mobile Arm Retrieval System (MARS), a new technology to support tank retrieval
- Presentation on bench scale steam reforming
- Single shell tank integrity workshops and draft advice. Issue manager: Rob Davis, City of Pasco (Local Government)
- Workshop on C Farm tank performance assessment. Issue manager: Vince Panesko, City of Richland (Local Government)
- System Plan Revision 4, issue manager: Ken Gasper
- 242-A evaporator. Issue manager: Vince Panesko

TWC will continue to work on issues such as:

- Supplemental treatment roadmap: TWC receive an update when the final report is complete
- Fractional crystallization/interim pretreatment system work, report is pending. Issue manager: Dick Smith, City of Kennewick (Local Government)
- Tank Closure and Waste Management Environmental Impact Statement (TC&WM EIS). Issue manager: Dirk Dunning
- Sodium management plan
- Single shell tank integrity expert panel study. Issue manager: Rob Davis
- Pre-treatment engineering test platform: TWC will learn about additional salt and filtrate analysis.

TWC will meet in June. Pam reminded the Board about the DOE technology workshop on June 9 and 10 at Washington State University – Tri-Cities Consolidated Information Center (CIC). It is open to the public and will highlight how science and technology apply to Hanford cleanup, funding for science and technology development, DOE-Headquarters (DOE-HQ) and local DOE office perspectives. The agenda was emailed to Board members and is available on the Hanford Events Calendar.

Public Involvement and Communications Committee (PIC)

Steve Hudson, Hanford Watch of Oregon (Regional Environmental/Citizen), is the chair of PIC and Ken Niles is the interim vice-chair. Neither were able to attend the Board meeting, so Susan Hayman provided a brief update on PIC's activities. PIC is:

- Tracking TC&WM EIS progress and plans for public involvement, including a workshop
- Discussing PIC's role and how it might take on a more traditional committee function to be more effective; discussing moving PIC meetings to committee week
- Tracking RCRA site-wide permit public involvement

Doug Mercer, University of Washington (University), commented that President Obama is focusing on transparency in government. He encouraged PIC to visit www.recovery.gov, a federal website that includes innovative ways to conduct public participation.

Dennis Faulk, Environmental Protection Agency (EPA), reminded the Board of the TPA Quarterly meeting at noon.

Gerry commented that the TPA agencies held public meetings about the TPA change package. The turnout in Portland and Seattle was good and Gerry thought the meetings were successful. He asked the agencies to

consider holding public meetings earlier in the process so people are not constrained as much by the end of the public comment period.

Maynard encouraged Board members and the public to attend DOE's science and technology workshop on June 9 and 10.

National update

Susan Leckband provided an update from around the DOE complex. The EM-SSAB will meet in the fall at the Idaho National Laboratory in Idaho. Susan expected the EM-SSAB will discuss waste disposition and a national repository. Susan noted that she is challenging herself to create more awareness about the Board and get the public involved in Hanford cleanup. She was a panelist and provided the "story of the Board" at a national conference of state legislators, and shared how the Board is composed of varied interests and how it interfaces with the legislature. She also shared success stories, including the Central Plateau and groundwater flowcharts. Pam noted they heard comments about how the Board's consensus process was admirable and rare.

Leadership retreat and 2010 Board priorities

Board and committee leadership participate annually in a leadership retreat. The goals of the leadership retreat are to review Board work in the past year, reflect on Board self-evaluations and draft Board priorities for the coming year. Susan Leckband said the Board will be busy in 2010 and it is important to tighten up Board processes, including advice development, conceptual consensus on Thursdays, and final changes and adoption on Fridays. Going back to its typical process, Susan thought the Board will be able to reduce the amount of time it spends "wordsmithing" on Fridays.

The Board received handouts about:

- Preliminary Board priorities for 2010; shaded priorities are priorities with preliminary TPA agency emphasis
- The advice adoption process, including a flowchart of how advice works its way through committee to final adoption on the last day of a Board meeting
- Committee of the Whole placeholders, selection time for committee leadership, ground rules and behaviors and Executive Issue Committee (EIC) meetings

Susan Leckband noted that the priorities are very comprehensive and the Board may not be able to address each issue. The TPA agencies will provide input on the draft priorities and the Board will adopt the priorities for 2010 at the September Board meeting. Susan noted that Board leadership will start doing a mid-year review on its priorities with the TPA agencies.

Committee and Board leadership also discussed scheduling a placeholder for a Committee of the Whole for each month without a Board meeting, as well as leadership succession plans. Susan Leckband said committees need more active members and should consider how to encourage more active participation.

Discussion

Debra McBaugh, WDOH, asked for more information about the system plan priority for TWC and RAP. Pam said the system plan is a document identifying the integration between tank farms, pumping and WTP. System plan revision 4 is scheduled to be released this year. Bob Suyama added that HAB Advice #214 requested that DOE-Richland Operations Office (DOE-RL) and DOE-Office of River Protection (DOE-ORP) develop an overall site system plan. The Board will discuss a draft letter containing additional guidance for DOE-RL.

Dennis did not think agency priorities will change from what is highlighted on the draft priorities list.

Rob asked how troubled the advice process was and if it was necessary to strengthen the process. Susan Leckband said the handout describes existing Board process, it does not add anything new. Gerry thought the Board has a problem with following its processes; advice development, editing and adoption have not gone as smoothly and efficiently as it should. Time spent wordsmithing should be reduced and if advice

reaches consensus at the committee level, committee members should not backtrack at the Board meeting and object to the advice. Gerry said the process is not new, but the Board has shifted away from it. At the leadership retreat, committee leadership decided that they should empower the Board chair to keep themselves in line according to process. John Stanfill, Nez Perce Tribe (Tribal Government), agreed with Gerry.

Doug Mercer agreed that the Board needs to follow its processes and remember its purpose. He said advice should be clear and readable to keep people interested. Doug offered to help with taking technical information and making it more understandable to the public.

Doug Shoop, DOE-RL, clarified that the agencies also identified the RCRA vs. CERCLA (Agreement in Principle, ROD writing) as a priority. He confirmed that the specific bullet items under the Central Plateau cleanup strategy bullet are also priorities.

Rick Jansons, Benton-Franklin Regional Council (Local Government), thought some Board members are good at editing technical information and making it more readable. EnviroIssues can also help edit advice. Rick commented on the make-up of the Board and how the majority of its members are retired or are compensated for their time; few people work full-time and serve on the Board without compensation. He thought that contributed to composition of the Board, meaning retired people may have more time to serve on a board.

Keith commented that the more members there are working on issues, the less work for each individual member. With the addition of EIC meetings in conjunction with Board meetings, he thought they were approaching the threshold for how much time individuals can dedicate, especially those who are not compensated for their participation. Susan Leckband said the Board will have to determine what it will focus on because of time constraints and participation.

Wade Riggsbee, Yakama Nation (Tribal Government), asked if Board funding was discussed at the leadership retreat. Susan Leckband said yes, they have primarily discussed it with Paula Call, DOE-RL. A sub-group is working with DOE on additional funding.

Doug Shoop thought the priorities contained a huge amount of work and he encouraged the Board to more aggressively prioritize the issues. Doug Mercer offered to help make the priorities more concise.

EM-SSAB: Green initiative for recyclable materials within the DOE complex

Susan Leckband introduced the EM-SSAB letter regarding a green initiative for recyclable materials within the DOE complex. The EM-SSAB recommended that DOE-EM identify new opportunities to recycle and reuse excess metals and other materials to support waste minimization. The Board does not edit EM-SSAB letters, it only gives the chair authority to sign on to the letter as the Board representative.

Discussion

Dick noted a few years ago, DOE commissioned the national academies to study recycling materials from within the DOE complex. He said the report is available for people to read, and it is not as simple as the letter suggests. However, Dick thought the letter could encourage DOE to improve its processes.

Keith thought recycling materials will be a big challenge, but a worthy issue for DOE to address.

Mike Korenko thought the letter was well-intentioned but may not reflect the history of attempts made to recycle materials. When he worked at Rocky Flats, Mike said the cost was overwhelmingly in favor of disposing of material instead of recycling it. Risk is a big factor –the implications would be huge if a single contaminated item were recycled and reused (e.g. a computer going to a school). He thought DOE will have to look at the cost and risk of exposure during and after decontamination before deciding to recycle a material.

Pam recalled that the topic is more about recycling metals for use in the nuclear industry, rather than equipment for use in another industry. She thought some uses would not require complete decontamination, such as recycling it back into the nuclear industry. Pam thought the Board should support the letter.

Harold Heacock, TRIDEC (Local Business), asked if Hanford is making an effort to recycle material or equipment. Dennis said there is a recycling program at Hanford. He noted that it ultimately costs far more to recycle material and equipment than to dispose.

Maynard supported the letter, but thought it may be difficult to make recycling economically feasible. He thought modifying regulations was the key, but it could create a public perception problem and fear of potential contamination. Keith commented that there is a risk in relaxing regulations, and cited an example of contaminated steel from Japan.

Dirk thought there are costs and benefits of putting an effort toward recycling. He thought some regulations were good in their day, but may have outlived their purpose. Dirk thought there were two recycling options: 1) internally recycling within the DOE complex and 2) recycling externally, which could have the public perception problem. DOE should also consider the benefit of removing certain materials from the environment (e.g. copper).

Debra commented that she was involved with NRC's process of trying to identify a clearance rule. She thought it would be a different situation if recycling focused on metals that would only be used in a clearly defined manner by DOE or licensed facility.

Rob said there is a limited amount of funding and DOE should consider the practicality of potentially taking money away from cleanup for the purpose of recycling materials. Pam thought there were some existing examples of how the revenue generated by recycling materials actually pays for the recycling itself.

The Board authorized Susan Leckband to sign the EM-SSAB letter.

Advice regarding ERDF expansion

Dirk introduced the draft advice regarding the expansion of ERDF. The Board recognizes the critical role of ERDF for waste management at Hanford and supports expansion of ERDF as long as it is done in a manner that is protective of human health and the environment. The advice included several bullet points of advice, including the recommendation that DOE complete and update the ERDF performance assessment. Based on the evaluations, the TPA agencies should implement any actions or changes in the design of the facility needed to mitigate any future releases. The advice also included the recommendation that the TPA agencies should create an inventory tracking and planning tool for key contaminants, and should use the formal Record of Decision (ROD) amendment and comment process for any expansion of ERDF that involves substantive changes to the facility design.

The draft advice had committee consensus.

Agency perspective

DOE-RL

Paula thought it was a good piece of advice and DOE-RL will take it into consideration as it moves forward.

DOE-ORP

Lori Gamache, DOE-ORP, appreciated the advice and thanked the Board for following the issue.

EPA and the Washington State Department of Ecology (Ecology)

Dennis and Jane Hedges, Ecology, thought the committee discussion during the development of the advice was very beneficial.

Discussion

Jeff Luke, Non-Union, Non-Management Employees (Hanford Work Force), thought the advice was the type that could generate debate because it is very technical. He asked why the advice discussed expanding ERDF as long as it is done in a manner that is protective of human health and the environment – doesn't the permitting process already ensure that? Dirk said they included that clause to help explain the sub-bullets that focus on protectiveness. Dennis agreed and said ERDF is regulated by CERCLA and is not permitted like a RCRA facility. EPA believes it is built and operated in a protective manner, and Dennis thought the sentence served as an introduction.

Betty Tabbutt, Washington League of Women Voters (Regional Environmental/Citizen), asked if the committee discussed the assumption that any ERDF expansions would be for Hanford waste only. Dirk said ERDF only receives waste from Hanford and was designed to be big enough to handle all Hanford waste, but the site does not have a complete assessment of the total waste at Hanford. Dennis confirmed that ERDF will receive waste from Hanford only.

Wade said the Natural Resources Trustee Council (NRTC) will look at mitigation for all cleanup. He thought NRTC should have a seat on the Board. Susan Leckband thought that is an issue to be discussed separately with the agencies.

Larry asked if the advice recommends that the TPA agencies create their own inventory system. He thought ERDF already tracked the inventory of technetium-99. Dirk said the missing piece is seeing how close ERDF is to capacity and what will be done if it is close to capacity.

Bob Suyama said the original drafts of the advice were very technical and lengthy, and the committee did a good job of boiling down the issues.

Emmett Moore, Washington State University (University), thought the advice was good but the background did not lend anything to the product and contained some unsupported statements. Emmett worked with the advice authors to ensure the background section was accurate and purposeful.

The Board added a recommendation to the advice section about creating a system model to predict when treatment of subsequent incoming key contaminants must be performed to ensure environmental protection. It also added a statement that additional treatment technologies may need to be developed to treat technetium.

The advice was adopted.

Letter regarding DOE-RL systems criteria for remediation Hanford waste

Bob Suyama introduced the draft letter on systems engineering criteria for remediation of Hanford wastes. The Board reached conceptual consensus on the draft letter in April, but was unable to take action because it lost its quorum. Bob reviewed the purpose of the letter: In February, the Board provided advice requesting DOE-ORP to utilize systems engineering. DOE-RL requested similar guidance, so RAP developed a list of criteria that may be useful for DOE-RL as they look at site-wide engineering. Bob said the letter started out as advice, but the committee realized that the criteria was not new and had already been identified in past advice. Bob reviewed past advice and the letter is now a summary of past advice.

Agency perspective

John Price, Ecology, thought the letter was a helpful reminder of past advice. He added that while favoring proven technologies over unproven technologies is practical, the TPA agencies also want to favor investing in and testing new technologies.

Paula commented that the agencies are implementing many of the systems engineering criteria and concepts already, which helps show how Board advice plays a role in decision-making.

Discussion

Greg deBruler thought the letter should reference the Columbia River Comprehensive Impact Assessment (CRCIA) and its modules, a systems engineering process that was adopted in 1997. He said the modules provided a simple way to determine what needs assessment and how to prioritize data. The Board agreed to reference HAB Advice #61, which provided advice on CRCIA Phase 2. The Board debated whether to reference DOE document DOE/RL-96-16, a document that was part of the CRCIA process. Greg thought referencing the document showed how to use a systems engineering approach at Hanford and helps provide a historic perspective. The Board decided to reference the document, but did not include any new concepts because the letter is a synopsis of past advice and not intended to include new ideas.

The letter was adopted.

Tutorial on plutonium toxicity

Debra McBaugh shared a plutonium toxicity tutorial with RAP and HSEP, and the committees decided that the full Board should hear also hear it. Dick thought Board member backgrounds are varied and all could gain useful insight into plutonium, its toxicity and how to view remediation approaches.

Debra's presentation focused on basic radiation physics, plutonium (radiological and chemical natures) and the history of standards.

Types of ionizing radiation:

- Alpha particle – massive and highly charged; Debra described it as easily stopped by a piece of paper or a layer of dead skin. Debra said alpha particles can be detected through helium measurements, since they have a helium nucleus.
- Beta particle – charged electron, less massive, not as highly charged as an alpha particle; able to move meters through the air. Debra said plastic is typically use to block exposure.
- Gamma – energy only, no mass; very energetic and moves far. Debra said lead, concrete or water is needed for shielding.

Debra reviewed isotope structure (same number of protons in the nucleus, but differing number of neutrons). There are no stable isotopes of plutonium. There are four isotopes of interest: Plutonium (Pu)-238, Pu-239, Pu-240 and Pu-241. All are alpha emitters, except Pu-241 (beta emitter only).

Debra described four ways that radioactive elements can be a hazard to human health:

- Ingestion
- Inhalation
- Contamination of wounds
- Direct radiation exposure

Debra used graphs to show the relative ingestion hazard for Pu-238, Pu-239, Pu-240 and Pu-241. Pu-240, Pu-239 and Pu-238 are more hazardous than Pu-241. The graphs also compared the relative ingestion hazard of plutonium to cesium-137, strontium-90, uranium-238 and cobalt-60, which are less hazardous than Pu-238, but have more than a zero hazard risk. Debra used graph to show the relative hazards for inhalation as well and noted that inhaling plutonium is very hazardous.

Direct radiation exposure is primarily from gamma radiation. The relative external hazard is not very high; some exposure comes from Pu-238. Debra reviewed a daughter product of Pu-241, americium-241. Debra said for direct radiation exposure, one should be more concerned with gamma emitters (e.g. cesium-137).

Persistence in the environment for radioactive materials is based on the element's half-life (amount of time it takes half of the radioactive material to decay) and chemistry. For example, Debra noted that the exposure rate in the cribs has decreased because cobalt has a short half-life. Debra used graphs to show relative persistence in the environment, and noted that uranium was excluded because its half-life is in the billions of years and would make all other elements on the graph look their persistence in the environment was zero.

Debra described the chemical nature of plutonium, “the most complex metal, a physicist’s dream but an engineer’s nightmare.” Plutonium is unusual in that it has seven allotropes, or crystalline forms. For example, graphite, charcoal and diamond are allotropes of carbon. Plutonium also has five oxidation states. Debra said plutonium is silvery when new and tarnishes to an array of colors. In solution, it can be in four different oxidation states simultaneously.

Unusual properties of plutonium:

- Seven allotropes
- Five oxidation states
- Highly reactive
 - Bonds easily to oxygen and hydrogen
 - Forms compounds, complexes or alloys with most other elements
 - Extremely sensitive to changes in temperature, pressure or chemistry
 - Low melting point
 - Pyrophoric at high temperatures and some pressures
- Changes density easily
- Undergoes self irradiation (emits alpha particles that do not move far, so it ends up self-irradiating)

Factors in predicting how and how fast plutonium might spread:

- Nature of other minerals on site
- Temperature and pressure profiles
- pH of local water
- Redox potential (solubility and oxidation)
- Ligand (metal in center) concentrations
- Geochemical processes on site
- Constituents disposed with plutonium

Debra provided references that Board members could refer to if they want additional information:

- *A review of subsurface behavior of plutonium and americium at the 200-PW-1/3/6 operable units*, KJ Cantrell, RG Riley (limited distribution)
- *Plutonium mobility studies: 216-Z-9 trench sample analysis results*, KJ Cantrell, KN Geiszler, BW Arey – PNNL-17839

Debra reviewed the history of radium dial painters and how it influenced plutonium safety standards. In the 1920s, young women developed bone necrosis and osteogenic sarcoma as a result of painting radium-luminized instruments and watch dials. Radium itself did not cause the dials to glow; it was the reaction of the radium mixed with paint that caused the glow. Debra said studying these cases taught some important lessons about radioactive materials. A person could be exposed to some radium and not have any increase in their bone cancer rate, but if exposure reached a certain level, the bone cancer rate increased. No health effects were noted in radium dial painters with radium-226 less than 1.0 microcurie in their body. For the 16 cases with radium intake of more than 2,500 microcuries, four got bone tumors. Debra said they concluded that the probability of getting bone tumors is increased, but it does not mean a person would actually get bone tumors. Simple safety standards were established as a result of the radium dial painter tragedy, including forbidding brush-tipping. The maximum permissible body burden for radium-226 was established at 0.1 microcuries. When plutonium was discovered, physicists recognized the health effects could be similar to radium. Debra said this was the time period when the term “health physicist” was coined, because Manhattan Project physicists were interested in the health effects from plutonium. The first U.S. plutonium standard was established at 0.04 microcuries. Much later, annual limits on intake for radiation workers for plutonium were established, as well as drinking water standards for plutonium.

No health effects were noted in radium dial painters with radium-226 less than 1.0 microcurie in their body. The maximum permissible body burden for radium-226 was established at 0.1 microcuries. The first U.S. plutonium standard was also established at 0.04 microcuries. Annual limits on intake for radiation workers for plutonium were established, as well as drinking water standards for plutonium.

Debra had additional information on cancer rates in the Tri-Cities available at the Board meeting and will provide more copies to EnviroIssues for distribution.

Agency perspective

Wayne Glines, DOE-RL, thanked Debra for the tutorial and did not have any specific information to add. He said the more information DOE can provide, the better and more informed discussion the Board and the public can have about Hanford. He offered to provide additional information.

Dennis noted the plutonium toxicity tutorial came from a discussion of pre-1970s TRU waste disposition. He said it is important to understand how plutonium behaves in the environment.

Cheryl Whalen, Ecology, offered to take back any questions about plutonium's chemistry.

Discussion

Pam asked if cobalt-60's half-life is so short, why is it being used as a reason to leave reactors in place for more than 70 years? Debra said the amount of an element makes a difference – even if cobalt's half-life is short, the sheer amount of cobalt can lengthen the total decay period.

Pam complimented the presentation and said she now has a greater understanding of plutonium. She commented about fires at Hanford and how WDOH sometimes cannot provide immediate air sample information because they have to wait for some of the naturally occurring elements to decay. Debra agreed, and said they often have to hold an air sample for an hour so naturally occurring and ubiquitous radon can decay, allowing better analysis. With the most recent big Hanford fire, WDOH posted sample results on the website without waiting for radon to decay because even with the natural occurring radon, the samples were still below emergency levels and they wanted to provide information to the public as quickly as possible. WDOH then posted sample readings on the website after radon had decayed.

Todd Martin, Citizens for a Clean Eastern Washington (Regional Environmental/Citizen), asked if dose equates to hazard. Debra said no, they are not the same thing and the presentation was not intended to indicate that.

John Stanfill asked if the tutorial was available electronically to share with Board member organizations. Susan Hayman will see that it is posted on the HAB website.

Doug Mercer asked if there were any lessons learned from the latest Hanford fire and plutonium. Debra said there was no spread of plutonium from the wildfire because it did not reach sites contaminated with plutonium. Doug asked how Hanford and WDOH communicate with the public after a fire. Debra thought two things worked well during and after the fire: 1) WDOH made data available immediately, even if it meant validation processes may require changing data and explaining why it changed, and 2) the TPA agencies and WDOH held frequent press briefings and provided information at the same time. Debra said WDOH did not receive many phone calls because they were out in front of the questions.

Greg deBruler would like more information about the risks and toxicity levels for the ecosystem from plutonium, including terrestrial and aquatic organisms. Susan Leckband thought that was a topic RAP could address.

Rick said plutonium poses a direct radiation hazard and the radiation history of plutonium is publicly available. Rick noted that some of the chemical forms of plutonium are poisonous and can burn through skin. Rick thought Vince Panesko would be a good resource for more information about the chemistry of plutonium.

Dirk noted that WDOH may want to double-check the math on some of the slides and commented that some of the plutonium seen after the fires may have come from burial ground sites.

Agency updates on ARRA funding

DOE-RL

Doug Shoop provided an update on ARRA funding for the DOE-RL office. DOE-RL's ARRA appointment totals \$1.635 billion. To date, 80% of the funding (\$1.4 billion) has been provided to DOE-RL and applied to contracts with CH2M Hill Plateau Remediation Company (PRC) and Washington Closure Hanford (WCH). For FY 2009, only 30% of the total funding can be costed; if additional spending needs to occur in FY 2009, DOE-HQ has an approval process to secure authorization.

Doug said work on several ARRA projects is underway. Approximately 300 jobs have been saved and 700 jobs have been created with ARRA funding.

Updates for June 2009 include:

- U Plant Zone: Demolition of vertical tanks is underway
- Sampling soil near 200 North facilities
 - Water from the basins was discharged into disposal ponds; pond characterization is underway
- Issuing subcontract for characterization of 618-10 burial grounds
 - Includes waste disposal trenches; Doug said waste was transported through 65 million gallon drums that were welded together into a column. DOE is now sampling and characterizing columns to determine if intrusive sampling is needed.

Doug reviewed the ARRA work implementation schedule. DOE is currently reviewing contractor work plans and will complete its review process in September 2009. The River Corridor closure contractor and PRC will execute the full work plan in September.

Projected ARRA funding and how DOE-RL envisions the funding breakdown:

- Plutonium Finishing Plant (PFP): \$317 million
 - Remove glove boxes, hoods and ducts; ready facilities for demolition
- River Corridor Closure Project – soil remediation: \$78 million
 - Characterize and remediate 618-10 burial ground trenches
- River Corridor Closure Project – decontamination and decommissioning (D&D): \$442 million
 - Reduce River Corridor footprint
 - ERDF: construct super-cells 9 and 10, expand operations
 - K Area: demolish facilities and remediate waste sites
 - K East Reactor disposition
- Central Plateau D&D and soil remediation: \$432 million
 - Central Plateau outer zone footprint reduction (200 North and other waste sites)
 - Remediation of U Plant Zone canyon and structures
 - D&D 15 industrial facilities
 - D&D Semi Works Zone structure
 - D&D excess Arid Lands Ecology Reserve (ALE) structures
- Soil and water remediation – groundwater: \$146 million
 - Construct groundwater remedies in River Corridor (100 Areas)
 - Accelerate construction of groundwater treatment system for both 200 West operable units
 - Accelerate remedial investigations, treatability tests, cleanup decisions and well decommissioning in the Central Plateau Area
- Solid waste stabilization and disposition: \$229 million
 - Retrieve 10,800 drums-worth of contact-handled TRU waste
 - Repackage 4,100 drums-worth of contact-handled TRU waste inventory
 - Eliminate backlog of current legacy waste

The FY 2009 omnibus funding for DOE-RL is approximately \$1.058 billion; the FY 2010 president's budget is \$994 million. ARRA funding for FY 2009 – FY 2011 is approximately \$1.64 billion.

Doug noted that DOE and its contractors are tracking ARRA funding separately from the approximately \$1 billion in funding DOE-RL receives each year. The public can track ARRA funding and projects at:

- DOE: www.energy.gov/recovery
- DOE-EM: www.em.doe.gov/emrecovery/EMRecovery.aspx
- Hanford: www.hanford.gov/recovery
- Contractor websites: www.plateauremediation.com, www.washingtonclosure.com

Regulatory perspective

Ron Skinnerland, Ecology, said Ecology is glad to have ARRA funding, especially considering past annual budget shortfalls. Ecology wants to ensure they make appropriate regulatory decisions that let DOE spend the money well and on environmentally compliant work.

Discussion

Greg deBruler asked if a contractor was selected for the 618-10 burial ground characterization and about the total cost for cleanup. Doug said North Wind was selected and the total cost is \$78 million, over FY 2009, 2010 and 2011. Greg asked if DOE will need more information for remediation. Doug described how DOE is pursuing a non-intrusive approach first, which will hopefully provide enough information to proceed directly to remediation. If they do not get enough information, they will do more intrusive characterization.

Larry asked about DOE's "post ARRA" plan – what will happen to the jobs created by ARRA and what will the budget look like? Doug thought that was a valid question and said if the FY 2012 budget is a significant departure from their current funding, there may be impacts to the workforce. Ultimately, DOE's job is to finish cleanup up Hanford and reduce the workforce.

Larry asked about the ratio of jobs created for construction workers to exempt workers. Doug did not know exactly, but said it is a mix of management, craftsman, engineers, designers and more. Much of the work will be performed by subcontractors, who typically are hired for a job, complete it and move on. Doug noted that the workforce is aging, so some job capacity may be freed up through retirements.

Bob Parks asked about the line item funding Richland community and regulatory support, RL-0100 in the FY 2009/2010 funding chart. Doug said that includes funding for a CERCLA grant, the Hanford Advisory Board and other such pieces of work.

Bob Parks asked how DOE plans to handle the influx of workers and how it will work with the community on infrastructure needs. Doug said DOE has not yet discussed that in detail. Bob asked if subcontractors will bring in their own employees or will they use local HAMTEC members. Doug suspected it will be a combination; many of the subcontractors are coming in from out of state. Bob said the cities and worker organizations are trying to be prepared so they are not affected if the "bubble bursts" in three years. Keith noted HSEP will discuss workforce hiring and infrastructure planning.

DOE-ORP

Tom Fletcher, DOE-ORP, provided an update on ARRA funding in the DOE-ORP office. Tom briefed BCC last week.

Tank farm ARRA funding focus area: Tank farm infrastructure upgrades to support waste feed to WTP (ORP-0014), \$326 million. Major subprojects include:

- Tank farm infrastructure
 - Ventilation at AP/SY farms
 - Waste transfer infrastructure (includes electrical upgrades in S farm)
 - Level rise modifications
 - Control systems
 - AP farm valve pits
- Other infrastructure
 - Wiped film evaporator
 - Core sampling truck (existing truck is 30 years old)

- Waste feed infrastructure
 - Double-shell tank control systems (AN, AP, AW, AY/AZ, and SY farms) (to automate pump shut-down)
 - AW/AN exhauster D&D
 - Tank waste mixing demonstration (to prove it is possible to mix waste within a tank)
 - Transfer and condensate line upgrades
- Facility upgrades
 - 242-A evaporator upgrades (built in the 1970s, many components are wearing out, the exhauster system needs to be replaced)
 - 222-S laboratory upgrades (aging infrastructure)
 - Effluent Treatment Facility (ETF) upgrades

ARRA updates from May 2009 include:

- DOE authorized work to begin on April 7, 2009
- DOE-EM provided \$261 of \$326 million, or 80% of the ARRA allocation
 - The remaining 20% of ARRA funding is being held at DOE-HQ (will be distributed through a Gateway process); this will be released after projects demonstrate adequate performance
- DOE-ORP released \$42.5 million to the Washington River Protection Solutions (WRPS), the Tank Operations Contract contractor
- DOE has initiated a Government Fair Cost Estimate
- DOE successfully completed the first DOE-EM Readiness Review on May 20-22
- Contractors have started projects and hiring/training workers
 - Released 84 procurements (73% to small businesses)
 - Approximately 206 full-time equivalent jobs have been created (to date)
 - ARRA work is being incorporated into the WRPS baseline (180 day plan to be delivered by May 28, 2009)

Discussion

Keith cautioned DOE against too much automation (in the double-shell tank control systems). Tom said they are only automating the pushing of a button; the valves are already there.

Dirk asked for more information about tank waste mixing. Tom said DOE needs to determine if tank waste can be mixed homogeneously within a tank and is currently preparing for a scale test. Stacy Charboneau, DOE-ORP, said true homogenization is not the goal. DOE needs to ensure a mixed sample that meets the waste acceptance criteria for WTP. She said the scale demonstration will provide the information necessary to be comfortable with waste delivery. Dirk noted that getting a mixed sample and good feed will get harder and harder. Stacy recognized that as they continue to retrieve and evaporate tank waste, they are left with sludge that is harder to mix.

Rob noted that single-shell tanks are thin and will continue to erode as DOE studies mixing in double-shell tanks. He commented that mixing may lead to the conclusion of needing a separate mixing facility. Stacy said this is the first step in determining if additional mixing capability is needed to supply feed to WTP, whether that is a facility or storage space. It will also help determine how many mixing pumps are necessary. She noted the feed tanks for WTP are double-shell tanks and mixing will not occur in single-shell tanks. Susan Leckband thought TWC could continue tracking tank waste mixing and WTP feed.

Bob Parks asked if DOE-ORP is planning for the WTP workforce and retirements. Stacy said the ARRA funds set them up well and DOE-ORP's funding profile continues to grow through WTP start-up. She is glad to hire and train people now so the transition to WTP operation is smooth.

Larry asked if any ARRA funding will go to Mission Support Contract (MSC) work. Doug Shoop said DOE-RL and DOE-ORP have not provided any direct ARRA funding to MSC work. WCH is providing funding to the MSC contractors. Stacy said DOE-ORP is completing the MSC work scope within their existing contract; all the infrastructure is already in place for MSC services.

Agency presentations on the budget process

Mark Coronado, DOE-RL, provided an overview of the federal budget process as it applies to Hanford. Mark's full presentation will be posted on the Hanford website.

Five stages of the congressional budget process:

1. President's budget submission
2. Adoption of the budget resolution
3. Passage of appropriation bills
4. Consideration of reconciliation legislation
5. Consideration of authorization legislation

Mark said federal agencies are always working on three budget years at any given time:

- Phase 1: Budget formulation (current year + 2)
- Phase 2: Appropriation (current year + 1)
 - There is often back and forth adjustments between Phase 1 and 2
- Phase 3: Budget execution (current year), executing the budget plan to accomplish program objectives

Mark shared an ideal timeline for FY 2011 budget development. Some key milestones include:

- March – April: Public input to DOE-RL and DOE-ORP
- May – September: DOE-HQ considers public input
- April 10: DOE submits preliminary baseline and compliance request and summary level integrated priority list (IPL) for FY 2011-2015 to DOE-HQ
- Mid-April: Field managers brief DOE-HQ on submitted budget data
- Mid-June: DOE-ORP and DOE-RL submit final budget request letter, with regulator and public comments, to DOE-HQ
- June: DOE-HQ chief financial officer (CFO) issues final decisions
- September: DOE submits final budget to OMB

Mark reviewed the president's budget request in detail and described DOE-EM's budget process. DOE-EM's overall goal is to complete its cleanup mission in a safe, secure and compliant manner and to do so within prescribed costs and schedules. Each DOE-EM site has a certified baseline that details the work to be done at the site. Analytical building blocks (ABBs) are the foundation to both planning and budget formulation (ABBs roll up into project baseline summaries).

ABBs will be used as the summary component in development of the FY 2011-2015 IPL, directly linking the IPL to each site's validated baseline. Each operations/field office is required to submit an IPL.

DOE-EM budget process – priorities:

- Maintain a safe and secure posture across the DOE-EM complex
- Radioactive tank waste stabilization, treatment and disposal
- Spent nuclear fuel storage, receipt and disposition
- Special nuclear material consolidation, processing and disposition
- High priority groundwater remediation
- TRU and mixed/low level waste disposition
- Soil and groundwater remediation
- Excess facilities D&D

IPL elements, in order of priority:

- Minimum safe/essential services (safeguards and securities)
- Making progress tied to compliance (cleanup work)
- Making progress not tied to compliance
- Sites build the IPL in this order using ABB elements
- Factor in the site priorities and vision (2015 Vision)
- ABB elements can be either in target or above the target level of funding for the site established by OMB

Key points about DOE-RL's IPL include:

- Overall IPL identifies all ABB elements required to comply with regulatory agreements
- Developed to support the DOE-EM priorities, the DOE-RL certified site baseline and DOE-RL's 2015 Vision
 - Consistent with overall regulator, state, tribal and stakeholder values; worked with these groups to seek comments and input
 - Additional opportunities for input on the FY 2011 budget as budget formulation guidance is finalized; currently working to schedule a meeting with the regulators on the FY 2011 budget

DOE-ORP, FY 2009 and 2012

Stacy Charboneau briefed the Board on DOE-ORP's FY 2009 and 2010 budget and planning. DOE-ORP's near-term focus is on:

- Safety
- Reduce overall lifecycle cost and project risks
- Prepare predictable and consistent waste feed delivery system
- Retrieve tank waste to prepare feed to WTP and identify technical needs
- Expand retrieval technology toolbox
- Execute ARRA tank farm infrastructure upgrades
- Increase WTP focus on project performance and increase accountability
- Resolve the few remaining WTP design technical issues
- Continue WTP construction process
- Work closely with regulators, tribes, stakeholders and public on existing work to further progress

Stacy described the FY 2010 congressional budget request. The FY 2010 budget request for tank farm projects is \$408 million, including \$50 million for technology development. Stacy noted this funding would go a long way towards developing treatment technologies to reduce WTP lifecycle costs. The FY 2010 budget request for WTP is \$690 million. The total FY 2010 DOE-ORP budget request is approximately \$1.098 billion.

Tank farms (DOE-ORP-0014)

FY 2009 planned accomplishments (\$319.9 million):

- Base operations
 - Double-shell tank and single-shell tank operations, surveillance and maintenance
 - Safety, quality and radiation protection programs
 - 222-S laboratory
 - Tank sampling (core, grab and vapor)
 - Double-shell tank space management and integrity
 - 242-A evaporator campaigns
 - Environmental compliance
 - Engineering
 - Radiological controls
 - Site services, business services, waste management, training, procedures and standards compliance, WTP electricity and TOC management and administration
- Retrieval and closure
 - Complete retrieval of C-110 (to limits of first technology)
 - Complete construction and initiate retrieval operations on C-104 (complete in FY 2010)
 - Initiate design of C-111 (accelerated procurements)
 - Remove hose-in-hose transfer lines
 - Conduct proof-of-concept for enhanced chemical cleaning
 - Complete design, fabrication and initial testing of MARS
 - Complete liquid mitigation from UX-302A catch tank
 - Complete 244-CR vault sump pumping
 - Single-shell tank integrity
 - Complete near-surface characterization and design for TY Farm interim barrier
 - Complete near-surface characterization at SX Farm

- Deploy surface geophysical exploration in S-SX and C Farm
- Conduct C Farm direct push activities

Stacy focused on a few of single-shell tank retrieval and closure activities funded by the additional omnibus allocation:

- Conduct direct push in C Farm
- Accelerate C-104 retrieval activities
- Conduct sampling and analysis of C-108
- Restore S-102 exhauster
- Accelerate C Farm hose-in-hose transfer line removal and shipping
- Prepare criteria document for interim barriers
- Accelerate procurement for C-111

FY 2010 planned accomplishments (\$408 million):

- Base operations
 - Double-shell tank and single-shell tank operations, surveillance, monitoring and maintenance
 - Double-shell tank space management
 - 222-S laboratory operations
 - Conduct 2 evaporator operations
 - Tank sampling and analysis (core, grab and vapor)
 - Conduct ultrasonic testing on five tanks
 - Conduct 15 double-shell tank to double-shell tank transfers
 - NDE equipment replacement
 - Design, fabricate and install corrosion probe
 - Facility management, safety quality and radiation programs, environmental compliance, waste management, engineering, WTP electricity, business services and TOC management and administration
- Retrieval and closure
 - Complete retrieval of C-104; initiate and complete retrieval of C-111
 - Conduct post-retrieval sampling and analysis of C-104 and C-110
 - Initiate design on single-shell tanks C-102, C-107, C-111 and C-112
 - Continue testing and procurement of MARS (hoping to deploy next year)
 - Design large riser for MARS
 - Remove approximately five hose-in-hose transfer lines
 - Construct TY interim barrier
 - Conduct direct push waste management, Area C vadose zone characterization supporting closure
 - Expand single-shell tank integrity work
- Other activities
 - WTP readiness activities to prepare for operations
 - Conduct applied research and development activities with DOE-EM

WTP (DOE-ORP-0060)

FY 2009 planned accomplishments (\$690 million):

- Complete approximately 75% of WTP design and 47% of construction
- Percentage to be complete for the following facilities:
 - Low activity waste (LAW) facility: 68%
 - Analytical laboratory (LAB): 43%
 - Balance of facilities: 52%
 - High-level waste facility: 48%
 - Pretreatment (PT) facility: 46%

FY 2010 planned accomplishments (\$690 million):

- Complete approximately 82% of WTP design and 54% of construction
- Percentage to be complete for the following facilities:
 - Low activity waste (LAW) facility (\$100 million): 75%

- Complete fabrication of melters 1 and 2 and balance of components
 - Continue installation of commodities throughout facility
 - Complete erection of the switchgear building and truck bay
- Analytical laboratory (LAB) (\$55 million): 48%
 - Complete installation of the waste collection tank pit elevated concrete
 - Continue to install bulk piping
 - Continue to install commercial and quality level heating ventilation and air-conditioning duct
- Balance of facilities (\$50 million): 56%
 - Complete construction on the water treatment building
 - Complete concrete slab and wall placement for the anhydrous ammonia tank facility, including slab piping and conduit
- High-level waste facility (\$160 million): 56%
 - Continue civil build-out, installation of piping, hangers, heating and other commodities
- Pretreatment (PT) facility (\$325 million): 54%
 - Set into position one of four ultrafiltration vessels
 - Concrete placements will total approximately 3,000 cubic yards, with completion of walls and slabs to the upper elevation of the facility
 - Continue structural steel erection
 - Progress with pipe section installation

Regulatory perspective

Ron said Ecology is encouraged that additional funding will be used for retrieval, upgrades and waste feed delivery. PFP is a high priority for Ecology and he was glad there is funding for that work. Ron noted they hoped to be further along with Central Plateau work, but it was necessary to push some characterizations out until 2011. He hoped they can use some ARRA funding to catch up on that work. He thought without the ARRA funding, Hanford cleanup would be in a more difficult position.

Dennis said EPA is happy with the FY 2010 budget request and thought Hanford cleanup is in a good position for the next couple years. He noted it will be very important to deliver results; 2012 will be an important year.

Discussion

Pam asked if there is a target number for FY 2011 yet. Mark said not yet. She asked if the \$50 million for technology development will go directly to DOE-ORP. Stacy said DOE-EM will have some influence over its use, but it is directly in the DOE-ORP budget and they will work out the scope with DOE-EM.

Pam asked how funding will help (or not) DOE meet TPA milestones. Ron said because the agencies directed money and energy to groundwater work, some TRU retrieval and characterization of soil sites will be delayed. He said the ARRA money helped bring them back up to speed, but they lost some time.

Pam said the budget documents show remote-handled TRU removal – where will it go? Doug Shoop said they are looking at additional capacity and technologies, like mobile hot cells.

Pam thought it will be difficult to track this immense amount of work and asked the committees to review their priorities and provide feedback to EIC; greater prioritization is needed.

Keith was glad safety is a top priority, but the WTP workforce is feeling pressure to stay on schedule. He asked DOE to keep safety as the number one priority and continue pursuing worker-initiated safety programs. Stacy agreed and said DOE's recent pressure at WTP was on safety, not project performance. John Eschenburg, DOE-ORP, wrote a letter to Bechtel stressing DOE's safety expectations at WTP. Stacy said the WTP project went through the Voluntary Protection Program (VPP) and needs to maintain its diligence.

Rob said the single-shell tanks are not sound and the committees have not yet seen the single-shell tank integrity report. Stacy clarified that the tanks are structurally sound, meaning they are not in danger of collapsing on themselves; leak integrity is another issue. Dirk noted there may be differences in terminology and about what is actually part of the tank structure (e.g. concrete around the tank).

Advice on the FY 2010 budget request and ARRA funding

Gerry Pollet introduced the draft advice on FY 2010 budget. The advice focused on the FY 2010 budget request, ARRA funds, and ensuring commitments are met and momentum continues after the expenditure and accountability of ARRA funds. It made recommendations to both DOE-ORP and DOE-RL and specific recommendations to each office.

The TPA agencies recently briefed BCC on available and expected Hanford funding and expenditures for FY 2009 and 2010, and ARRA supplemental funding. Gerry said it was difficult to discuss FY 2010 work and funding without know what will be achieved in FY 2009. He noted there were some information gaps. Many work efforts depend on ARRA funding. DOE-RL work that was expected to be late may now receive large amounts of ARRA funding. Gerry also referenced an EPA handout that provided supporting information about DOE's obligation to request funding to meet TPA milestones.

Harold noted the advice was developed based on the budget meeting with the agencies and was drafted only a week before the Board meeting. Harold reviewed the structure of the advice and thanked the agencies for discussing the budget with BCC.

The Board conceptually discussed the advice on both Thursday and Friday. Typically the Board reaches conceptual agreement on Thursday.

Agency perspective

Doug Shoop agreed about having a comprehensive strategy for the Central Plateau cleanup strategy. He noted that advice is most helpful when it is prioritized.

Stacy Charboneau noted there are more advantages to having a wiped film evaporator than just using it as backup to the 242-A evaporator. The wiped film evaporator is trailer-mounted so it can be used in multiple tank farms as needed. She appreciated the advice on where DOE should use technology development funding.

Discussion

Betty thought the advice points could be better prioritized.

Gerry clarified that the advice says the Board is generally happy with the direction DOE is going with funding particular work, but needs more detailed information.

Pam thought some advice points were repetitive, such as the first bullet about requesting funding to meet TPA milestones. Gerry said DOE is obligated to request funding needed to meet TPA milestones. The Board decided to keep the concept and modify the language to make it less repetitive. The Board reiterated past advice asking DOE to identify and request adequate funding to meet TPA commitments. TPA milestones should not be delayed and DOE should use either ARRA funds or annual appropriations to meet existing milestones. The Board also decided to keep the advice point stating that milestones are important in 1) maintaining cleanup momentum after ARRA funds have been spent, and 2) securing cleanup funding. For example, the Board is concerned that Central Plateau cleanup and TRU waste could begin but fail to maintain progress without milestone drivers and sustained funding.

The Board debating sending the advice back to committee for strengthening and greater development, but decided to move forward with it to ensure the TPA agencies have advice on the FY 2010 budget request.

Julie Jones, City of West Richland (Local Government), asked if all the examples were necessary and if they were the best examples to use. Gerry thought they were important. Jeff Luke asked the Board to consider each member's comments thoughtfully and consider compromises. Gerry noted the advice is a committee product and the committee felt strongly about the advice and deliberately included specific points.

Dennis commented that simple advice principles are best and recommended that the Board clearly make advice points and avoid embedding them in sub-bullets or examples. Lori Gamache, DOE-ORP, noted it would be helpful to add headings to identify which advice points are for DOE-ORP and which are for DOE-RL.

Todd offered to edit the advice. The Board agreed, reviewed each bullet to ensure all members conceptually agreed and reviewed a revised draft late on Friday.

Todd made non-substantive changes to the advice and the Board agreed with the revisions.

Vince asked if the budget falls short every year for what is needed to meet TPA commitments. Dennis said DOE-RL has enough money to meet the TPA agreement.

Doug Mercer thought the advice should cite past advice discussed within the advice; the Board added the citations. The Board also added the concept of government transparency as it relates to Hanford into the advice.

Emmett reminded the Board that advice should be policy-level and suggested not discussing wiped film evaporators specifically. The Board agreed.

The advice was adopted.

Agency presentations and Board breakout session on the Central Plateau cleanup strategy

The Board heard from agencies about the Central Plateau cleanup strategy and then broke into small groups to discuss specific topics. RAP has been following the development of the Central Plateau cleanup strategy for some time while the TPA agencies work to reach a comprehensive approach to solving problems in the Central Plateau. Maynard encouraged participation in the Central Plateau discussion and breakout groups and noted that DOE is looking for Board feedback.

DOE-RL

Matt McCormick, DOE-RL, presented information about the Central Plateau Cleanup Strategy. Consistent with the 2015 Vision, DOE-RL is looking at the best way of coming to and implementing decisions about the Central Plateau. The 2015 Vision focuses on cleaning up the River Corridor, demolishing facilities, removing liquid waste and remediating groundwater. The Vision also calls for demolishing PFP, a key facility on the Central Plateau. Matt said demolishing PFP reduces current costs and risks. DOE-RL plans to demolish it by 2015 but is looking at demolition as early as 2013.

Matt said key groundwater contaminants will be contained on the Central Plateau and eventually groundwater will be cleaned up to drinking water standards. This includes installing pump and treat systems and cleaning up carbon tetrachloride in the western portion of the Central Plateau.

Central Plateau vision and strategy purpose and need:

- 2015 Vision is to shrink active cleanup footprint to 75 square miles in the Central Plateau
 - Will benefit the environment and reduce infrastructure costs
- Establish a vision for what the Central Plateau looks like when cleanup is done
- Establish overall strategy, goals, objectives and principles to guide cleanup decisions
- Provide basis for future funding requests

Central Plateau cleanup is focused on three areas:

- Inner Area
 - Final footprint
 - Less than 2% of the original Hanford Site (10 square miles or less)
 - Requires long-term waste management activities for disposal facilities like ERDF and any residual contamination in the soil
- Outer Area (about 55 square miles)
 - Remediate to unrestricted surface use
 - Cleanup standards comparable to the River Corridor
- Groundwater
 - Contain and remediate key groundwater contaminants

DOE has had many workshops with the regulators on this cleanup approach and vision. They have agreed to make the final footprint as small as practicable, and make cleanup decisions in a consistent manner. Matt said the agencies agreed to a path forward on the outer area with a bias for remove, treat and dispose and use a single ROD to capture decisions. Matt thought DOE gained experience from the 200-ZP-1 operable unit and will apply ARRA funding for waste sites in the Outer Area.

Inner Area approach:

- Minimize the size of the area requiring long-term management (the final footprint)
- Configure waste and residual contamination to be protective of human health and the environment
- Make comprehensive, consistent cleanup decisions with agreed-upon guiding principles (e.g. exposure scenarios)
- Implement cleanup decisions using a geographical approach (divide into zones that make sense for execution)
- Monitor Inner Area to ensure cleanup remedies are protective (need a robust monitoring system, focus on protecting groundwater and prevent contamination migration)

Outer Area approach:

- Clean up to levels comparable to the River Corridor, about 180 waste sites (some exceptions)
- D&D excess facilities
- Make final cleanup decisions with one ROD
- Start cleanup with interim decisions using ARRA funds

Central Plateau groundwater approach:

- Contain key contaminants (carbon tetrachloride, technetium-99, uranium) to the Central Plateau and remediate to meet drinking water standards
- Complete groundwater remediation decision on the Central Plateau using ZP-1 as a template
- Implement pump and treat systems in the next few years to continue to contain key contaminants (a large system in the west area is currently being designed for the carbon tetrachloride plume)

Matt said the Central Plateau strategy reflects input received from tribes, the Board and other stakeholders over many years. DOE and the regulators will continue to consult with tribes and stakeholders throughout Central Plateau cleanup decision-making and implementation. The Central Plateau roadmap will provide a strong basis for sustained future funding. Matt said HAB advice has been helpful in planning and DOE's discussions with the regulators.

Regulator perspective

Ron said the TPA Agreement in Principle requires DOE to deliver a plan for Central Plateau cleanup by the end of July. Ecology has already provided input on the draft strategy and will hopefully not have many issues to work through after DOE submits the draft plan. The agencies will reach agreement on all TPA milestones by the end of 2009. Ron said Ecology wants to ensure they agree on risk scenarios.

Dennis said EPA wants to put Hanford cleanup strategy into one succinct document and was hopeful they will reach an agreed-upon cleanup strategy.

Facilitated breakout groups

The Board broke into three groups that moved between three stations: Inner Area, Outer Area and groundwater. TPA agency representatives gave short presentations at each station and Board members had about fifteen minutes at each station to ask questions and provide comments. EnviroIssues staff captured pertinent questions (e.g. non-clarifying), concerns and positive comments about the Central Plateau cleanup strategy. DOE will use them as they develop the plan that will be submitted to the regulators in July.

Central Plateau Cleanup Strategy breakout sessions – flipchart notes

Groundwater

Questions

- Show predictions for plume response
- What are the actual containment boundaries/locations and when will containment actually occur?
 - Time points – when do you expect containment to occur?
- Ensure people know the injected water is treated and pumped
- What do you do with collected contaminants?

Concerns

- Deep vadose zone contamination
 - Impacts to groundwater; potential future impacts from the deep vadose zone
- Confined aquifer in 200 E – characterization and containment
- Consider your modeling premises and their validation
- Show public how plumes will be contained (or which plumes will not be contained)
- Data supporting timeframes – not robust enough?
- Adaptability and preparing for potential events like increased groundwater flow
- Long-term stewardship – ensure long-term care and responsibility

Positives

- This is a proactive approach
- This will produce better hydrogeologic and will help refine modeling controls
- Geographical approach focuses attention on highest vadose zone risk areas and recognizes that the outer area is still at risk (more so than other areas)

Outer Area

Questions

- Adequate characterization of ponds (3)
- Adequately planned to be done by 2011?
- How will they only have 1 RI/FS?
 - One ROD? CERCLA process – one site closure plan
- Is it reasonable to think a ROD for bad (bdd?) sites and those that are further along in characterization
- Meeting criteria of remediation with EIS release in particular with all ponds
 - Focus on vadose zone
 - HAB input
- Will DOE follow River Corridor model and go deeper with contamination (deeper than 15 feet)
- What is the break off point?
- Institutional controls – how will the area be used? Integration of long-term stewardship plan?
- Vegetation – not a conduit for bringing up contaminants – 15 foot level
 - Look at lessons learned
- What will happen with BC cribs – still contamination there (redistribution of contamination, stop source)?

Concerns

- Significant dose levels below 15 feet
- Uranium level – remediation and investigation
- Limited development in area (institutional controls)
- Flooding of contamination of 15 feet; impacts to groundwater
- Not unrestricted use
- Focused workshop on outer area – need more time
- U.S. Fish and Wildlife involvement?
- Biological Waste Resource Management – how are they involved with plan?
- Concern with getting close to aquifer
- Need to have closure plans for all sites – what are the restrictions?
- Separate sites – concern of getting it done in 2 years
- Groundwater contamination of 600 North
- Concerns of emphasis on ARRA spending on easier issues (focus more on mobile contaminants)
- 15 foot and lower threat to wildlife (biodiversity) – look what happened with BC cribs

Positives

- Good approach – comprehensive and integrated
- Good end goals
- Good for providing information now – kudos!
- Good to handle small sites
- Good at looking at characterizing ponds with ARRA funding
- Good for remove, treat and dispose option

Inner Area

Questions

- How will you do one ROD for such disparate items (e.g. burial grounds, PFP, cribs, etc)?
- How to move from a closed ROD to monitoring, to addressing contamination, technology, remediation?
- What are questions we need to ask to determine if there should be one or more RODS?
- What is the linkage between previous HAB advice and this strategy?
- What are we looking at for institutional controls in this area? Will these be defined in RODs?
- Is public aware of need for long-term stewardship?
- Process for integrating cleanup requirements for different programs (tanks, ground below tanks, vadose zone, etc)
- How are you going to address PUREX tunnels?
- How will you handle cesium, strontium capsules?
- What is the plan for disposal of deep repository waste while pending decision?
- What happens if a catastrophic event happens?
- How will you protect the inner area (security)?

Concerns

- Integration issue – vadose zone, tank farms, inner/outer boundaries
- ROD versus RI/FS – needs multiple RODS
- Vadose zone transport and caps
- The “ultimate” disposal...”...”perpetuity”
- Mapping previous HAB advice to proposal
- Scattered contamination sites will still be there and require care
- “Robust” facilities to take care of spent fuel and capsules in the interim
- Security and caretaking of the area in foreseeable future (encourage maintenance of industrial presence to keep people onsite, security presence)

Positives

- Reducing footprint and infrastructure
- Long-term stewardship sites in a manageable, defined area

- The fact that there *is* a strategy
- Structured approach
- Comprehensive approach
- Public taken into account

Discussion

Pam asked how the Central Plateau cleanup strategy will relate to DOE-ORP's work at the tank farms. Chris Candley, DOE-ORP, said DOE-ORP has been involved in the Central Plateau strategy development. There are different regulatory processes for the tanks, but principles for cleaning up tanks, the vadose zone and groundwater will be consistent with the rest of the site.

Ken Gasper thought the breakout sessions were a very good and innovative tool. Dennis agreed and thought it was a good exercise. He hoped they helped the Board better understand Central Plateau cleanup plans.

Gerry asked what the agencies will do with the comments the Board provided today. Matt said they will get copies of their comments, integrate them in their discussions and reflect them in the strategy deliverable in July.

Doug Mercer said his alternate, Mark Oberle, wants to help with public outreach and participation. He will work with PIC.

Agency updates

EPA

Dennis provided an EPA update. The 200-ZP-1 ROD was honored as one of the two best RODs in the nation for 2009. He said many people including the contractors, DOE and Washington State worked hard on the ROD and did a great job. Dennis noted his former position at EPA is still open.

Ecology

Jane thanked Board members for rallying the public to the TPA change package public meetings. Jane reviewed some updates from Ecology:

- The RCRA site-wide permit will not be ready for public comment until the fall or winter of 2009 (originally planned for public release in July).
- Ecology is finishing a public comment period on the WTP permit modification. She said Ecology often does these types of permitting modifications.
- Ecology is looking forward to the release of the TC&WM EIS.
- Ecology, through another agency program, manages public participation grants that provide funding to public interest groups. This year, because of severe state budget problems, that funding was cut back dramatically and a number of Hanford public interest groups were going to lose funding. Jane said DOE stepped up and agreed to assist the state's grant program to make sure groups still get funding and stay involved, without asking to be part of the grant review process. Jane thought DOE deserved recognition for their efforts.

Pam asked if the Hanford Information Network will get funding even though they are based in Oregon. Jane said no, organizations have to be based in Washington to receive funding through that particular grant program.

Bob Parks asked if the public can see the list of groups that received funding and the amount they received. Jane said the awards were just made, but he can go to www.ecology.gov and look at the financial assistance section under the solid waste program. Jane asked Bob to contact her if he has additional questions.

DOE-RL

Nick Ceto, DOE-RL, provided an update from the DOE-RL office. Nick said changes at DOE over the past few years made him want to work there. His transition to his new position at DOE has gone well.

Nick reviewed the 2015 Vision and DOE's schedule for decision-making:

- The River Corridor integrated 100 Area RI/FS work plan is out for review; remaining decision unit addenda will be released by the end of 2009. Proposed plans will be submitted by the end of 2011.
- DOE's goal is to complete the Central Plateau Outer Area ROD in approximately one year. Central Plateau groundwater cleanup decisions will build on the ZP-1 ROD over the next two to three years.
- DOE also hopes to complete Central Plateau Inner Area cleanup decisions in two to three years. Nick said remedial design and remedial action (RD/RA) work plans will establish cleanup schedules which will be developed into TPA milestones.

Nick described the draft CERCLA decision schedule for the 100 and 300 Areas. He said it is an aggressive but possible schedule. Nick thought it is important to Hanford's collective credibility to achieve it.

Regarding the River Corridor Baseline Risk Assessment (RCBRA), Nick said there is a historic bias from action along the River Corridor. The initial focus was on understanding the risks at remediated sites. The revised version will estimate risk as some sites where cleanup has yet to be completed. Nick said the RI will evaluate the nature and extent of contamination beyond waste site boundaries, which will support and/or complement the initial focus of risk assessment activities on waste sites, groundwater and surface water-groundwater interaction. During the risk assessment, expectations regarding the likelihood of various future land use scenarios will be discussed, but cleanup levels will be established through the CERCLA Proposed Plan and ROD. Nick said the final cleanup standards will be no less stringent than those that exist now based on rural/residential/recreational use.

Nick described river component investigations. DOE has embarked on a major effort at the River Corridor to compile and evaluate historic data. In-river sampling is also underway to fill data gaps and further sampling will occur later in 2009. Nick said existing and new data will be analyzed to determine if remedial actions are required. Nick thought surface water, sediment and island soil investigations will be complete by mid-June. He described a device that identifies upwelling locations in the Columbia River, which will help in future sampling planning. DOE is also collecting fish tissue samples, include whitefish, walleye, sturgeon and three other species. This sampling is expected to be complete by the end of August.

Joe Franco, DOE-RL, described River Corridor cleanup progress. At ERDF, contractors just completed cells 7 and 8 and EPA authorized operations to commence. Joe used a photo to show the new cells and the older cells currently in use (cells 5 and 6). The new cells will help make work funded by ARRA possible. Joe said DOE analyzed how quickly they expect to fill cells 7 and 8, and decided to design a "super cell" 9 and prepare for expanding into a tenth cell. Super cell 10 is still in the review process and analysis is ongoing.

Demolition is underway in the 300 Area, and WCH successfully finished work at 618-7 burial grounds. Joe said they are now working on 618-1 and are working toward closure. Some utilities are rerouted to support Pacific Northwest National Laboratory (PNNL) operations. Joe said D&D is expected to be complete by 2012.

Other work underway includes:

- 100 K Area: Contractors are actively working on K East reactor and are now down to the floor level of the basin. Joe said they may be done early with the basin, in July instead of September. After that, remediation will begin on the waste site under the basin; work plans are currently being developed. Joe said DOE is waiting on characterization results of the sludge in K West.
- N Area: Joe said the whole area looks very different from a year ago. Stacks have been decommissioned and demolished. DOE has worked closely with Ecology. Four tanks were removed from 107 N building, near the river. At 100 N, crews took down the "golf ball" and are ensuring work is completed in a safe manner.

- BC Area: Joe said B-27 has been a big project. Crews are sampling now to complete final characterization. The other site left in the area is C-7. Joe said they completed an FS to ensure the remediation will work for the area.

Discussion

Ken Gasper asked Nick about the 300 Area RI/FS process. Nick said there will be one final ROD along with some interim actions. Ken asked how keeping some of the 300 Area buildings has changed DOE's planning. Nick said some cleanup sites near buildings will be included in the RI/FS, but they may wait to clean them up. DOE will have to decide what work to do immediately, and how to ensure that waiting on some cleanup components will not affect groundwater. He said they are looking at additional groundwater technologies to deploy in situ.

Barry Beyeler, Oregon Hanford Cleanup Board (State of Oregon), asked how far downstream sediment sampling will occur. Nick thought the existing data goes all the way to Astoria. Physical sediment sampling is occurring down to Bonneville Dam. Barry asked if DOE is following the same dose reconstruction pathways; Nick confirmed DOE has looked at all past work.

Gene Van Liew, Richland Rod and Gun Club (Local Environmental) asked how many fish samples were taken and at what locations. Nick said DOE is looking at resident species in the Hanford area and can get more information about it for Gene. Gene asked if sampling will occur into the winter months. Nick said it depends on what they are looking for; the biologists select collection periods that are most likely to have received contamination. Nick added that DOE will analyze their samples to make sure they provide enough information; if there are information gaps, DOE will do additional sampling.

Wade asked about the status of the research reactor in the 300 Area and for more information about removing the reactor at K Area. Joe said planning work for the research reactor will be complete in 2012. For the K Area reactors, there are incentives for the contractors to find efficiencies. CHPRC is currently evaluating the potential to remove K East reactor instead of putting it into interim safe storage. DOE will then evaluate its feasibility and cost. Wade said he has experience with that type of work and offered his assistance.

Doug Mercer asked how RCBRA ties into EPA's nationwide water body efforts. Nick agreed that it makes sense to integrate that work and he assumed EPA is taking that approach.

Pam asked if RAP and the Board will be able to work with DOE on the 100 and 300 Area work plans for the RI/FS. Nick said the review period is 60 days and thought DOE could brief RAP once it has had more time to work on the plans. Pam thought July might make sense. She asked if RAP could receive a more detailed presentation on N Reactor; Nick said yes.

Dirk asked if DOE is working with the Interior Columbia Basin Ecosystem Management Plan group. Nick assumed they were but would have to check. Dirk commented that many documents will come due at the same time. Nick agreed and said it is an aggressive schedule to utilize ARRA funding.

Regarding plutonium in river systems, Gerry Dagle, Benton-Franklin Public Health (Local/Regional Public Health), asked if DOE has seen comparisons from other countries. Nick said they look upstream, downstream and at tributaries for additional perspectives.

DOE-ORP

Shirley Olinger, DOE-ORP, provided an update from the DOE-ORP office. For FY 2009, DOE-ORP was appropriate \$1.009 billion, which was more than the president's budget request. She said the president's budget request for FY 2010 was about \$80 million more than the FY 2009 appropriation. Shirley said this will allow DOE to look at mitigating lifecycle risks and research and development strategies they have been interested in pursuing. DOE-ORP is attending a workshop next week with DOE-HQ to review best uses for additional funding to mitigate risks at tank farms. Shirley noted that to ensure adequate controls, only 80% of ARRA funds are being allotted to the sites for obligation against contracts. The remaining 20% is being held at DOE-HQ and will be released after projects demonstrate adequate performance. Only

24% of ARRA funds can be used until all contractor baselines plans have been submitted, reviewed, validated and approved.

DOE is currently formulating the FY 2011 budget with DOE-HQ and believes they will offer consistent support to Hanford. Shirley said Hanford has regained congressional confidence and needs to ensure it keeps it.

Shirley said WRPS is experienced in tank waste management, treatment, vitrification and closure. They respond quickly to DOE-ORP's requests and their contract helps motivate long-term perspectives and a lifecycle approach and integration with the WTP contractor. Shirley said protecting workers from radiological and chemical hazards is vital and WRPS is working on developing and deploying new technologies (e.g. MARS).

Management at Bechtel has changed significantly and DOE-ORP is now getting the corporate attention it wants. Project performance and accountability is increasing, and they are resolving the last few technical design issues, including mixing in the tanks. She hoped the testing platform is ready at the end of June to start testing and hopes to resolve all external review flow sheet technical issues by August or September.

Near-term focus at tank farms:

- Continuing tank retrievals to prepare WTP feed and identify technical needs
- Expanding retrieval technology toolbox for hard heels and leaking tanks
- Reducing overall lifecycle costs and project risks
- Preparing predictable and consistent waste feed delivery system
- Executing tank farm ARRA-funded work

Near-term focus at WTP:

- Continuing to drive project performance and accountability
- Advancing overall project completion from 50% to 58%
- Finalizing and freezing design from 75% to 82% (shift from engineering to construction focus)
- Substantially complete 12 of 18 Balance of Facilities
- Continuing safety vigilance and focus
- Acquiring the next generation of workers

Discussion

Dirk asked if blending or mixing was the problem at tanks. Is there a problem with mixing within an individual tank to ensure the correct composition? He asked how DOE plans to avoid past problems of creating new hard heels and gelling within double-shell tanks. Shirley said they try to retrieve as much as possible, but sludge does become a problem. Testing will show if they can mix in the sludge layer and still achieve the right blend. She said the longer it takes to get the best batch to WTP, the longer it will take to treat the waste. DOE needs to send the best composition to WTP as possible. Shirley thought there were two issues: Can they retrieve the waste and can they mix it in a timely manner to get a good batch? Susan Leckband thought TWC may want to discuss this issue.

Keith said HSEP will discuss tank vapors at the next meeting. He hoped they can help DOE with this difficult subject. Keith was glad to hear DOE is focusing on WTP safety issues and thought they have a good grasp of what is going on there. If safety is forgotten, productivity will fall.

Pam asked where the analysis on using magnesium to remove aluminum from tanks is being done. Shirley said Savannah River is working on it and the Hanford DOE offices will discuss it with DOE-HQ at their next meeting.

Pam asked about the status of the TC&WM EIS. Lori Gamache anticipated DOE will finish printing soon and will start the distribution and the comment period as soon as they gain clearance.

Public comment

No public comment was provided.

Board business

Vice-chair selection

Bob Suyama was the only nominee for Board vice-chair. Bob was confirmed with consensus as the new Board vice-chair. Susan Leckband thanked Rick Jansons for his service as vice-chair over the past year.

Board processes

Susan Leckband reviewed the handout with EIC recommendations about certain Board processes. EIC recommends:

- Committee of the Whole placeholder: Reserve the first Thursday of each month that does not have a Board meeting for a Committee of the Whole meeting on a specific subject. It could take the place of a committee meeting.
- Change selection time for committee leadership:
 - Nominate committee leadership positions in January
 - Select committee leadership positions in March
 - Seat new committee leadership in May for the May leadership retreat (so new leadership can help develop priorities for the coming year)
- Ground rules and behaviors
 - Listen carefully to each other
 - Do not interrupt
 - Do not carry on sidebar conversations at the table
 - Respect the procedural guidance and recommendations of the chair
 - Avoid personal attacks
 - Avoid characterizing the views of other Board members outside of any Board meeting or activity
 - Avoid the use of profanity
 - Avoid talking on cell phones in the meeting room
 - Silence all electronic devices

Susan noted that saying things like “I’m going to block consensus” should not be used as a threat since the Board always strives to reach consensus.

Susan Hayman asked if any Board member objected to the recommendations. No objections were made.

Jeff Luke asked if the Board could hold more of its meetings outside of the Tri-Cities. He commented that it seems like they reach consensus better outside of the Tri-Cities, perhaps because people are less distracted. He asked if there was enough funding to meet more regularly outside the Tri-Cities. Susan Leckband said normally they would have the draft Board meeting schedule for 2010 at the June Board meeting. They are working on it, the Committee of the Whole schedule and the budget with DOE.

Rob thought the Board could plan a group activity, like go to the Mariner’s game when the Board meets in Seattle.

TC&WM EIS, Committee of the Whole meetings and hiring a subject matter expert

Susan Leckband noted that there may be a Committee of the Whole meeting to discuss the 2011 budget. Jeff asked if it would make more sense to hold the Committee of the Whole meeting a few weeks after the TC&WM EIS comes out so people have more time to read and digest the information. Susan thought the Board could decide, but needs to coordinate with the TPA agencies.

Susan Hayman noted the original thought behind the TC&WM EIS workshop was to make it a DOE-ORP public workshop; the Board would then decide about the need for a Committee of the Whole meeting. Dirk thought the Board decided to walk through the TC&WM EIS with DOE-ORP immediately to understand its structure and content.

Gerry mentioned that one of the reasons for holding the Committee of the Whole meeting a few weeks after the release of the TC&WM EIS was to give issue managers time to identify what issues DOE-ORP should particularly discuss at a TC&WM EIS workshop.

Susan Leckband noted the Board needs to decide and/or take action on hiring a subject matter expert to help them review the TC&WM EIS. Jeff thought the Board had already decided to do so; Susan said they never actually decided on if they need help or not.

Jeff said if the Board wants to hire someone to review the TC&WM EIS on its behalf, it needs to start the process now. Maynard agreed that it will take a while to identify and hire someone; the Board should take advantage of the opportunity. Larry thought DOE-ORP would have to write the contract. He asked about the selection process and thought several Board members would be well-suited to help.

Emmett added that each Board member should read the TC&WM EIS for themselves rather than solely rely on someone to read it for them.

Gerry said the goal is to develop TC&WM EIS advice for consideration at the November Board meeting. He said DOE committed to adjusting the comment period to ensure advice produced at the November Board meeting is within the comment period. Lori will verify.

The Board decided that the committee chairs will work with Paula Call to develop a scope of work and hire a subject matter expert.

Committee meeting and conference call schedule

RAP: Meeting June 10-11, call on June 16
HSEP: Meeting on June 11
TWC: Call on June 15
BCC: Call on June 16
PIC: Call on June 18
EIC: Call on June 18

DOE is hosting a science and technology meeting on June 9 and 10. Board member travel is approved for the meeting.

Susan Hayman asked if the month-ahead Events-at-a-Glance email was working well; the Board thought it was working fine. Dirk commented that a Year-at-a-Glance would be helpful, too.

Ken Gasper noted that DOE-ORP will provide information when the System Plan Revision 4 is ready.

Keith encouraged TWC members to attend the HSEP meeting.

Potential topics for the September Board meeting

Potential topics for the September Board meeting include:

- Announcement of new committee leadership
- Central Plateau cleanup strategy, approach decisions that will be made in July
 - Breakout session comment review
- Public involvement event (evening event that Doug Mercer suggested)
- River Corridor decisions
- TC&WM EIS
- RCRA site-wide permit
- Confirmation of work-planning and Board calendar

- Plutonium in soil and cleanup ramifications
- 2011 budget request
- Long-term stewardship (potential RAP work in July and August)

Gerry asked that advice responses be distributed to all committee members instead of including the responses in the entire correspondence list.

EnviroIssues will post the plutonium tutorial presentation on the HAB website.

Attendees

HAB MEMBERS AND ALTERNATES

Barry Beyeler, Member	Bob Parks, Member	Larry Lockrem, Alternate
Rob Davis, Member	Maynard Plahuta, Member	Gwen Luper, Alternate
Greg deBruler, Member	Gerald Pollet, Member	Emmett Moore, Alternate
Earl Fordham, Member	Gene Schreckhise, Member	Laura Mueller, Alternate
Norma Jean Germond, Member	Keith Smith, Member	Nancy Murray, Alternate
Harold Heacock, Member	Bob Suyama, Member	Vince Panesko, Alternate
Becky Holland, Member	Margery Swint, Member	Gary Petersen, Alternate
Rick Jansons, Member	Gene Van Liew, Member	Wade Riggsbee, Alternate
Julie Jones, Member		Dave Rowland, Alternate
Mike Keizer, Member	Al Boldt, Alternate	Dick Smith, Alternate
Pam Larsen, Member	Gerry Dagle, Alternate	John Stanfill, Alternate
Susan Leckband, Member	Sam Dechter, Alternate	Betty Tabbutt, Alternate
Jeff Luke, Member	Dirk Dunning, Alternate	Steve White, Alternate
Todd Martin, Member	Ken Gasper, Alternate	
Doug Mercer, Member	Mike Korenko, Alternate	

AGENCY, CONTRACTOR, AND SUPPORT STAFF

Paula Call, DOE-RL	Sharon Braswell, Ecology	Ron Bourke, CHPRC
Nick Ceto, DOE-RL	Madeleine Brown, Ecology	Bruce Ford, CHPRC
Briant Charboneau, DOE-RL	Nolan Curtis, Ecology	Marc Jewett, CHPRC
Wayne Glines, DOE-RL	Dib Goswami, Ecology	Dale McKenney, CHPRC
Joe Franco, DOE-RL	Jane Hedges, Ecology	Janice Williams, CHPRC
Matt McCormick, DOE-RL	Brenda Jentzen, Ecology	Barb Wise, CHPRC
	Jeff Lyon, Ecology	
Chris Candley, DOE-ORP	John Price, Ecology	Tammie Gilley, EnviroIssues
Mark Coronado, DOE-ORP	Ron Skinnerland, Ecology	Susan Hayman, EnviroIssues
Stacy Charboneau, DOE-ORP	Cheryl Whalen, Ecology	Hillary Johnson, EnviroIssues
Tom Fletcher, DOE-ORP		Cathy McCague, EnviroIssues
Lori Gamache, DOE-ORP	Craig Cameron, EPA	
Shirley Olinger, DOE-ORP	Dennis Faulk, EPA	Terry Noland, FGG
Jonathan D_____, DOE	Emy Laija, EPA	Dick Wilde, Energy Solutions
		Julie A_____, M&EC
	Debra McBaugh, WDOH	
	Mike Priddy, WDOH	

MEMBERS OF THE PUBLIC

James Santo, MSA LLC	Annette Cary, Tri-City Herald	
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