Executive Summary

Board action
The Board adopted four pieces of advice concerning:

2. Fiscal Year 2012 Budget
3. Buy Back Lists
4. Tank Waste System Plan Revision 4 and Planning Assumptions for Revision 5

Board business
The Board will have committee calls and meetings in June and July. The Board discussed:

- Draft letter from Environmental Management Site Specific Advisory Board to U.S. Department of Energy (DOE)
- Draft letter from the Hanford Advisory Board to DOE
- Issues of interest with Dr. Inés Triay
- Waste Management Incidental to Reprocessing
- Waste Management Area C Performance Assessment
- September Board meeting topics

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.
Presentations and updates
The Board heard and discussed presentations on the following topics:
- Deep Vadose Zone Testing and Research Center
- Waste Management Area C-Farm Performance Assessment

Public comment
There was one public comment provided.
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 agency and contractor representatives and members of the public.

Seven seats were not represented: City of West Richland (Local Government), Franklin and Grant Counties (Local Government), Central Washington Building Trades (Hanford Work Force), Oregon Hanford Cleanup Board (State of Oregon), University of Washington (University), Hanford Watch of Oregon (Regional Environmental Citizen) and the Confederated Tribes of the Umatilla Indian Reservation (Ex-Officio).

Welcome, introductions and announcements

Susan Leckband welcomed the Board to Portland.

Susan announced that Inés Triay, Assistant Secretary for Environmental Management (EM), would be visiting the Board to discuss the selection of the next U.S. Department of Energy (DOE) Richland Operations (RL) manager following Drave Brockman’s retirement. Susan added that a formal letter has been written to her concerning the Board’s recommendations and would be edited later in the meeting.

Cathy announced that the GoToMeeting program would be used later this afternoon. She also announced that Hillary Johnson, EnviroISSUES, would be filling in for Susan while she is out on vacation.

Susan announced she was hopeful that the appointments will come through soon for the new Board member’s participation soon and she is working with the department to get them.

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.

Discussion with Dr. Inés Triay

Susan introduced Dr. Triay to the Board.

Dr. Triay thanked the Board for hosting her and added that she appreciates the work the Board does. She noted that she always takes advice and recommendations submitted by the Board seriously because they are always well thought out and she ensured that the advice and recommendations concerning the qualifications of the new DOE-Richland Operations (RL) manager will be strongly considered.

Norma Jean Germond, Public-at-Large, thanked Dr. Triay for coming to the meeting. Norma Jean said the Board has enjoyed Dave and the relationship he and Shirley have built with them. She hopes Dr. Triay will work with Dave to display what he has done well. Dr. Triay agreed with the Board’s appreciation for Dave and Shirley and added that Dave’s retirement will be seen as a huge loss.
Dirk Dunning, Oregon Department of Energy (State of Oregon) thanked her, Dave and Shirley for the work they do. Dirk noted that it will be sad to see Dave go and finding a replacement for him will be difficult because of the complexity of the job. Dirk said it would be helpful to have a senior manager that has high-level management experience; especially if he has a technical background because Hanford is essentially a huge chemical engineering project and having knowledge of systems planning and the ability to understand the technical terminology of the engineers is important. Dr. Triay said it is important to have a strategy and she promised to consider that suggestion before making a selection.

John Stanfill, Nez Perce Tribe (Tribal Government) said in the 15 years he has been involved with Hanford, Dave Brockman has made the best effort to reach out to the tribes and communicate with them. John said he would like to see that same quality and willingness to reach out to the tribes with the next DOE-RL manager. Dr. Triay agreed that an open approach to what is going well and what is not going so well and a collaborative approach to problem solving is an important and required characteristic of the next RL manager.

Maynard Plahuta, Benton County (Local Government), thanked Dr. Triay for her transparency and for placing an importance on finding someone who takes a collaborative approach and can build trust with the community and the various stakeholders. He added that he also hopes the new manager shares the same desire to preserve the B Reactor. Dr. Triay said she could not imagine having a manager that does not have that same interest and passion. She added that preserving that history is a very important part of the job.

Rob Davis, City of Pasco (Local Government), said he felt Dave and Shirley have been willing to come down from the Ivory tower and have done a great job getting to know the community and the stakeholders involved. Rob reiterated the importance of openness, transparency, and having an honest face.

Dr. Triay thanked the group for their support and recommendations.

Pam Larsen, City of Richland (Local Government), said the Board is excited about what is being accomplished with the American Recovery and Reinvestment Act (ARRA) funding. She added that the Board appreciates the leadership from Dr. Triay’s staff and the fact that some of the work on site is getting done faster than anticipated. Pam is interested in what the process will be to prioritize the remaining ARRA funds and what the time frame for that funding will be. Dr. Triay answered that the same path for deciding the first set of priorities will be used with the extra funding and noted that it will be a transparent process and open to discussion. There is contingency money associated with projects because in case projects cannot be completed by 2011. She also added eliminating risks when prioritizing ARRA funds is important.

Shelley Cimon, Public-at-Large, thanked Dr. Triay and added that both the joy and frustration of the Board is the differences between each member. Shelley said that she hopes the next DOE-RL manager will embrace these differences.

Shelley asked if there have been any treatability tests done on deep vadose zone. She noted that the Hanford Site has the potential to be a treatability test site for deep vadose zone. She said this would help address and identify the science and technological needs concerning ground water deep vadose zone remediation. Shelley endorses Hanford becoming a test site and she asked that the Board work with Matt McCormick, DOE-RL, and the Executive Issues Committee on this topic.

Dr. Triay said Matt McCormick, DOE-RL, has been interested in developing a research center at Hanford and he has been exploring new technologies concerning deep vadose zone. Dr. Triay said this is essential for Hanford. She added that part of this work is being done because it is necessary; but this work also has the potential to become a national initiative and help develop new remediation technologies. Dr. Triay said in the near future she envisions a technology development group that includes both national and international expertise to study contamination in the deep vadose zone. Dr. Triay offered her support on the topic and committed to working collaboratively with both the Tank Waste Committee and the HAB with the goal of extracting ideas for DOE-Environmental Management (EM) topics.

Bob Suyama, Public-at-Large, asked what the process is for appointing new people to the Board because there have been a lot of new people nominated but they still have not been confirmed. Dr. Triay said she came to assist her staff at DOE-Headquarters (HQ) to streamline the process because she has heard a lot about this issue. She said the
process consists of assembling a package about each nominee, having each packet reviewed by the General Counsel to ensure the Federal Advisory Committee Act (FACA) process is observed, and then the chain of command reviews it once more and delivers their final decision.

Gerry Pollet, Heart of America NW (Regional Environmental/Citizen), thanked Dr. Triay for the extraordinary meeting with the Site Manager, Health, Safety, and Environmental Protection Committee (HSEP) and affected workers concerning beryllium disease. He said the investigation done on-site was a remarkable model of openness and thoroughness and how to build trust. Gerry thanked Dr. Triay for leading the discussion and assisting in the improvement of the Hanford Beryllium Program.

Gerry noted that the draft Tank Closure and Waste Management Environmental Impact Statement (TC&WM EIS) contains many flaws and inaccuracies that were found by stakeholders and members of the Board. The Board believes the draft TC&WM EIS should be pulled back so that the public can see a complete and accurate TC&WMEIS that includes alternatives and accurate outcomes of those alternatives. The Board firmly stated that they do not want off-site waste brought to Hanford; however, a preferred alternative included in the draft TC&WM EIS calls for adding 3 million cubic feet of off-site waste. Gerry said this decision is not consistent with the credibility and commitment of DOE.

Dr. Triay said the preferred alternative included in the draft TC&WM EIS states that DOE will not import off-site waste to Hanford. Dr. Triay said they carefully worked that preferred alternative in an effort to be responsive to the concerns expressed by the Board. She said what is included in the draft TC&WM EIS are not Record of Decisions (RODs) but merely preferred alternatives.

Dr. Triay said she appreciates the work of HSEP and the effort they put into protecting the health of the workers on-site. The group agreed they would like to see incentives and penalties built into each contract at Hanford for implementing safety rules and regulations. Dr. Triay reiterated that the Department is committed to making the safety of the workers a part of their core values and added that the contractors selected for work at Hanford need to share this same core value.

Larry Lockrem, Non-Union, Non-Management Employees (Hanford Workforce), thanked Dr. Triay and DOE for the work they have been doing, especially concerning the Long-Term Strategy and Short-Term Funding Goals. Larry said it is important to think about what will happen at Hanford once the ARRA funding has run out because Hanford is a major resource to, not only Washington, but to the nation.

Dr. Triay said DOE’s policy requires them to evaluate assets of sites that have been cleaned up and work with the communities to fulfill their vision and image of what they would like to do with the remediated site. DOE-EM funding is set aside for cleanup but it is also used to support facilitation of the community to fulfill their assets and move forward with their vision for the community. Dr. Triay said DOE is committed to working with all communities on footprint reduction.

Pam thanked Dr. Triay, Shirley, and the Tank Waste Committee (TWC) for the work they have done on the Waste Treatment Plant. It takes a lot of time to plan this but the process has been constructive.

John Price, Ecology, said he appreciates the work DOE-EM has done concerning the ARRA funding. Worker transition and the aging of the workforce are both important concerns so it is essential to focus on. Dr. Triay said Cindy Anderson and her staff have been developing ways to keep jobs at Hanford competitive and they are also looking into a transition plan.

Dennis Faulk, EPA, said he hopes to continue the cleanup momentum in the 2012 budget year.

Susan thanked Dr. Triay for her commitment to openness and transparency and for coming and answering the Board’s questions.

Dr. Triay thanked the Board for their work and added that she hopes to have more discussions like this in the future.
**Committee reports**

**Public Involvement and Communication Committee (PIC)**
Norma Jean said the PIC will hold two public meetings to discuss the TPA Change Package. Todd Martin will be facilitating. The first meeting will be held on June 23 in Portland, Oregon at Portland State University. The second will be held on June 24 in Seattle, Washington at the University Heights Community Center. The PIC will debrief the public meetings for the HAB in September. Norma Jean encouraged members to attend the meetings and provide their feedback to Steve Hudson, Hanford Watch of Oregon (Regional Environmental/Citizen).

The PIC will have two committee meetings in July and August to discuss:
- State of the Site meeting in October
- Strategic Plan
- Initial review of draft Community Relations Plan
- Development of an informal evening meeting to discuss a topic of interest which would take place during a HAB meeting when there is not an EIC meeting
- Synthesizing advice

**National Liaison**
Shelley informed the Board that she attended the Environmental Management Site-Specific Advisory Board (EM SSAB) Chairs meeting Oakridge, TN. The meeting was held to discuss transuranic (TRU) waste, mercury management, and high- and low-level waste. Shelley said Frank Marcinowski, DOE-EM, assured the group that DOE is continuing to manage waste in a safe, compliant and cost-friendly manner.

Bob Suyama said he also attended the EM SSAB meeting and he had the honor of participating as a Hanford representative on a stewardship panel. Bob said this was a major effort on the SSAB’s behalf to show how much focus they are giving to long-term stewardship. Bob said there were presentations about other sites around the county; how they are making decisions about cleanup, what is going well and what is not going well, etc. Susan announced that those presentations are available on the EM SSAB website; a link will be sent out to the Board.

Shelley discussed DOE Order 435.1 on radioactive waste management. Frank said the Order currently remains unchanged; the programmatic ROD is still valid and decisions are still being made under that. However, it has been decades since there have been any revisions to that ROD. Updates are planned to address multiple changes that have happened with EM and the programmatic world. To date, DOE has conducted complex wide reviews to assess waste management activities, reviewed DOE and National Nuclear Security Administration (NNSA) sites, and identified 69 best practices and 134 areas for improvement. They have also drafted a report and initiated workshops on Order 435.1.

In terms of low level waste management and mixed waste management, Shelley said the ARRA funding has made a large impact at Hanford and has increased the volumes of waste being removed.

Shelley added that the U.S. Nuclear Regulatory Council (NRC) is in charge of developing the rules about Waste Incidental to Reprocessing (WIR) and she encouraged the Board to pay attention to how Order 435.1 is being reworked to ensure that it does not impact cleanup efforts at Hanford.

Waste Control Specialist, a hazardous and radioactive waste processing and disposal company that operates a state permitted 1,338-acre treatment, storage and disposal facility in Texas, has an agreement with DOE concerning a federal cell that will be dedicated to mixed low-level and low-level waste in the EM arena. There is currently a Memorandum of Understanding (MOU) with the state of Texas. Shelley said they hope the site will open in 2011 and will be Resource Conservation and Recovery Act (RCRA) permitted.

Shelley said there has been continued use of on-site disposal at the large cleanup sites, such as Hanford, and optimizing operations of DOE’s waste facilities. At the Nevada test site, there is a low-level and mixed low-level
waste disposal facility that will be closing at the end of this year. DOE is looking at a new RCRA disposal site at that location that should be able to handle waste generated around the complex. Frank said there are many challenges concerning uncertainty about disposal capacity, problematic waste streams within the complex and finding disposition pathways for those.

Shelley said there are many private sector inquiries as to the possibility of sending private sector waste to federal facilities. She said there is a lot of pressure from the commercial sector looking for disposition paths.

Shelley said most of the forecast information is available on the Waste Information System (WIM). Shelley has a website that she will provide to the Board. Projections show that 4.7 metric tons of waste will be generated in the next 5 years. Most of that waste will be disposed on-site around the complex and DOE is still planning to use the Nevada test site as well as the commercial disposal site located in Texas.

Shelley said TRU waste disposition has had 11 years of safe operations. 66,680 metric meters of defense TRU waste has been disposed at WIPP with 8,432 shipments. Shelley said there have been more than 344 remote handled shipments of TRU waste that have been received at WIPP; shipments have come from sites all over the country.

Shelley said there is a TRUPACT 3 Container that is going through NRC certification. It would be able to handle larger containers of waste than existing transportation casks. DOE is hoping to get this through certification soon.

Shelley said, in terms of a high-level waste repository, the administration is terminating the option of developing a waste depository at Yucca Mountain. DOE established the Blue Ribbon Panel and will develop and execute a research and development program to address issues associated with long-term management and disposal of nuclear fuel. In Fiscal Year (FY) 2010, Yucca Mountain is being will be prepared for stewardship and remediation.

Shelley said DOE-EM will continue to safely retrieve, package, treat and store high-level and spent fuel. In 2011, DOE is requesting fully funded tank waste management and treatment activities across the complex.

Shelley said the Greater than Class C Low-Level Waste Disposal EIS is looking at deep geologic disposal at WIPP, enhancing surface trenches and analyzing approximately 12,000 cubic meters of waste requiring disposal. DOE is working with tribal nations to include their perspectives.

Shelley said the Mercury Management Project is moving forward. Texas is interested in housing that storage facility. Hopefully that will be the ultimate disposition site for mercury management.

Norma Jean asked Shelley if there was a discussion about TRU waste not being able to go to WIPP in the future because it is set to close in 2030. She also asked if Shelley could send her notes from the meeting out to the Board. Shelley said Frank did not specifically address this issue but did say they are planning to continue to send TRU waste to WIPP and they will be ramping up the number of shipments. Shelley agreed to send her notes.

Health, Safety and Environmental Protection Committee (HSEP)

Keith said HSEP has a meeting planned for June 15 to discuss how DOE is disseminating information about West Nile to workers on-site and what biological controls are being applied to prevent this. Keith said CH2M HILL Plateau Remediation Company (CHPRC) provided a presentation to the committee about West Nile, specifically about how to prevent it at Hanford.

Keith said concerning the Health Safety & Security (HSS) beryllium report, HSEP hopes to get a testimony from DOE about how they plan to proceed with implementing site plans about beryllium. Keith said the HSS report program is essential in making sure DOE’s plans are executed appropriately and that safety is enforced at their facilities.

Susan announced that the Beryllium Report is available in hard copy at the meeting and also on the Web. DOE will be sending it out via e-mail but if any members would like it in hard copy please contact Tammie Gilley, EnvironIssues.
Budget and Contracts Committee (BCC)
Gerry announced that the committee’s priorities for the coming year were set at the Leadership Retreat in April. Members also proposed a set of issues focused on the Lifecycle Cost and Schedule Report. The committee wants to ensure this major work and report is scoped with input from the Board. The committee also would like to review work over the next few years and determine whether work delays are justified.

Harold Heacock, TRIDEC (Local Business), announced that DOE held a budget workshop last week that was well attended. He said the Tri-Party agencies did a great job in putting on this workshop. In conjunction with the workshop, a BCC meeting was held afterwards to discuss what they heard during the workshop and from this discussion committee members developed a list of key advice points. Harold said BCC still has the same issue concerning the level of funding needed to meet all of the TPA milestones. He said the ARRA funding has helped the Tri-Party agencies move cleanup work at Hanford forward and has helped fund a number of very beneficial programs; however, the money is going to run out soon.

Gerry said BCC will be working with TWC to determine how much it costs to retrieve a tank from step A to step Z.

Gerry said the BCC also wants to work with HSEP to discuss the need for contracts incentivizing safety. He said a true breakthrough in the safety of the workers was made with the recent beryllium decision but the issue needs to be explored further.

River and Plateau Committee (RAP)
Pam said RAP has been busy. Their committee work included; analyzing and developing advice on the TPA Change Package, looking at the nonradioactive dangerous waste landfill (NRDWL) and its related closure plans, and discussing the 100-N Area and remedial investigation/feasibility study (RI/FS).

Pam said it was brought to the RAP’s attention that they were looking at an outdated version of the 100-N Area RI/FS Workplan so they will be looking at the correct document in June and will then make their suggestions to the 100-N Area RI/FS Workplan Advice. RAP will also be talking to EPA and Ecology about their comments on the draft TC&WM EIS.

Tank Waste Committee (TWC)
Dirk Dunning, Oregon Department of Energy (State of Oregon), said they have been focusing on a number of topics but the work DOE-ORP has been doing with the Waste Treatment Plant (WTP) has been a main topic of discussion. They have also been focusing on DOE Order 435.1, and the waste incidental to reprocessing (WIR). There is a strong need to work through policy issues to prepare for when the tanks are cleaned. Dirk added there needs to be regulatory requirements put in place to define when tanks are finally clean and who has the authority to change the classification of waste.

Dirk announced that the video on the pulse jet mixer is still being developed; the TWC will be discussing waste source contamination issues and their concerns with technology development in June and August; and they will also be looking at EPA and Ecology’s comments on the draft TC&WM EIS.

Executive Issues Committee (EIC)
Susan said the reason for the Board’s site tour cancellation was due to a lack of interest on account of the release of the beryllium report. She proposed the tour be moved to September. Susan will work with each committee’s leadership to ensure the site tour in September is worthwhile.

Susan announced that the 2011 Board meeting schedule was set during the leadership retreat and asked members to mark the dates in their calendars early to ensure full Board participation.
Advice on the Proposed Changes to the Tri-Party Agreement for Central Plateau Cleanup Work, and for Mixed Low-Level Waste and Transuranic Mixed Waste

Pam introduced the advice. She said Dale, Wade and Gerry were the main authors of this advice. She said it was challenging to get their arms around the changes listed in the proposed TPA but members of the RAP put a lot of time and thought into this topic.

Rob Davis, City of Pasco (Local Government), alerted the group that this advice is telling the Tri-Party agencies how to do their job and what they are allowed to do; which is not the Board’s role. Gerry said the advice is simply responding to the TPA Change Package. He noted that the Board is in a strange position because members are in a dual role of providing comments and advice to the Tri-Party agencies at the same time so it is a balancing act that the authors had to be aware of.

Dick said there is a lot of detail in the advice, which he likes, but he felt the advice should be less voluminous. He supports the TPA Change Packages program and is happy to see that a rational set of milestones and goals are in place.

Agency perspective

Matt McCormick, DOE-RL, thanked the Board and RAP for looking at and participating in discussions on the strategy; much of which is reflected in the TPA Change Package. This package is the beginning of the Central Plateau Cleanup Work and the start of the journey of future discussions and decisions. Matt felt that overall the advice was good but there were some regulatory nuances that he was not comfortable with. Matt said the Board needs to trust that regardless of RCRA or Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), the Tri-Party agencies will be following regulatory standards.

John Price, Ecology, said a cleanup plan for the Central Plateau has not yet been decided upon. He added that the Tri-Party agencies are smarter now than they were a year ago concerning what needs to be done to get the Central Plateau cleaned up. Originally there was one ROD and the Tri-Party agencies discovered that the TPA Change Package was too small. Then the TPA Change Package became too big. DOE received constructive feedback and today the Board can see a lot of different pieces to the cleanup plan for the Central Plateau. John said these revisions to the TPA Change Package is an attempt to fit somewhere in the middle so there is not one massive decision that is impossible to regulate or an overly detailed decision with too much detail that it risks not doing achieving a successful cleanup. The Tri-Party agencies have been good about implementing input from the Board and John said this is their best attempt to give the Board something they and the public can understand.

Dennis Faulk, EPA, asked the Board and the authors of the advice to be clearer about what they feel the Tri-Party agencies should not do.

Dennis also said neither EPA nor the State is giving up their statutory roles concerning the changes and asked the Board to trust them. The Board appreciated Dennis’ assurance but felt that restating their concerns does not hurt the advice.

Dennis asked that the first bullet in the Transuranic Elements Disposed of Prior to 1970 (Pre-70 TRU) be deleted from the advice. He said this bullet is misleading because Pre-70 TRU is included in the TPA Change Packages.

John said originally burial grounds were not going to separate milestones; however, there will be a workshop on this topic this summer and the Tri-Party agencies are hoping to have a discussion that will lead to the Board developing advice on burial grounds.

John asked the authors of the advice if being more aggressive on some milestones means moving them sooner. Dale answered that the intent was showing the Board’s concerns over looming deadlines, in particular the Waste Isolation Pilot Plant (WIPP) deadlines that need to be met. The Board would approve and encourages an aggressive removal schedule in order to meet these deadlines.
Discussion

Dale said this advice on the TPA Change Packages has gone through numerous revisions. Some of the information included has already been covered in previous Board advice and could be removed or edited down.

Dennis said the advice seems detailed with much focus on the process of Central Plateau cleanup. Some of the RCRA permits and coordination still needs to be ironed out, and some of the procedures being implemented are new and untested; the Board would like to remind the Tri-Party agencies to be careful and ensure that cleanup is being done the right way.

The Board suggested reworking the document to bulk up the background section, shorten the advice section, and make the document more clear and concise with language revisions.

Harold said there were too many issues mixed into one document. Harold recommended the advice be rewritten, with the policy issues in a separate section, or have the advice broken into a couple of pieces of advice that are more manageable. The group agreed that six policy recommendations under one piece of advice might be too many.

The Tri-Party agencies were not comfortable with the bullets that implied a more rigorous cleanup would be done under RCRA than CERCLA.

Jeff Luke, Non-Union, Non-Management Employees (Hanford Work Force), thanked Pam for asking for Dennis’ input on the advice. He noted that what this advice is getting at is public involvement. He was not comfortable with the Board advising the Tri-Party agencies on what authority should be in place for cleanup. He felt that saying whether the Board prefers RCRA or CERCLA and implying that one is better than the other is problematic.

Gerry said under the CERCLA process, the TPA changes do not address how TRU waste will be retrieved. He added that the advice is saying that there needs to be a parallel element in the TPA changes that the plutonium in pre-70 TRU needs to be removed. Gerry felt there was nothing wrong with addressing a specific piece of the TPA changes in this advice.

Dennis said he was fine with the advice making policy requests but he would like to see them be more high level and note that the DOE should change their baseline planning. He added that getting pre-70 TRU retrieval forecasted for WIPP is difficult. Dennis encouraged the Board to continue reiterating their thoughts on retrieval of pre-70 TRU because it is an important issue.

Jeff Luke asked if the group was misinformed on their assumption that if there is a vadose zone operating unit there would be goals and a schedule as well. Dennis said yes and no. They will be combined into one thought but the workplan will include schedule and characterization.

Jeff Luke said it sounds like there are no goals set for deep vadose zone. John said there will be more milestones concerning deep vadose zone in the future.

John suggested including a bullet that encourages DOE to coordinate their schedule with the WIPP schedule.

Dennis said he liked the fact that this advice is long because the TPA Change Package does cover a lot.

Pam asked if something is sent out to the issues managers from EPA can it also be sent to the Board and committees. Susan agreed to do this.

Dale said the TPA Change Package that came out was different than previous change packages. This package is concerned with CERCLA and RCRA and how each of the Tri-Party agencies can work together. Todd Martin, Citizens for a Clean Eastern Washington (Regional/Environmental Citizen), disclosed that he would be facilitating two meetings on this topic.

Todd said the main addition to the advice was the need for baselines to align with the WIPP schedule.

Pam asked if the Tri-Party agencies changed some CERCLA to RCRA past practice units and vice versa. John answered yes.
John said the past practice waste sites like the deep vadose zone sites around the tank farm will remain RCRA sites and have not been changed. All of the waste sites outside of the Central Plateau have been moved to EPA. Dennis said whether its CERCLA or RCRA, DOE does not have to put either one over the waste sites. However, this change package puts CERCLA jurisdiction over past RCRA sites and gives EPA control.

Dirk said in doing this change, the RCRA standards would fall into the CERCLA application. Gerry said there are corrective action plans and closure plans under RCRA that are lost under CERCLA.

Todd felt this statement was controversial and recommended removing it.

Jeff Luke asked if joint decisions are made between the Tri-Party agencies. Dennis said there will be a simultaneous ROD under CERCLA; in the end all three parties must agree on a cleanup decision. Dennis said there is a joint decision made and therefore the statement can be left in.

**Presentation on Deep Vadose Zone Research Center**

Matt McCormick, DOE-RL, provided a presentation to the Board on deep vadose zone that Dr. Triay referenced.

Matt said the challenge of deep vadose zone is that the Tri-Party agencies need to focus on fulfilling the TPA milestones. He said DOE is getting very serious about how to remedy this issue.

Matt said DOE is looking at deep vadose zone overarchingly. The goal is to prevent contamination from getting into the ground water.

Matt said predicting capabilities and developing a model are key to their strategy. Understanding flux is important because it is the speed at which the contaminants can enter the ground water.

Matt explained that DOE signed a Deep Vadose Zone Strategy in February of 2004. Currently there is testing going on that is focused on uranium and technetium. DOE-EM is helping develop new technologies to do this work.

He said all of this work feeds into a long range plan development of a research center. DOE hopes to launch the center in 2011. This research center will eventually help DOE provide deep vadose zone solutions to other sites around the complex.

**Discussion**

Maynard asked if the research center will be under DOE-HQ or the local offices. Matt said DOE is still determining this but it will likely be headed up by the field offices and managed by DOE- HQ. Matt said they are trying to reach out beyond DOE experience, both nationally and internationally, so they can bring in a broad perspective of deep vadose zone remedies. Matt announced a workshop to be scheduled during the summer that will go over project plans, areas of emphasis, cleanup alternatives, and current technologies; HAB members are invited to attend. The agenda will be sent out soon.

Emmett Moore, Washington State University (University), said there is a statement included in the draft TC&WM EIS that states DOE’s lack of understanding of deep vadose zone physics. He asked if DOE plans to negate this statement this summer. Matt answered yes; understanding the problems with deep vadose zone means understanding the types of contaminates, types of soils, geology, etc. Matt said DOE will be bringing in the DOE Office of Science to provide outside research, and chemical and geological understanding.

**Tri-Party Agency Update**

*DOE-RL*

Doug Shoop provided an update for DOE-RL. The following are excerpts from his presentation.

- Shrinking the Cleanup Footprint at Hanford
DOE has taken the site and divided it into smaller segments. Each segment has a corresponding date. Once the outer area is cleaned up it will reduce the cleanup area by 98%.

- **300 Area Cleanup Progress**
  - Demolished the 324 High Bay, 336 and 338 buildings
  - Removed ten hot cells from 327 building
  - Stabilizing hot cells from 327 and 324 buildings with grout before disposing in Environmental Restoration Disposal Facility (ERDF)

- **618-10 Burial Ground Cleanup Progress**
  - Completed nonintrusive characterization and sampling
  - Mock-up work underway for potential hazards
  - Anticipate trench work will begin in July, 2010

- **ERDF**
  - Truck drivers have logged 15 million miles transporting waste for disposal at ERDF – equivalent of more than 600 trips around the earth
  - Disposing average of 500, 25-ton-capacity containers a day
  - Continuing ERDF expansion with ARRA funding – increasing facility size by 50%
  - ERDF “cells” are 70 feet deep and when completed in 2011, will cover the equivalent of 52 football fields and capacity of 16.4 million tons of waste material

- **181-N Water Intake Facility Cleanup Progress**
  - Removed four, 3500 horsepower water pump engines
  - Guard tower and pump structures will be removed in June, 2010
  - Demolition to begin on the river structure when all equipment is removed

- **N Reactor Cleanup Progress**
  - Workers are finalizing the demolition to the core facilities before enclosure begins
  - Reactor and heat exchange facility are receiving steel framework for cocooning the reactor
  - Fuel storage building is being prepared for above-grade demolition near the Columbia River

- **Plutonium Finishing Plant Cleanup Progress**
  - 63 glove boxes removed

- **Waste and Fuels Management Cleanup Progress**
  - Repackaging drums of TRU waste at T Plant and preparing for shipment to WIPP
    - Repackaged 1,352 drums of TRU waste
    - Completed 37 TRUPACT-II shipments since resuming in March
    - Shipped 967 cubic meters of the planned 1,800 cubic meters of Mixed Low-Level Waste and Low-Level Waste for treatment and disposal
  - TRUPACT-II Shipments to Idaho will begin mid-to-late June

- **Soil and Groundwater Remediation Progress**
  - Drilled 171 wells to support expansion of soil chemical barrier to better contain strontium-90 plume in the 100-NR-2 Area
  - Following regulatory approval, next phase will begin injecting the chemical components of the mineral apatite into the wells
  - Characterization program collected 1,048 samples from 243 well locations
  - Awarded subcontract worth up to $50 million for constructing the 200 West pump-and-treat system

- **Decontamination and Decommissioning**
  - **North**
    - 212 –N, –P and –R buildings: completed demolition, backfilling and contouring
    - Demolished more than 29,000 square feet of radioactively contaminated building space over the last year
  - **Arid Lands Ecology (ALE) Reserve**
    - Finished demolition of lower ALE facilities and foundations
    - Began demolition on upper ALE
  - **100K**
    - Demolished the 183KW headhouse and lime feeder building
    - Began demolition of the 183KW filter basin

- **ARRA**
A lot of good work is happening at the site and DOE is working on a workforce transition plan to implement after 2011

- **Upcoming Events**
  - TPA M-15 and M-91 Proposed Change Packages
    - Comment period May 3 – June 30, 2010
    - Two public meetings
      - June 23rd – Portland State University
        Smith Memorial Student Union, Rooms 327 and 328, 1825 SW Broadway, Portland, OR
      - June 24th – University Heights Center, Room 209, 5031 University Way Northeast, Seattle, WA
  - Deep Vadose Zone Technical Exchange – July, 2010
  - Energy Park Initiative Community Forum – Fall, 2010
  - State of the Site Meetings – Fall, 2010

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**DOE-Office of River Protection (ORP)**

Steve Pfaff provided an update for DOE-ORP. The following are excerpts from his presentation.

- **Mobile Arm Retrieval System (MARS)**
  - This system is very beneficial in getting all waste out
  - Reinstall upgraded MARS at the Cold Test Facility (CTF) - August 2010
  - Complete performance testing with simulants - September 2010
  - Deliver MARS to Tank C-107 - December 2010
  - Prepare for installation in Tank C-107
    - Remove old C-107 equipment - August 2010
    - Cut hole/install riser - October 2010
    - Move another portable exhauster to C-107 - December 2010
    - MARS installation - November 2010 to March 2011
    - Use of a larger access pipe, or riser will help speed single-shell tank retrievals starting with C-107

- **Articulating Mast System (AMS)**
  - Intend to modify an existing robotic arm to pull obstruction from under the slurry pump in Tank C-104
    - Test the AMS in CTF - July/August 2010
    - Install AMS at C-104 - September 2010
    - Resume sluicing C-104 - November/December 2010

- **C Farm Stack Extension**
  - Part of the Chemical Vapor As Low As Reasonably Achievable program to reduce worker exposure to tank waste vapors
  - To be installed on two portable exhausters in C Farm prior to additional retrieval work
  - Extends up to 40 feet to allow for better mixing and diversion of vapors

- **Waste Treatment Plant:**
  - 54% Complete
  - Used lasers to position the shield door in the high level waste building

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**EPA**

Dennis Faulk announced that they sent out their comments on the draft TC&WM EIS to DOE and to the Board.

Dennis said he recently toured the site and was amazed at the progress that had been made at the N Reactor.

Dennis said EPA has had some discussions concerning pre-70 TRU; Emy Laija, EPA, will be presenting their finding to the Review Board.

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**Ecology**
Jane Hedges announced that Ecology has filled four Environmental Specialist positions and hired a secretary for the Waste Management section.

Jane said because of all the budget cuts, Ecology will be implementing 10 furlough days for the next year. She wanted to make the Board aware of this to avoid scheduling conflicts.

Jane said Ecology’s spill program has set up a great web site to track the oil spill in the Gulf of Mexico and other states have been linking to it.

Jane introduced Dieter Bohrmann. She said he will be the person that the HAB will interact with on behalf of the state.

Dieter announced that he has been working in his position for six weeks. He was previously an editor at the Tri-City Herald. He has ten years of broad overview experience concerning Hanford and he is working hard to get up to speed with the technical level of the Board. He said he was happy to be working with the Board, particularly concerning the public involvement process.

Discussion

Rob said concerning MARS, the Board has alerted the Tri-Party agencies about the fact that using garnet as a cutting agent would likely be unacceptable to the erosion of the WTP process. Rob said the Board has asked for a discussion on how to rationalize this issue and they are waiting to see a technical report addressing their concerns.

Steve said WRPS did a report on using garnet as a cutting agent and found that the impact is negligible and noted that Chris Burroughs, DOE/Sandia National Laboratories, is continuing to focus on this topic. Steve said he could not confirm yet but garnet is looking like the safest and best option for cutting open the tanks. There are other materials DOE could use but they do not work as well or they do not fit in with DOE’s timeframe. Steve assured Rob that he would send the report and the written information on this topic.

Bob Parks, City of Kennewick (Local Government), said a lot of progress has been made at Hanford over the last years but traffic on site and in the City of Richland is still a major issue. Matt said a traffic safety study was done and DOE looked at ways to alleviate site congestion. He said it is not something DOE can change but they are happy to work with the city help mitigate traffic. Laura suggested staggering the workforce to help alleviate traffic.

Laura asked if the rumors were true about potential buyouts with the transition plans. Doug said DOE-RL is working with DOE-HQ and buyouts are only speculative. He anticipated that he would know more in the next 6-12 months. He committed to brief the Board when he knew more.

Keith asked that the current population of Hanford was. Doug said about 11,000 to 13,000 people.

Executive Issues Committee

Susan reviewed the outcomes from this year’s leadership Retreat. She announced the upcoming HAB meeting dates. She said they were adopted at the retreat and members could provide their objections to any of the dates. Susan said the leadership team tries to keep meeting dates as stagnant as possible as it is difficult to re-schedule.

Susan said the leadership is made up of the Chair and the Vice Chair of each committee and the Board and the National Liaison position. She said the leadership team gets together every year to brainstorm ways to work better, to ensure the HAB is answering questions and issues provided by the Tri-Party agencies, and to develop the next year’s priority list. She said the retreat was pushed back to allow old and new members of the leadership team to participate and handoff responsibilities in a more formal matter.
Susan said at the retreat, the leadership team develops an initial list of Board priorities for the upcoming fiscal year. Then the Tri-Party agencies come to the retreat the next day to review the priorities, make suggestions, and if available, share their priorities. The priorities are broken down and assigned to a specific committee. Susan said this list will be finalized and adopted in September so she asked members for their feedback. Gerry said each committee (besides Committee of the Whole (COTW)) that has been assigned any) has been assigned approximately 5 or 6 priorities. He noted that priorities that did not make it on this initial list will be included in the work plan.

Pam complemented the Tri-Party agencies for being in the room and providing their input because it allows the Board to get on the right foot. Susan said EnviroIssues has drafted a matrix that identifies Board priorities and topics discussed within the past year as well as issues identified from the Tri-Party agencies. The Board will use this tool throughout the year each committee’s issues will be tracked and referred back to twice a year to ensure they are on the right track. This will also enable committees to see what other committees are working on. Susan said she expects the Tri-Party agencies to provide a formal letter to the Board identifying topics they would like the Board to address.

Bob said the leadership team took the self evaluation to determine areas of needed improvement. He added that the self evaluation was a great tool and it needs to be prioritized more highly.

Bob announced that Shelley Cimon and Maynard Plahuta have agreed to represent the HAB on the Evaluation Board. The Evaluation Board will decide on the upcoming facilitation contract. Cathy noted that she and Susan and were not in the room for these discussions.

**Advice on the Fiscal Year 2012 Budget**

Harold introduced the advice. He said the Board recognizes the progress that has been made at Hanford; this is largely due to the ARRA funding. The Board is concerned that if supplement funding is not available the progress will take a step backward. Harold said the Tri-Party agencies have not able to give comments on this issue, specifically on the 2012 budget. In this advice, the Board is asking DOE to request approximately 2.7 billion dollars and have the funds split between the two local offices. Harold said there is more work committed than there is available money. The Board is especially concerned that not enough money is focused on pre-70 TRU waste at Hanford.

Harold thanked DOE for their cooperation and the discussion debriefing about the FY 20102 cleanup priorities. He said it was helpful and they had great participation.

**Agency perspective**

Doug said it would be helpful if the Board provided DOE with their priorities list; similar to how Ecology did in their letter to DOE.

Dennis said he liked this piece of advice because it is to the point; he complemented BCC on this. The Tri-Party agencies asked the authors to also include funding requests for deep vadose zone funding because it was highlighted in the change package advice. The Tri-Party agencies thought it would be good to include it in this advice as well.

Steve said DOE-ORP tried to look at the site as a whole and what it takes to keep the cleanup going. At this time they do not have the answer to this. Steve said a lot of progress is being made but it is all contingent on funding and closing the funding gap. Steve said he felt they have the tools now to put together an integrated funding priorities list so they can be prepared for fluctuations in funding.

Steve was not clear on whether they could achieve stable funding. DOE is making sure that they are doing the best they can and being as efficient as possible with the current funding they do have.
Discussion

Dirk recommended being consistent with all digits and use the same rounding process.

The group agreed the language could be tightened up.

Susan asked why the notion of removing and treating waste to go to WIPP was included because that is already being done. Gerry said the advice is focusing on pre-'70 TRU waste. Susan suggested adding a bullet that specifically requests funding for deep vadose zone.

The group agreed to replace the word ‘treat’ with ‘treat (as necessary)’ because not all waste is treated once it has been excavated.

The group discussed the need to state that new technologies used must meet regulatory requirements. Jeff asked why the Board was concerned that DOE would choose a technology that did not meet regulatory requirements. DOE must have all technology permitted each agency needs to agree to its use. Dirk said the advice has to do with technology development not technology selection. He added that thebulk of the technologies being tested currently do not meet standards.

Susan suggested removing the regulatory wording; she said it does not change the toughness of the advice.

Dennis said the Tri-Party agencies are not currently able to define regulatory compliant because they do not know what that is yet. However, the Tri-Party agencies do need a safe and stable waste form that will meet requirements so Dennis felt the wording could stay in the advice.

The group agreed to remove the term ‘regulatory requirements’ and replace it with ‘safe and stable.’

Advice on the Buy Back Lists

Gerry introduced the advice. Gerry said the projects that were given ARRA funds were funded and scheduled at a conservative measure. Because there are projects that have been completed ahead of schedule and/or under budget, projects which may be accelerated from existing contract baselines and work scopes are added to a “buy-back list”. The Board is interested in how projects are added to the buy-back list. Gerry said the process for choosing projects that will receive leftover ARRA funds is supposed to be transparent but so far transparency has been lacking. DOE promised to provide the Board with the Project Operating Plans (POPs) that would include the proposed buy-back lists; however, the POPs did not include either the proposed list or cost and schedule information. Gerry said the lack of transparency limits the ability of the Board to provide advice.

Gerry said the Board would like to know how a project is placed on the buy-back list, what criteria are used to make these decisions and how are projects can be removed from the list. The Board is concerned that the regulators are able to nominate projects without the Board ever seeing the list or providing their input. Gerry felt that the Board’s involvement in this process could allow members to drive down long term costs.

The Board wanted to know if the criteria for choosing the second round of ARRA funds were the same as the first.

Agency Perspective

Doug answered that the first round funding criteria is still applicable but there are more criteria for the second and third rounds.

Doug said the extra money left over from a project is placed into a bucket that constitutes a similar project. These projects have a POP but the challenge is that DOE cannot move money from one bucket to another. It has to stay within the same project area. Doug said they are updating the POPs and the Board can provide input about what they feel is the most important project in a specific bucket. Doug said DOE will not start a new project until older initial projects are completed and done well. He added that contingency money is always set aside so it is important to know the risks of a project when setting aside budget.
Ron said it sounds like there is an opportunity for BCC to go through the list and provide their input. Ron said everything included on the list is compliance work that must be done at Hanford using all of the ARRA funds provided and in the allotted amount of time.

Discussion

Maynard said he felt this advice was not necessary. He said he trusts that the Tri-Party agencies will work with the HAB to make these decisions even without this advice. Doug agreed with Maynard. He said DOE would provide the Board with all POPs and assured that the process would be transparent.

Gerry said when faced with budgetary shortfalls, there is the potential to have issues with setting priorities. He felt it would be helpful for DOE if the Board helped formalize the transparency and ensure that they follow through with it.

Jeff Luke said if the Board always trusted the Tri-Party agencies than the advice they provide is a waste. He agreed with Gerry and felt the Board should formalize their requirements.

Pam said the Board has received public commitment from DOE that the process would be transparent; she suggested this issue moves forward in a letter instead of advice. She said the Board is lucky to have received the money and was confident that is going to a place where it is most needed.

The Board decided to continue with this advice in an effort to make the process more formal.

Dick asked what happens if a project costs more money than anticipated and if funding in two buckets could be combined.

Steve said 80% confidence is needed that the project will finish on time and on budget. The other 20% is the reason the contingency funding is set aside. Steve said they have to find specific projects inside each of the buckets that match the available funds; buckets cannot be combined.

The Board was concerned about whether funding estimates plan for safety issues or workforce fluctuations. Doug said the bare minimum is scope and the approximate cost.

The group agreed to add a bullet stating regulators should nominate projects.

Pam asked if the 80% confidence rule applies to picking projects for the buy-back list. Steve answered yes, that was his assumption.

The group agreed to add in that based on the success of the first round of ARRA funded projects, the Board expects this to be the case for the second and third round of projects.

The group agreed to refer to the stimulus funds as ARRA funding with ‘stimulus’ in parenthesis to keep language consistent. The Board wanted to include both terms because DOE prefers using ‘ARRA funding’ but the media uses ‘stimulus’.

Advice on the Tank Waste System Plan Revision 4 and Planning Assumptions for Revision 5

Ken Gasper introduced the advice. He said this has been an interim process over the years and there has been a lot of progression on revisions to the System Plan. Ken said it is time to review the revisions and plan for the next round of revisions.

Agency Perspective

Steve liked this advice because it was straight forward.
Dan McDonald, Ecology, said they agreed with the planning assumptions included in the advice. He said the System Plan Revision 5 does not reflect what will actually happen based on a letter from Dr. Triay. He said if things are not working Ecology will move to System Plan 6. Dan said because of these changes, the System Plans and the Lifecycle Cost and Schedule Report (Lifecycle Report) might not lineup.

**Discussion**

Jeff Luke thanked Ken for using the term ‘alternative’ in the advice because it provides context for the reader to understand it.

Pam thanked Ken and the TWC for reviewing system plans and finding opportunities for advice.

Rob said Ken did a great job on the advice and added that it is consistent with past advice. Rob asked Ken to include verification of assumption in the advice, include clarifications on how this can be done and calculate uncertainty.

Ken said he, Dirk and Harold are impressed with how far the process has come in trying to incorporate system planning in cost assessments. Ken complimented the regulators for this.

John thought the advice was good but asked for some language changes to make it clearer.

Dirk thanked the Tri-Party agencies for how far this planning process has come and added that the Tri-Party agencies have told them what to look at for System Plan 6, which is helpful.

Dan said he hopes Ecology and DOE can put together the Lifecycle Report in the near future but it will take time.

Dick said there are iterations of the Lifecycle Report being produced currently and he understands Dan’s concerns about how long this report will take. However, Ecology and DOE know approximately what those are so he suggested moving forward on incorporating this information into a System Plan early on.

Dan said even with the short coming they are not starting from scratch. It will take some time but technology development is at a place where they are more confident with their assumption.

**Waste Management Area C- Performance Assessment**

Vince Panesko, City of Richland (Local Government), provided a presentation on the Waste Management (WM) Area C- Performance Assessment (PA).

Vince discussed the TPA schedule for C-Tank Farm closure.

- 2019: Major milestone; when C-Tank Farm will be closed. This will be the first tank farm closed on-site.
- 2015: Regulatory approval; begin closure
- 2014: Empty tanks
- 2013: Begin regulatory review of closure plan
- 2011-2013: Finalize PA
- 2009-2010: Stakeholder input

Vince explained the differences between the EIS Assessment and the PA

- EIS defined by the National Environmental Policy Act (NEPA)
  - EIS examines alternatives for future actions
  - Dose to public is one of many considerations
  - ROD documents the preferred alternative
  - Must have a ROD issued before project can move forward
- PA defined by DOE Order 435.1
  - PA required for LLW waste disposal---iterative process
  - Predict dose to public over 1000 years.
  - Design containment to meet dose standards.
  - ROD does not have to be issued to move forward
Vince drew a diagram of the C-Farm tanks to explain why the tanks eventually overflowed into the vadose zone. He said at C-Farm, there are three tanks in a row that assist in catching overflow. However, the lines connecting the tanks together became clogged and the C-Farm was not built with a crib to catch the overflow. At times, 10 to 30 thousand gallons of unplanned overflow was released.

The tanks were designed and built in the 1940s and 1950s. In 1950, there was a need to recover uranium. Lines and pumps replaced the old lines. More diversion boxes and lines to pump waste were installed in these boxes. When there were unplanned leaks and contaminating would pool on the ground, the spills were simply covered with gravel.

Vince said when leak testing was done some of the lines did not hold up well.

Vince discussed some of the issues that were raised during the WMA-C workshops:
- C-Tank Farm issues to be faced by other tank farms.
- Remove tanks or leave in place?
- Remove 15 feet of soil and piping or leave in place?
- How deep do we excavate highly contaminated soil?
- Characterization versus estimating vadose zone inventory.
- Large uncertainty of vadose zone inventory.
- Design of cap over C-Farm; flow back under edges of cap.
- Uncertain flowpaths through vadose zone; lateral flow.
- Awaiting issuance of EIS ROD for major decisions.
- Is waste left in tanks high level or incidental to reprocessing?
- Is waste spilled on soil high level or incidental?

Martin Letourneau, DOE-EM, gave DOE’s perspectives on WMA C Performance Assessment Working Sessions. The following are excerpts from his presentation:

- History – How This Process Came to Be
    - Section Order 3116 gives Secretary authority to determine some wastes are not HLW
  - Signed by President December 2004
  - January 2005, DOE began preparing Order 3116 Waste Determination for Saltstone disposal facility at Savannah River Site
  - New relationship and roles between NRC and DOE
    - What is consultation?
    - Emphasis on transparency and public involvement
  - What does a Waste Determination look like?
    - Format and content
    - Legal Issues
  - DOE started with very aggressive schedule
    - Old performance assessment
    - Unresolved issues with General Counsel and NRC
    - Threw PA over the transom
  - Extensive public meetings to address Requests for Additional Information (RAIs)
    - Multiple rounds of RAIs
    - Very inefficient, frustrating
  - DOE General Counsel letter to NRC (July 2006)
    - The letter said NRC does not understand 435.1 and DOE would be taking over. For 4 months DOE and NRC did not speak. From this came a new understanding that technical staffs needed to dialogue with one another.
  - NRC and DOE management step back (Credit to South Carolina regulators)
    - Review and refine understanding of roles and responsibilities
- Define process to be more efficient
- Parties agree to coordinated technical exchanges
  - January 2007, DOE, NRC, SCDHEC, and EPA start scoping process for F Tank Farm performance assessment
  - F-Tank Farm PA submitted to NRC 14 months later
  - DOE received RAIs from NRC 4 months later
    - RAIs considered easy fixes
    - No new modeling or rewriting
  - Success – Most complicated PA, prepared in shortest time ever (18 months), with minimal HQ/NRC issues
  - DOE identifies scoping process / working sessions as a best management practice
  - Technology transfer initiated in November 2008 to transfer process to Hanford
  - Successfully (so far) implementing process for WMA C for over a year

- Notable Aspects of WMA C Working Sessions
  - 435.1 WIR, not 3116
  - NRC participation not required (but required)
  - Not just regulators – Tribes, State of Oregon, HAB all represented
  - Use of Features, Events, and Processes (FEPs) and scoping calculations to improve understanding of what is important

- Headquarters’ Perspectives
  - Process is successful:
    - A more technically defensible and robust Initial PA and subsequent iterations to the PA
    - A PA that more effectively addresses the wide range of regulatory and public concerns about system performance and related uncertainties
    - A final PA that is more readily and quickly accepted by the technical, regulatory, and stakeholder communities.
    - Martin explained a chart outlining the regulatory process; no regulatory process trumps another

- Conclusions
  - The Hanford regulatory and stakeholder community has generously participated in this process.
  - The process is working well (so far)
  - There are still many opportunities to fail

Jeff Lyon provided Ecology’s perspective on the WMA–C PA. The following are excerpts from his presentation:

- What The PA Is
  - The TPA requires that Ecology does one PA that:
  - The Tri-Party agencies “Develop and Maintain”
  - Evaluates whether Single-Shell Tank System Closure conditions will be protective
  - Meets ALL regulatory requirements and ARARs (applicable or relevant and appropriate requirements)
  - Has a larger scope than a risk assessment
  - Ecology and DOE approve to meet their authorities
  - Ecology includes it in the Closure Plan (public input invited)

- What the PA informs
  - WMA or Tank Farm Landfill/Cleanup decisions
    - What and how much to remove
    - What is important to the system closure design
  - Tank residual impacts and disposal options (USDOE-WIR determination - waste incidental to reprocessing)
  - Soil cleanup effectiveness and long-term impacts (RCRA Facility Investigations and Corrective Measures Studies [RFI/CMS])

- The PA Process
  - A series of workshops 2009 – 2011
Data packages and documentation assembled for each element of the PA Modeling
Goal of workshops is agreement on:
  ▪ Base assumptions
  ▪ Data used and ranges evaluated
  ▪ Special analysis (cases, sensitivities, alternate concepts)
Prepare parts of PA during this process

The PA Process Schedule
  ▪ 2012, develop a PA, first draft, and a Maintenance Plan
  ▪ 2013/14, RFI/CMS (with PA information) that defines corrective actions for Closure
  ▪ 2014, Retrieval completions (9)
  ▪ 2013-2015, take actions to close tanks and remediate soil
  ▪ 2015 (better be before 2014), agree to a Closure Plan for a Closure decision

Ecology Decision Process
  ▪ Soil Cleanup in the RFI/CMS
  ▪ Permit for Closure (Draft)
    ▪ State Environmental Policy Act (SEPA)
    ▪ Site-Wide Permit modification in the Closure Section
    ▪ Clean
    ▪ Landfill
    ▪ Risk
  ▪ TC & WM EIS fulfills our State Environmental Policy Act requirements

Timing of decisions
  ▪ 2019 close a tank farm – first one is easiest
  ▪ 10 years for the easiest one, and 6 other WMAs to go
  ▪ 12 farms and 7 WMAs
  ▪ We need to get more risk information and more field work data to improve our knowledge in these other farms
  ▪ We have to be in 2 or more farms simultaneously
  ▪ How much digging and how fast?
  ▪ Do we remove the 15 feet of soil or do we select ideal location and remove the highest contamination?
  ▪ As we wait, impacts continue to grow.
  ▪ How much data to reduce uncertainty and what decisions will that change?
  ▪ Retrieval – what is 99%; how long?
  ▪ How long and what is the basis to wait?
  ▪ How long will the tanks last?
  ▪ PA will inform these considerations too!
  ▪ The current approach:
    ▪ 2 years of field work - soil conditions
    ▪ 1 or 2 more years to get the RFI/CMS report
    ▪ Remediation of soil - finish work in 2 years
    ▪ Resolve Tank Residual issues (fill or not)
    ▪ Start and complete cover installation – 3 years 2+1+1+3 = 8 years & 2019-2010 = 9 years
  ▪ Ecology is optimistic they will meet these deadlines

Communication Plans
  ▪ Monthly Tank Farm Update Publications
    ▪ Current activities
  ▪ Tank Farm Retrieval Basics Publications
    ▪ specific topics relevant to the closure process
  ▪ TWC and HAB meetings
  ▪ Periodic Roundtable discussions - Hope to coordinate discussions about critical closure topics, or discuss Retrieval basics

PA and the EIS
  ▪ Permitting and ROD
  ▪ Alternatives
  ▪ Scenarios and cases
Discussion

Chris Kemp, DOE-ORP encouraged the Board to read the TPA Action Plan. Section 2.5 which describes what Ecology is doing with this PA and what they are using to integrate different recommendations. Chris thanked the Board and Vince for their involvement. He also thanked Ecology and Susan Eberlein for being open to the workshops, Todd for doing a great job facilitating the workshops, and Fred Mann for his encouragement at the start of this process.

Dennis said Chris and Jeff Lyon from the State have been asking EPA to engage more during this assessment and tank farm issue but they have not been able to because of staffing issues. Dennis said EPA now has someone designated who will help with integration of the program. DOE sent a letter a letter to EPA to be a cooperating agency on the draft TC&WM EIS but they are sorting out what this role means. Currently there is not the staff needed to engage at the level they would like, but they are examining the issues and looking forward to working on them.

Shelley announced that pumping at C-104 has stopped because of infrastructure problems. DOE is working to begin pumping again as soon as possible. This means identifying the real time use of that kind of information in the PA process instead of waiting until we are through FEPS process.

Shelley noted that last year there was a waste summit held in Las Vegas where NRC announced they will go through a new rule making process and these changes may affect DOE-EM cleanup down the road. Marty asked through the SSAB forum to come and make a presentation on this issue and they stated that the changes would not affect cleanup efforts.

Marty said DOE would like to update Order 3116. He noted that it would be great if there was one set of standards, the same standards that the NRC uses, that could be applied to low level waste cleanup. Marty said Frank Marcinowski and Glen Camper are scheduled to have a DOE public workshop with the NRC specifically on this issue. Both technical staffs working on how to integrate the two guidelines; the two Tri-Party agencies are getting close to having one set of standards.

Shelley said she and other Board members would like to participate in this integration dialogue.

Marty said they have begun dialoguing on the issue and have created teams to populate information. He said they will be reaching out to both advisory boards and intend to host workshops.

Gerry said HAB and other citizen groups have said RCRA and Washington State rules require characterizations of the billions of gallons of discharge in the soil and the other leaks. He said he wants the group to address how DOE plans to reach those requirements without the PA done or the proper technology. Gerry added that if compounds that have long half lives, such as chromium and uranium, are not addressed, certain stakeholder groups will most likely go to court.

Jeff Lyon said concerning characterization of waste, DOE performed a RCRA assessment of specific leaks of tanks. This was phase one of the assessment. The second phase is a written report by WMAC that develops a workplan for sampling and assessment that will be done by Ecology. Jeff added that Ecology will do a corrective measure study and put it to use in 2013. The PA DOE is working on is developing complex models; DOE has an elaborate process to analyze the leaks. The process is collaborative; many people worked together to analyze records and figure out if current estimates are reasonable. By doing this, it will ensure that estimates used in the PA process are accurate. Jeff said they have invited HAB members to participate in this process.
Marty said the PA is not a one off analysis but a living document. DOE intends to incorporate all new information as it is discovered. Being able to put the model together ahead of time lets DOE see what is important and shows where to focus characterization efforts. In some cases, the findings show that DOE needs to go beyond the cleanup effort they had original thought, which is incredibly important. Marty said DOE has a maintenance plan to help further identify and define what needs to be incorporated in the document. 435.1 does require DOE to look at compounds that go beyond the 10,000 year half life because some things move more slowly in the soil column.

Al Boldt asked if the Hanford schedules on activities of C-Farm closure have an activity bar or line specific to WIR activities. Marty replied that yes, DOE does have WIR as part of the baseline schedule for C-Farm. There is also a milestone in the proposed package that is out for public comment. One of the four items is for DOE to communicate their WIR process for WMAC.

Rob asked if the uncertainties in the assumptions were included and if the assumptions change in the future does it change the PA.

Jeff Lyon said he did not remember. The MARS technology is not developed yet and the potential of the technology is not yet understood. The level of effort DOE is putting into MARS technology does have the potential to change the process.

The group asked if the PA refers to C Farm only and if waste from the cribs and ponds that falls outside of C-Farm are addressed in the PA. The Tri-Party agencies said DOE will make that determination but they need to have composite analyses done first; there will be two studies done and cribs and tanks will be included.

**Waste Incidental to Reprocessing (WIR)**

Pam thanked Vince, Marty and Jeff for their presentations.

Pam said she met with Dr. Triay’s staff 14 months ago and the question was raised about what will happen with Hanford concerning Order 3116. From this meeting, Pam learned that there has to be legal coverage or the federal government will be sued if TPA guidelines are not followed.

Pam said Marty is very committed to state rights and public involvement and he is willing to work with the Board. He will be talking about WIR and the proposed federal legislation to ban Order 3116. In addition, Marty will cover the differences between the two processes and how they relate to the TPA and the PA concerning tanks.

Martin Letourneau, DOE-EM, provided the Board with a presentation about WIR vs. National Defense Authorization Act for Fiscal Year 2005 Section 3116 and Hanford Tank Closures. The following are excerpts from his presentation.

- Nuclear Waste Policy Act of 1982 – What it says, what it does not
  - Federal government is responsible for evaluating / providing permanent disposal of high-level radioactive waste (HLW) and spent nuclear fuel
  - Subsequent lawsuits assert all HLW must go to repository
  - NWPA definition of HLW is ambiguous
    - What is highly radioactive?
    - What are sufficient concentrations?
- NWPA Definition of HLW
  - The definition of HLW tries to separate the HLW into high and low level factions, but there is no terminology for low level faction so it has to be called HLW. Anything that is a fission product meets the definition of HLW even if it is not handled as HLW.
    - (A) The highly radioactive material resulting from the reprocessing of spent nuclear fuel, including liquid waste produced directly in reprocessing and any solid material derived from such liquid waste that contains fission products in sufficient concentrations; and
    - (B) Other highly radioactive material that the [Nuclear Regulatory] Commission, consistent with existing law, determines by rule requires permanent isolation.”
• DOE Order 435.1, Radioactive Waste Management
  o DOE felt the need to develop a process to legitimize that some waste will meet the HLW definition but does not need be managed as such
  o Issued July 9, 1999
  o Identified WIR Process
    ▪ Citation
    ▪ Evaluation
  o Based on previous EISs, NRC denial of petition for rulemaking (March 1993)
    ▪ Same criteria as denial of petition for rulemaking
  o Includes additional requirements for closure of tanks and other facilities that have contacted HLW
    ▪ Performance Assessment, Composite Analysis, closure plans, monitoring plan, maintenance plan
• NRDC et al lawsuit
  o Asserted violation of NWPA
  o 9th Circuit Court said “No”
  o Remanded to Idaho District Court
  o District Court says “Yes”, but…
    ▪ Not “ripe” for decision-making
  o DOE management sought legislative solution
• NDAA Section 3116
  o Section (a) – General Criteria and DOE Responsibilities up to and including waste determination
  o Section (b) – NRC Monitoring Responsibilities
  o Section (c) – Inapplicability to Certain Materials
    ▪ Only applies to waste disposed within State
  o Section (d) – Covered States
    ▪ South Carolina and Idaho
  o Section (e) – Construction
    ▪ Does not alter any other laws, regulations, or agreements
  o Section (f) – Judicial Review
• Conclusions
  o Either 435.1 WIR or 3116 Waste Determination required for HLW-origin residual being left behind
  o 3116 only replaces WIR – all other 435.1 requirements still apply
  o 435.1 WIR not “tested” yet
    ▪ A WIR on WMA C will make it “ripe” for lawsuit
  o 3116 preserves role for state
    ▪ State issued permit or closure plan
  o 3116 ensures NRC involvement through consultation and monitoring
    ▪ Monitoring executed in coordination with State

Suzanne Dahl, Ecology, next presented Ecology’s viewpoints on Order 435.1 and Order 3116. She said HLW as it is, is supposed to go to a deep geologic repository. However, some of that waste needs to go through WIR if landfill disposing is in the near surface. Suzanne said this set of criteria came from the State of Oregon’s and Washington’s request. NRC and DOE consulted and filled in criteria to build a technical basis document focused on removal technologies and what each technology entails. Suzanne explained that they discovered a realistic idea of what waste they could remove. This helped identify the need for the pretreatment facility and the low-activity waste facility. In the technical base document, DOE assumed the waste form was glass, which they would be able to get waste to significantly below waste class C and then it would be disposed at an Integrated Disposal Facility. They went through a PA process and proposed this to NRC. NRC agreed because the criteria were met and the environment was protected. This happened before the order existed and Hanford was ahead of many other complexes. Since the 1990s, Appendix H and M-45 milestones have been required that the maximum contamination be removed and if levels cannot be met, there needs to be consultation with NRC.
Suzanne said Ecology liked 435.1 but they did not like that DOE was able to make these decisions. However, Ecology already had the WIR written for immobilized low activity glass and they were building a vitrification plant to those criteria based on information in Appendix H. She said Ecology has things in place already that require NRC involvement but the NRDC lawsuit was filed. At the same time, a lawsuit was filed against DOE for the movement to leave about 30 tanks full of waste on-site. Ecology entered as a friend of the court because they were neutral in the discussion. Ecology like some items included in 435.1 because they prefer the criteria process and it also allowed them to achieve success on LAW. However, Ecology did not like that DOE was the sole boss, especially concerning the plans to leave 30 tanks in the ground.

Suzanne said the Order 3116 process came up and Ecology was asked if they wanted to be a part of it. However, Suzanne remarked that making regulations in a funding bill is not the best way to make a law and the Order 3116 process raised concerns for many people. Ecology also felt Order 3116 was an unknown process and there might be something better available. Suzanne also noted Ecology was concerned about how much contamination would be retrieved out of the tanks and what the pretreatment would look like for treating the waste. Ecology also felt that if tank farms were going to be closed, there needs to be an open and transparent process that involves stakeholder, regulators, etc., it needs to be protective of the environment, and include Ecology's role in the TPA.

From Ecology’s perspective, DOE has options to revert back to their nuclear waste policy authority, use the Order 435.1 process and modify it (which is what they decided to do and Ecology accepted) or Ecology could look at Order 3116 and modify it for Washington. Suzanne said she and Marty are working to identify certain items the State needs in order to be happy with Order 3116. Suzanne said they are not heading in that direction but Ecology wants to provide state and federal lawmakers with all the information available. Currently, there is not a definite decision, information is being put together and the dialogue is beginning.

Susan asked if in the WIR process there is somewhere the Board has an opportunity for participation. Marty said there was not in either process but he said there is a need to ensure an avenue for input is provided.

Marty said when he looks at this framework the only flaw he finds in the TPA is that it does not include something about low-level waste. If it did, there would be no need for the WIR or the 3116 process.

Marty said if he had to choose between the two decision processes, he would pick Order 3116. He thinks it is a better process because it requires more public and regulator involvement.

Nishka Devasar, NRC, asked that with the 435.1 updates coming up in the next year or so , will there be any changes in terms of state or NRC involvement. Marty said yes. He expects their general counsel will replace wording in 435.1 and replace it with wording from Order 3116. However, the question is if DOE can legally, through a DOE order, invoke mandatory NRC involvement, state participation or administrative procedures judicial review. Marty said he believes there are limitations to adopt the 3116 legislation.

Al said Order 435.1 Revision 99 does not apply at Hanford because the court said it is not valid. They went to Congress to give DOE authority to reclassify waste. Order 3116 applies to Idaho and South Carolina. Al said Hanford would not be able to proceed without legislative resolution. He suggested rescinding the July 9, 1999 revision for Hanford and operate under the regulations prior to that because a WIR decision had been successful with NRC prior to the July 9 revision that ended up in court.

Al had an issue with both Order 435.1 and Order 3116 because they both lead to and allow for less stringent requirements concerning waste Greater than Class C. As long as the ROD meets the Performance Assessment, the NRC will approve it. They do not look at community involvement or cesium removal. In addition, both Order 435.1 and Order 3116 remove NRC from the earliest decision process.

Gerry asked why the Board was discussing this controversial topic if there is supposedly no difference between Orders 435.1 and 3116. Gerry asked if DOE was allowed to reduce activity by blending under both Orders 435.1 and 3116, and if blending would meet NRC and State requirements.

Marty answered that Order 435.1 is in effect. The end of the lawsuit was a stalemate. Marty said the reason why DOE is addressing these issues is because the waste is still technically high-level waste; however, in order for DOE to move forward and to protect themselves from being sued, they must show that residual waste being left behind is
not high-level waste. Currently, the only way to do this is by using Orders 435.1 or 3116. DOE fully believes that if the Order 435.1 process is used at Hanford and a WIR is done, they will have met the “ripeness test;” however, this does not eliminate the potential for being under the Order 435.1 authority. Marty’s concerns with being sued are that it would slow down their schedule for cleaning up and closing the tanks, and it could potentially limit them from meeting their 2015 and 2019 milestones. In terms of blending, Marty did know the answer to that question.

Suzanne said the reason the process is being reconsidered is because Ecology has seen the process work successfully in other states. They are aware that other states regulate very differently; however, currently there is a process going in Order 435.1 on the C Farm PA because people at a higher level have told them to do it this way. If those people could change, Ecology would go back to not having all of the involvement. Ecology would still have their regulatory authority but it would not be an open and transparent process, nor would there be the required NRC involvement. This is why Ecology is looking to change.

Suzanne said blending is a complex issue and raises tough questions. It depends on a variety of things; if the waste is at the bottom of the tanks, if the waste is in a glass form. Some blending is not purposeful blending to avoid certain regulations; it is simply for the sake of making better glass and a better waste form. She said Ecology’s concern is how far to allow DOE to consider blending. This was the issue coming up under Order 435.1.

Dick asked how hoses and lines that have come in contact with high-level waste are transported once they are retired because technically they are categorized as high-level waste. Marty said because of the decontamination process equipment goes through, they can be managed as low-level waste. DOE has an established set of procedures to follow for equipment to go to the low-level waste burial ground or to ERDF.

Suzanne said the established procedures are also the requirements needed to meet land disposal restrictions. In order to dispose of the equipment to go to a low-level waste landfill it must be washed and cleaned as much as possible.

Pam asked what NRC’s perspective is concerning the best process for protecting the American people. Nishka said NRC favors Order 3116 because under that process, NRC has a mandatory role. This role serves as a form of checks and balances and requires congressional oversight, whereas Order 435.1 does not.

John asked about the international classification system that is used and the likelihood that the U.S. would converge with it. Marty answered that there are people at NRC and DOE that are familiar with international classification systems and are interested in seeing the U.S. move into it. However, the chance of this happening is low. Marty said there are people trying to get it on the table for discussion but there is a lot of resistance to change, especially in the commercial sector. Academically there a lot of advantageous reasons to move in this direction but there are practical reasons why this would be difficult.

Norma Jean asked what classifies waste as Class C. Marty said NRC developed the classification system back in the 1980s. They wrote an EIS and made the assumption that someone might want to build a home on a nuclear waste landfill. They looked at different concentrations of radionuclides in that landfill that the homeowner would be exposed to. From this they identified a suite of radionuclides based on half-life and toxicity. Different concentrations of waste and level of exposure were identified by class. The classification system was based on the intruder scenario type of analysis. The purpose of the classification system was to make things easier for the generators to classify their waste and determine what the appropriate disposal facility would be.

Todd discussed the idea of alternate perspectives. He commented that while technical decision making processes are “open” to involvement, HAB members do not have much time on the agenda and those with the inside track are far more influential in the process. He noted that Dirk was able to work with one of the regulatory agencies concerning the black box models. The regulator said he would work Dirk to meet his needs and he was very honest that it would not be perfect. This is a prime example of how there is space for legitimate alternative perspective. Board members are sharing their expertise and ultimately influence choices the regulators are making. Todd praised the contractors for their openness for accepting guidance and added that this process will hopefully impact the outcome of the PA in a way that is acceptable. Todd said this process is interesting but it really is getting it right.

Marty agreed that this process works well. He felt the process is successful because of the committed people involved. Marty said a different group of people and a different management directive might not have the same
success. Marty said as a student of public policy, one of his goals is to try to put in place the structures that ensure the process gets done this way.

Al said eventually the Board should offer advice on Order 3116 because it opens up the state for Greater than Class C waste disposal. He also thought the Board may want to weigh in on the C Farm closure and the WIR determination because of the chance that DOE could be sued under the Order 435.1 Revision. Al thought this could ruin the schedule and hinder cleanup efforts on-site.

Susan said the Board does not lobby congress; advice goes only to the Tri-Party agencies.

Pam said this was a great discussion. The state has the opportunity to propose something that is different than 3116 that works for Washington which she believes to be a good, proactive approach.

**Public Comment**

Craig E. Hall said there are 36 workers affected by beryllium. This only accounts for those who have been compensated. There are many more workers out there that have been accounted for. Craig thanked the HAB for helping to push the improvements to the beryllium program. Craig said a beryllium report has not been done since 2000. There has not been anything done to help people that have been affected by beryllium and tax payer money that is set aside to help these people has been wasted.

Craig said there are more than 650 workers that have been exposed to asbestos. Craig was concerned that this report, like the last, might not help protect the workers’ safety on-site.

Craig thanked Keith, Gerry, Mike and Susan for the great work they have done to help those that are sick.

Keith said he received a commitment from DOE that they will present at every HSEP meeting to report what they are doing concerning worker safety.

Gerry said this board has put in a lot of effort in beryllium. He thanked Mike and Keith for their work; they are indebted to Craig because, despite being very ill, he has devoted his life to making sure other workers at Hanford are protected. Gerry encouraged Board members to look at the beryllium report. He said it makes clear that the management of the program were aware of the violations and did not actively respond. Gerry said it is important for the committee that created the last plan to create an implementation plan because there is a conflict of interest with the current authority. Gerry said there needs to be a different authority responsible, possible someone from DOE-HQ that is independent. Gerry said if this did not happen in two months the Board would write advice.

Laura said she appreciates the effort of the HAB and HSEP for trying to ensure safety for the workforce also for also bringing to light these issues. DOE has dropped the ball on training requirements and those needs to be tightened up. She noted that other safety programs should also be looked at to ensure they are as conservative as they used to be.

**Board business**

It was announced that Washington’s Attorney General’s Senior Counsel, Andy Fitz, was in Las Vegas presenting Washington’s arguments in the Yucca Mountain licensing proceeding before the Nuclear Regulatory Commission (NRC), opposing the move by the federal Department of Energy (DOE) to withdraw its license application for the Yucca Mountain radioactive waste repository. Washington State is pursuing legal action in Washington, D.C. Court of Appeals. The process is moving rapidly; a hearing schedule for September will determine when the oral arguments will be heard concerning Yucca Mountain.

Susan announced that student interns from the Washington River Protection Solutions (WRPS) were present at the Board meeting. She said it was good to see young people participating at Hanford. It takes time and dedication to cleanup sites like Hanford and it will take many more decades to achieve a successful cleanup. Susan offered the younger attendees a tutorial about Hanford and added that a Deputy Designated Federal Officer (DDFO) would be there as it is a requirement for a DDFO to be in attendance of such meetings.
Susan announced that the September Board meeting will be held September 9 and 10 at the Red Lion in Seattle. Susan reviewed the September HAB meeting topics:

- Tri-Party agencies will give their more detailed yearly update
- Board members will review and adopt their Fiscal Year 2011 priorities
- EnviroIssues will work with DOE on updating the Hanford website and provide a tutorial at the next Board meeting
- CERCLA Five Year Review update
- 100-N Feasibility Study Advice from RAP

Susan announced that the site tour will likely be during committee week in September. Susan encouraged members to suggest places of interest so she can work with Paula on organizing the tour.

Cathy announced committee calls are schedule for next week. She said committee week is schedule for June 15.

July committee week was moved because of the July 4th holiday.

Keith complimented Cathy for doing a great job being the lead facilitator at the Board meeting and for Hillary doing a great job facilitating her first Board meeting.

Maynard encouraged RAP members to attend the HSEP meeting because there is a lot of topic overlap. Pam added that the Transportation Director for Richland will present at the HSEP meeting.

Betty complimented GoToMeeting; it is great and works well.
### Attendees

**HAB MEMBERS AND ALTERNATES**

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<thead>
<tr>
<th>Name</th>
<th>Role</th>
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<tr>
<td>Al Boldt, Member</td>
<td>Member</td>
<td>Mike Korenko, Alternate</td>
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<td>Robert Davis, Member</td>
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<td>Emmett Moore, Alternate</td>
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<td>Norma Jean Germond, Member</td>
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<td>Harold Heacock, Member</td>
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<td>Becky Holland, Member</td>
<td>Member</td>
<td>Dick Smith, Alternate</td>
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<tr>
<td>Pam Larsen, Member</td>
<td>Member</td>
<td>John Stanfill, Alternate</td>
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<td>Susan Leckband, Member</td>
<td>Member</td>
<td>Betty Tabbutt, Alternate (phone)</td>
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<td>Jeff Luke, Member</td>
<td>Member</td>
<td>Art Tackett, Alternate</td>
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<td>Todd Martin, Member</td>
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<td>Vince Panesko, Member</td>
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<td>Ken Niles, Member</td>
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<td>Steve White, Alternate</td>
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<td>Bob Parks, Member</td>
<td>Member</td>
<td>Kenneth Gasper, Alternate</td>
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<td>Maynard Plahuta, Member</td>
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<td>Laura Hanses, Alternate</td>
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### AGENCY, CONTRACTOR, AND SUPPORT STAFF

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<thead>
<tr>
<th>Name</th>
<th>Role</th>
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<tbody>
<tr>
<td>Dave Brockman, DOE-RL</td>
<td>Dieter Bohrmann, Ecology</td>
<td>Dale McKenney, CHPRC</td>
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<td>Paula Call, DOE-RL</td>
<td>Rick Bond, Ecology</td>
<td>Moses Jaraysi, CHPRC</td>
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<td>Matt McCormick, DOE-RL</td>
<td>Madeleine Brown, Ecology</td>
<td>Mark Jewett, CHPRC</td>
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<td>Chris Kemp, DOE-ORP</td>
<td>Suzanne Dahl, Ecology</td>
<td>Sonya Johnson, CHPRC</td>
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<td>Ron Knoll – DOE-ORP</td>
<td>Jeff Lyon, Ecology</td>
<td>Julie Atwood, MSA</td>
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<td>Lori Gamache, DOE-ORP</td>
<td>Dan McDonald, Ecology</td>
<td>Sharon Braswell, MSA</td>
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<td>Shirley Olinger, DOE-ORP</td>
<td>John Price, Ecology</td>
<td>Dru Butler, MSA</td>
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<td>Steve Pfaff, DOE-ORP</td>
<td>Ron Skinnarland, Ecology</td>
<td>Chelsey Funis, Envirolissues</td>
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<td>Martin Letourneau, DOE-EM</td>
<td>Dennis Faulk, EPA</td>
<td>Hillary Johnson, Envirolissues</td>
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<td>Inés Truy, DOE-EM</td>
<td>Emy Laija, EPA</td>
<td>Cathy McCague, Envirolissues</td>
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<td>Nishka Devaser, NRC (phone)</td>
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### MEMBERS OF THE PUBLIC

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<tr>
<th>Name</th>
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<tr>
<td>Peter Bengtson, Washington Closure</td>
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<tr>
<td>Kayle Boomer</td>
<td>Suzanne Heaston, Bechtel</td>
<td>Charles Montgomery, Pasco, WA (URS)</td>
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<tr>
<td>Jane Campbell</td>
<td>Michele Gerber, WRPS</td>
<td>Janice Parthree, PNNL</td>
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<tr>
<td>Annette Cary, Tri-City Herald</td>
<td>Ellwood Glossbrenner (WSU)</td>
<td>Mike Priddy, NPOH</td>
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<td>Michael Connelly, WRPS</td>
<td>N. Kintner-Meyer</td>
<td>Julie Robertson, WRPS</td>
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<td>Jeff Dennison</td>
<td>Natalie Kirch</td>
<td>Erik Shalman</td>
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<td>Susan Eberlein, WRPS</td>
<td>Murray Kuhas, Richland, WA</td>
<td>Jean Vanni</td>
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