

**FINAL MEETING SUMMARY**

**HANFORD ADVISORY BOARD  
RIVER AND PLATEAU COMMITTEE**

*May 8, 2012  
Richland, WA*

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

**Opening**

Pam Larsen, River and Plateau Committee (RAP) chair, welcomed the committee and introductions were made. The committee tentatively adopted the April meeting summary while recognizing some people may need further time for review. If major revisions are suggested, RAP will discuss the summary again at the June meeting.

Pam said the Hanford Communities has completed the Site-Wide Permit television program. This program is currently airing on several different networks in the Tri-Cities.

**Draft Advice – 300 Area Remedial Investigation/Feasibility Study and Proposed Plan**\*

\* Please see Attachment 1 – Transcribed Flip Chart Notes for key points/follow up actions recorded during the committee discussion.

Dale Engstrom, RAP Vice-chair and Issue Manager (IM) for the 300 Area Remedial Investigation/Feasibility Study (RI/FS) and Proposed Plan (PP), described the advice development process to date. He said the advice was re-written with additional comments from RAP incorporated. Dale reminded the committee of several Hanford Advisory Board (Board or HAB) values that could pertain to the 300 Area RI/FS and PP advice.

Dale said the 300 Area involves a uranium plume that is assumed to come from laboratory liquid disposal north of Richland. The interim record of decision (IROD) included Monitored Natural Attenuation (MNA) as a way to address the uranium. The current approach now includes a proposal to use polyphosphate injections to form autunite, which will immobilize the uranium, preventing movement into the groundwater. Polyphosphate injections would be concentrated in the periodically rewetted zone where the majority of the uranium is located. Lab tests have demonstrated that phosphate does form autunite when coming into contact with uranium, although the process is somewhat slow. Dale said the sequestration technology has not been proven to be successful. The process has not gone through a treatability test process and has not been scientifically demonstrated to work sufficiently. As it is written now, the PP states that the U.S. Department of Energy (DOE) will attempt uranium sequestration in the periodically rewetted zone. If sequestration is not successful, DOE has stated they will return to an MNA approach instead of reinvestigating other potential approaches to address uranium. Dale said Larry Gadbois, U.S. Environmental Protection Agency (EPA), supplied a draft paragraph to RAP that he was proposing for inclusion in the PP stating that if the sequestration approach was not successful, DOE should complete another FS to re-examine other alternatives.

Dale reviewed some of the major points of disagreement identified during the HAB's advice review process. One point of disagreement is the Board's support of remove, treat, dispose (RTD) for uranium hotspots versus the Board not wanting to use RTD in the periodically rewetted zone, which is where the hotspots are. The other point of disagreement is on whether it is too early to call this document a final ROD. Many Board members believe it should be called an interim measure.

Another point of disagreement is that many Board members question why final RODs are being written when many of the Comprehensive Environmental Response and Liability Act (CERCLA) documents have not been completed.

Dale said one RAP member stated there is a Washington State policy about phosphate applications, especially in large doses. This person is concerned that the large quantity polyphosphate injections would violate that policy. There have been conflicting statements as to whether or not this is true, and/or whether there is a state policy addressing phosphates. RAP decided to exclude this advice point unless documentation backing up the claim could be provided.

#### *Agency perspectives*

Mike Thompson, DOE-Richland Operations Office (RL), clarified that the primary objective of the initial test was to form calcium phosphate or apatite, which is the same mineral being used in 100 N. Due to the high velocity of the groundwater in the 300 Area, the calcium and phosphate in the primary injection did

not work very well except near the edges. However, the groundwater concentration of uranium decreased dramatically wherever phosphate was injected. The decreased levels of uranium indicated that the uranium and phosphate were interacting to form autunite. The formation of the apatite did not yield favorable results, but the injection of phosphate was successful. Based on these results, DOE refocused their objectives to sequester uranium by forming autunite. Mike added that the test occurred in the saturated zone and not in the periodically re-wetted zone.

Mike suggested the Board consider their values when developing the advice. He said the Board has developed a list of values that are noble, defensible and the right thing to do. However, some values conflict with each other (Do no harm vs. RTD) in this advice. If the uranium is excavated, more of that uranium will be released to the Columbia River than if no additional action is taken. Mike estimated that there would be an additional billion dollar cost for a complete RTD approach.

Brenda Jentzen, Washington State Department of Ecology (Ecology), said Ecology has written a response, but it has not been released yet.

### *Committee Questions and Response*

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

The committee reviewed the draft document on-screen using GoToMeeting (Attachment 2). Susan Hayman, EnviroIssues, said most edits received on the draft advice (Round 2, v.1) were for readability or to clarify issues. There were also some suggestions for reorganization (Attachment 2). Additional changes included further reordering of paragraphs and edits to the wording.

C: The draft document is very vague, particularly on the institutional controls (ICs) that will be applied. EPA has also commented on how vague the document is. It should be expanded much further before the agency is comfortable signing it. The committee suggested including this concern as an advice point.

*R: DOE said the redraft of the PP will recommend very specific ICs, which will be incorporated into the CERCLA decision.*

C: Alternative 3 might be a reasonable alternative if the sequestration technology is demonstrated to be successful. The language should reflect that the Board is not necessarily opposed to Alternative 3.

C: Previous Board advice always advocates for RTD whenever possible, especially along the Columbia River. Alternative 3 involves leaving the remaining uranium in place; there will be no additional treatment considered if the sequestration approach is unsuccessful.

*R: DOE has already expended approximately \$100 million on removing the mass of the uranium through interim measures. Most of the uranium was contained within the first 15 feet of soil. That uranium was removed using RTD. Unfortunately, the small amount of uranium remaining is*

*enough to be above drinking water standards. This uranium is mostly in the periodically rewetted zone and vadose zone. The periodically rewetted zone is largely what is feeding the groundwater.*

C: The committee should address the question of whether to recommend RTD for the uranium if sequestration is unsuccessful. A massive amount of soil would need to be excavated, which would come with a price tag of over a billion dollars. Many Board members would not support that approach.

*R: One Board member clarified that the draft advice recommends removing the remaining known uranium hotspots and using sequestration on the remaining uranium to prevent it from getting into the Columbia River.*

C: RAP members are uncomfortable with the way the proposed plan (PP) is written to state that the cleanup approach will either be uranium sequestration or no further cleanup. The advice could include a statement such as “the Board can only support the proposed remediation technology as an interim action until a treatability study is completed.”

*R: DOE stated that the Board’s discussion is revolving around whether the ROD is under an interim action under CERCLA. There is a milestone of December 2012 to have all PPs submitted for final decisions. All three Tri-Party Agreement (TPA) agencies agreed to the milestones and to have final RODs; not interim RODs. The milestone is to complete the RI/FS process by submitting a PP.*

C: RAP understands the background and has discussed the interim versus final ROD distinction. However, the desire to meet milestones does not alter the fact that RAP and several Board members do not think the PP is right yet. It would be a mistake to issue a final ROD before knowing if the technology will work. The Board can still offer advice that the ROD should be considered an interim ROD, even if the agencies have clearly stated they are not going to be receptive to that advice.

C: The Board can recognize the desire to meet milestones and issue final RODs, but note there should be an exception in the case of the 300 Area because it may not be appropriate to make a final decision yet since a treatability test has not been completed. The Board can say a milestone change is warranted to determine cleanup actions based on reliable studies. Milestones do not need to be met simply for the sake of meeting milestones.

*R: DOE has not completed all the interim actions in the 300 Area. Alternative 3 does include a lot of RTD.*

Q: Is Ecology aware of Washington State discussions about phosphate as it relates to water policy? Some states do have phosphate regulations, but is unclear whether those regulations apply in Washington.

*R: Ecology was unsure how phosphate regulations might apply to the proposed uranium sequestration, but will look into the question.*

C: The advice should include a point about how MNA has not worked in the past. The Board does not support MNA as a solution.

C: There is still an unresolved comment in the advice about the use of Model Toxics Control Act (MTCA) Method B.

*R: Ecology clarified that Method B is not necessarily being used because there are provisions under MTCA to use other modeling approaches.*

The IMs will refine the draft advice based on comments heard during the discussion and send it to the entire committee for final review before bringing the advice forward at the June Board meeting.

### **Cleanup Integration/Planning\***

#### *Issue Manager introduction*

Vince Panesko, IM for cleanup integration/planning, said the discussion would focus on ideas for which issues should fall under this topic. Vince said he thought about a number of topics under Hanford-wide planning, such as the Composite Performance Assessment. There is a DOE order requiring DOE to examine the entire Hanford Site over the next 1,000-5,000 years. Individual performance assessments (PAs) are being completed for different cleanup areas within the Hanford Site. It would be useful to understand the Composite PA.

Vince said groundwater cleanup across the Hanford Site has also been a large issue. Coordination on groundwater issues began about ten to fifteen years ago. Decisions on where to place wells and which wells should be taken out of service began to be integrated. Vince said another potential area for integration could be the soil (borrow source) needed for the various caps that are being placed all over the Hanford Site. The Environmental Restoration and Disposal Facility (ERDF) could also be an integration issue – how many more ERDFs will be needed. The use of laboratory facilities could be integrated as could the use of railroads and water distribution across the Hanford Site.

Vince said the purpose of the discussion is to hear Jon Peschong, DOE-RL, and Larry Gadbois, EPA, speak to what they feel should be considered under the cleanup integration/planning topic. RAP can begin building a list of topics that Vince will distribute to the committee.

#### *Agency perspectives*

Jon said integration covers a huge variety of topics. Almost anything on the Hanford Site requires integration, such as aspects of union bargaining within the workforce, federal staffing requirements, and

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cleanup between DOE- RL and DOE-Office of River Protection (ORP). In general, Mission Support Alliance (MSA) is tasked with many of the integration functions across the Hanford Site. MSA maintains infrastructure such as roads, fire stations, security, and Information Technology (IT). Another major integration point at the Hanford Site that MSA oversees is portfolio management. Data collected across the Hanford Site is entered in a centralized, integrated technical database that serves as the brains of integration for DOE.

Larry said the TPA is another point of integration. The schedule put together by the agencies integrates cleanup needs. The budget is also integrated so that cleanup decisions are prioritized and broken down by risks as well as which facilities have higher mortgage costs. There are tradeoffs between high maintenance costs and high risk work.

Nina Menard, Ecology, said all the topics noted are good topics to discuss further. She added that increased communication between contractors would be beneficial.

#### *Committee discussion*

Q: Is all contractor data sent to the integrated technical database?

*R: All work that is within the contract scope is provided to DOE. Government funds are paying for the work. A very small amount of information is considered secure and not available.*

Q: Has anyone considered the entire volume of waste that will be produced at Hanford?

*R: Material that will be sent to the Waste Isolation Pilot Plant (WIPP) is being packaged today. The question is really about whether DOE knows where it's going to dispose of waste, the amount of waste, and the time phasing. There are experts from DOE who can speak to RAP on these topics. DOE has an integrated schedule with waste volumes that are associated with each activity so it is possible to do rough order of magnitude estimates. Cleanup reality may be slightly different, but there are projections and long range plans.*

Q: What kind of longevity does the integrated technology database have in terms of funding?

*R: There are three managers in charge of the database. It is a work in progress. The database is better than it used to be, but there is still a long way to go. Funding will be available into the foreseeable future, although the level of funding may vary.*

C: Other integration areas RAP could follow are: the integration of groundwater and soil cleanup, safety culture across the Hanford Site, how the RCRA permits for the storage waste facility will be integrated into other cleanup areas, roads and emergency response at the Hanford Site, water reservoirs and pipelines.

Q: The Central Waste Complex (CWC) is crucial to accomplishing a lot of the cleanup work. Did American Recovery and Reinvestment Act (ARRA) funding allow cleanup of areas within the CWC that will ultimately be sent to WIPP?

*R: There has not been a lot of cleanup in the CWC. DOE does not plan to expand the facility at this time. The 2015 Vision is a key part of planning and a top level way of integrating across the Hanford Site with the idea to keep contaminants away from the Columbia River. The emphasis is reducing the mortgage by taking the Plutonium Finishing Plant (PFP) to slab on grade in the 2015-2016 timeframe. This waste volume will go to CWC.*

*DOE added that groundwater does not recognize boundaries, which is crucial when thinking about human health and the environment. It is also very important for integration. RAP may want to consider bringing in someone from MSA or DOE such as Karen Flynn or Paul Pak who works directly on some aspect of Hanford Site integration.*

C: RAP could also investigate decisions on the Hanford Site's pipelines, and who is responsible for them.

*R: Ecology said the pipelines and diversion boxes are all considered to be in the 200 Area as one operable unit. Pipelines are integrated with the RCRA Permit for single shell tanks (SSTs) and for the cribs and ditches that still contain pipes.*

Vince asked RAP members to email him any additional thoughts or comments about integration at the Hanford Site with the end goal of drafting policy level advice. RAP will then consider topics that may be ripe for potential advice development and create a more focused plan for how the committee should consider these issues. Groundwater might be a good place to start. There is a Groundwater Vadose Zone Executive Council that meets monthly. Someone from the council (e.g. J.D. Dowell) may be able to brief RAP on their activities. The topic of integration should be flagged for the Budgets and Contracts Committee (BCC) and the Health, Safety and Environmental Protection Committee (HSEP), also.

### **Update on the Environmental Restoration and Disposal Facility Performance Assessment (PA)\***

#### *Agency presentation*

Owen Robertson, DOE-RL, provided a briefing on ERDF PA progress (Attachment 3). Doug Hildebrand, DOE-RL, described the Low-Level Waste Disposal Facility Federal Review Group (LFRG). He said LFRG consists of a panel of DOE employees from throughout the complex. This panel grants disposal permission after reviewing the PAs. There is a large checklist of criteria that must be considered in order to approve disposal. LFRG's recommendation is provided to the Deputy Assistant Secretary who can either follow the recommendation or make another recommendation. PAs are updated every five years so the process is continually repeated.

#### *Committee Questions and Response*

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Q: What is the plan for the frequency of monitoring? What are the model monitoring assumptions over the first thousand years?

*R: There will be continuous monitoring though leachate measurements around the liner and well monitoring around ERDF. It is difficult to say how monitoring will occur hundreds of years into the future. DOE does not know what the monitoring frequency will be, but the modeling will inform those decisions as to whether monitoring should be done annually, quarterly or over some other period of time.*

Q: Can DOE provide more detail on the statement that the modeling approach incorporates methodology adopted from the Tank Closure and Waste Management (TC&WM) Environmental Impact Statement (EIS)?

*R: DOE had several discussions around the TC&WM EIS regarding the models used. The EIS used a fluid transport model approach for ERDF, which is what DOE used for the ERDF PA as well. The parameters have been updated with more site-specific information from the last five years. The inventory estimates are better defined, reducing conservativeness. There are also different performance objectives.*

Q: Is DOE evaluating the potential for IC failure after ERDF is ultimately closed? Will there be a barrier?

*R: DOE has not designed a barrier yet. It is assumed that over the first 500 years barriers will remain intact and then will begin to degrade after that time. There are also scenarios such as the "inadvertent intruder" scenario that would account for someone inadvertently digging a well in the area and becoming exposed to contaminants. DOE estimates a scenario like that could occur around 100 years from today, which is the assumed period for ICs at the Hanford Sites. 100 years is typically used in PAs.*

C: The last time the Board visited ERDF, it was shocking how much water was being applied on the site for dust abatement. What are the assumptions about infiltration after dust abatement ends?

*R: The water currently being applied is collected in a leachate collection system. Water will continue percolating about 10-15 years after ERDF is closed. There are currently no ICs in place because ERDF is not closed. There will be a compliant cap at the facility once operations do cease, which is in the ROD. Design of the cap will influence any ICs.*

Q: Technesium-99 was mentioned. What kind of information has changed assumptions at ERDF in terms of the load of contaminants that could be received and stay within the load criteria for this site?

*R: The waste acceptance criteria (WAC) allow 380 curies of technesium-99. As of last week (5/7/12), there were 101 curies. Technesium-99 is probably the most serious waste form along*



*with uranium. When the PA is finished, DOE will reevaluate the WAC and waste forms to determine if criteria should be reduced or possibly increased.*

Q: The draft TC&WM EIS indicated that the Hanford Site is reaching capacity for technetium and iodine. Is iodine showing up in the leachate?

*R: No. There may be trace amounts, but no detectable amounts of iodine.*

Q: There is a risk budget that determines WAC. Has the WAC increased from the original concept?

*R: No. The approach is what has changed. DOE revisited the analysis and reconsidered the parameters on a site-wide basis. DOE issued guidance documents that changed the WAC. The new PA will ensure the WAC is fully documented and has LFRG approval.*

Q: Does DOE use the CERCLA Five-year review as part of the PA?

*R: During operations there will likely be five year maintenance plans. Once the site is closing, there will be a closure PA that determines future monitoring and maintenance plans. Any ICs will have to be protective. EPA would rather have their five-year review done before the CERCLA Five-Year Review.*

C: ERDF is cited as an area with water that does strange things in the modeling. There are clastic dikes and silty layers. Does anything compensate for that in the TC&WM EIS?

*R: There is not a preferential pathway as long as there are not huge inflow water conditions. The PNNL reports state that there is effectively a capillary barrier under low water flow conditions. We do not have information about where the clastic dikes are. DOE uses the information available as the basis for parameters. DOE has 20-30 vadose zone samples that have been flow sampled. There are layered boundaries.*

The committee decided there was no immediate action necessary on this topic.

### **Draft Advice – TC&WM EIS Record of Decision (joint with PIC and TWC)\***

#### *Issue Manager presentation*

Pam and Liz Mattson, IMs for the TC&WM EIS ROD, introduced the draft advice (Attachment 4). Pam said the ROD has not been issued yet, but there is some information available on what it will contain. The Board has expressed interest in offering some preemptive advice to express Board concerns prior to the document being released.

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Liz said the current draft advice was written using points made during the April RAP discussion. There are two main points to the advice: 1) the Board would like a 90 day review period instead of the standard 30 day review period since the document is so large; 2) the current comment period for the Site-Wide RCRA Permit (Permit) began May 1 and will run through Sept 30. The Permit relies on the final EIS and the Board would have liked to examine that document before issuing advice on the Permit since the EIS informs the Permit. The Board is offering advice on the Permit now instead of in September because if the EIS is issued at the end of the summer, the Board will miss the opportunity for comment or to even ask for extra review time.

Pam said the preferred alternative in the TC&WM EIS is that there will be no preferred alternative for additional tank waste treatment. The decision is to remove and treat some secondary low-activity waste (LAW) and leave the remaining waste in place to be treated sometime in the future using bulk vitrification, grout or steam reforming. She suggested adding three paragraphs to the background about this approach not being supported by public comment or the draft information in the EIS. Pam also suggested adding another advice point warning against disregarding the preferred alternative at the last minute (Attachment 5).

#### *Agency perspectives*

Mary Beth Burandt, DOE-ORP, said there is a 30 day waiting period after the final EIS is released before a record of decision (ROD) is issued. There will then be a ROD or potentially multiple RODs that will be issued through DOE-Headquarters (HQ). This process always takes time. The Board should consider the possibility of multiple RODs and whether the same Board advice would apply for all the decisions that are going to be made. The Board should consider if they feel each decision requires the same timeframe for review or if there are some decisions that would require more review time than others.

Suzanne Dahl, Ecology, wanted to clarify some points in the second bullet of the draft advice. She said Ecology has not used anything in the TC&WM EIS in the formulation of the RCRA Permit. Information from other EISs has been used in the formulation of the Permit conditions for the 39 different units. When Ecology modifies the Permit to add secondary waste being transported to the Integrated Disposal Facility (IDF), then information from the TC&WM EIS will be incorporated for State Environmental Policy Act (SEPA) needs to modify the appropriate permit conditions. At some point Ecology will be making closure decisions, probably starting with C Farm. Closure decisions will require another Permit modification that will be available for public comment. The information from the EIS plus other additional information will be used for permitting decisions. These proposed decisions will be available for public comment. Right now Ecology does not believe the delayed EIS issuance would necessitate delaying final issuance of the Permit. If the Permit included transportation of secondary waste to IDF or something similar, Ecology would need to wait for the final EIS in order to have SEPA coverage. Ecology does not want to wait any longer to issue the Permit. Suzanne added that Ecology believes there are good offsite waste prevention conditions in the Permit that do not strictly prohibit offsite waste from ever coming onto the Hanford Site. By definition of the WAC, only specifically named wastes will be accepted so unnamed offsite waste will

not be accepted. Suzanne concluded by saying that there should have been a Permit issued long ago for every aspect of the cleanup because it provides tools that can be used to help manage cleanup efforts.

Q: Can DOE provide more clarification on why several RODs might be issued as opposed to one ROD?

*R: There are a number of decisions to be made that are defined in the EIS. These decisions do not all have to be included in one ROD at one point in time. The TC&WM EIS illustrates how different decisions can be made through different RODs spanning several years. RODs can focus on specific aspects of Hanford Site cleanup. The agencies usually address public comments that are received during the timeframe, but there is not a comments-responses document.*

Q: Could there be other RODs associated with the TC&WM EIS that the public would be able to comment on or review or will the current ROD satisfy all future RODs?

*R: There is not a public comment process once a ROD is issued as there is during a formal EIS process. Public comments are not formally accepted on RODs. However, DOE generally tries to address any comments received before the final ROD is issued.*

*EPA added that the ROD is the end of decision making. All the public commentary has already occurred once a ROD is issued so there is no further public duty.*

*Ecology said any permitting actions, such as a closure plan for C Farm, would be available for public comment as a permit modification. The EIS is not the end of the process; it is just the next of many steps.*

C: The purpose of the EIS is to examine major federal actions and determine if those actions have an impact on the environment. Any impacts are ameliorated as much as possible. The goal is to avoid impacts. The decision of where to send waste and how to accept that waste did not consider how to mitigate the impacts, failing as an EIS. The decision of whether or not to accept offsite waste at the Hanford Site is difficult. The EIS should focus on avoiding releases as opposed to permitting releases. The Board could also add some points about ensuring that any action taken complies with environmental laws and that secondary waste comply with the standards under the law to protect groundwater to the highest and most beneficial use. The highest beneficial use in this case would be drinking water and agriculture. Waste should not be added to the Hanford Site that could impact groundwater. These points echo some of the Board's earliest advice to do no harm.

C: This EIS uses the best modeling available for the Hanford Site and it is still inadequate. The model can be useful for indicating where there might be a problem. However, model conclusions that there will not be a problem should not be taken as truth.

Q: If the TC&WM EIS is issued in July, would it begin to be incorporated into the Waste Treatment Plant (WTP) unit since that is being issued separately from the rest of the Permit?

*R: Using IDF as an example, the final EIS for IDF will not be issued since Ecology is still in the process of finalizing the Permit. The EIS would not be used to change anything in the Permit between the draft and the final because that would require another public comment period. Ecology would accept the Permit as-is. If DOE would like to add secondary waste for IDF, then the necessary information would be identified in the EIS and adopted for SEPA. DOE would need to identify the necessary new permit conditions that would allow for secondary waste to IDF. That would be issued for public comment.*

Q: DOE, what is the process when the secondary waste component of the EIS is left as no decision. When would that decision be made and how?

*R: DOE said this has not been conceptually explained. If there is no decision in the EIS about supplemental treatment, people would need to be notified somehow, perhaps through a Federal Register notice, and be updated after the final EIS, but before another ROD is issued. Part of the process will be dependent of the timing when the decision is going to be made. If a decision would be delayed two to six months it could be made relatively soon based on an existing EIS. If the decision is slated to be made several years into the future, then there would be time to conduct a supplemental analysis. Part of the uncertainty has to do with the timing of when the decision is ultimately going to be made and what information the decision will be based on.*

RAP decided to bring the advice forward at the June Board meeting. They deleted the second advice point, noting that it could be added back in during the Board meeting if desired. Decisions made during today's conversation will be given to the Tank Waste Committee (TWC) during their joint meeting with the Health, Safety and Environmental Protection Committee (HSEP) the following day.

The committee agreed to incorporate the statement about the purpose of an EIS into the advice. This would lead into a statement about how grout, steam reforming and bulk vitrification would not be acceptable choices from an environmental statement based on EIS analysis.

The IMs decided to further refine the advice overnight and wait to send it until after receiving comments from TWC. After consolidating all comments, the draft advice will be sent to the three committees for consensus. There will be another round of revisions from the IMs and then the draft advice will be sent to Susan H. RAP requested holding a call using GoToMeeting to reach final consensus.

### **Site-Wide Permit (joint with PIC)\***

#### *Introduction*

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\* Please see Attachment 1 – Transcribed Flip Chart Notes for key points/follow up actions recorded during the committee discussion.

Liz, IM for the RCRA Permit, said there was an excellent workshop on May 3 hosted by Ecology to help prepare the Board and the public for the upcoming Permit comment period. The workshop generated a lot of discussion and debate. Liz said she would begin with a debrief of the workshop and asked anyone who attended to share their perspective.

Liz said the format of the workshop included an introduction followed by a discussion of SEPA and the risk budget tool, tank waste, and public involvement. Workshop attendees were given the opportunity to look at all 39 units followed by Board member presentations on various issues relating to the Permit. The workshop ended with a discussion of possible Board advice.

#### *Workshop participant perspectives*

- Vince said he was surprised to learn that the Hanford Site was in operation for 52 years at 3,300 sites before the first permit was issued. He asked how decisions are made about what classifies as dangerous waste. There are hundreds of chemicals over the 3,300 Hanford sites. The Permit is one aspect of managing the dangerous waste at Hanford and the Permit will continue to be expanded and changed. He said he learned that the Permit is an iterative process, which was helpful. Vince said he is particularly interested in one question raised during the workshop on how it could be determined whether the standard for dose is exceeded at the Hanford Site when unknown amounts of arsenic are coming into the area from nearby waste sites. Vince said there was not a satisfactory answer and the Board may want to revisit the question. The various projects at the Hanford Site are all narrow in scope so the entire arsenic budget across the site is not being considered. Vince said the Board should look into the risk budget topic because how Ecology plans to use the risk budget is unclear. He said modeling is never evident in SEPA analyses and determinations of impact are always somewhat vague. Vince said he looks forward to future conversations on how Ecology and EPA plan to work with DOE on these issues.
- John Howieson said he agreed to work on the SST permit, which is not expected to be issued until July of this year. The problems involved with this permit are more obvious. More than a third of the SSTs have leaked and more are going to leak. There may still be liquids in the tanks that are not pumpable, but still might leak. There is no conceivable way that the goal of closing all those tanks in 31 years will be achieved at the current rate.
- Dick Smith said he listened to the workshop over the phone. He missed being able to view the posters of the 39 operable units. He said the presentations were good, but he did not really learn anything new.
- Jean Vanni suggested the purpose of the sticky notes should be made clear. The sticky notes were not addressed during the workshop because of time constraints. It would be useful for Ecology to respond to these sticky notes. The workshop was interesting and informational. She was glad that Board members were able to express various areas of concern. She added that concise answers to questions are always appreciated.

- *Madeleine Brown, Ecology, said Ecology plans to add the content of the sticky notes to the overall notes for the workshop.*
- Dale said he was asked to speak on behalf of the groundwater viewpoint. He said the way the Permit was written makes him very uncomfortable. He said the RCRA Permit will accept CERCLA actions. There are many monitoring wells and also many places that are not being monitored because wells are hard to replace. He has concerns about following decisions under CERCLA, such as the proposed plan for addressing the uranium plume in the 300 Area. Chromium in the 100-K Area is another area of concern. Dale wondered what the treatment process is for material that contains a high level of strontium or other contaminants. He said the focus should not be on simply reducing contaminants to below maximum contaminant levels (MCLs).
- Dirk Dunning said he has a number of suggestions for future public meetings. He suggested further describing what the Permit is and how it functions, as well as what the Permit does not do in general terms. Second, the Permit is not really available on DVD/CD. There are large sections of the Permit that are not included on the DVD/CD. Dirk said the meeting could be carved up a bit more logically into smaller pieces. He suggested focusing on what the value is for Ecology and the permit writers. Dirk was struck by how general a lot of the Permit is. He added that he is just now delving into the entire Permit. The question comes up of what is being hidden when sections of the Permit are deleted. Dirk said it is problematic to have basically identical facilities that are only different in some small areas.
  - *Liz said that the entire Permit is available at any of the Hanford document repositories. Addresses can be found online or on all Hanford documents.*

Liz reviewed the Permit advice template she had developed. She said this template will be posted on the SharePoint site so that anyone can update it with notes or concerns as Board members read through their Permit sections. She noted that the document was not completed and she would further refine it before posting it to SharePoint. Board members are assigned to specific topic areas and Liz noted that more Permit reviewers are needed for the various topics. The Permit should be considered as written and the Board can determine whether the Permit seems to meet requirements.

Susan H. suggested the committees identify a venue that would allow conversation around the issues being identified as Board members review the various pieces of the Permit.

### **Committee Business\***

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\* Please see Attachment 1 – Transcribed Flip Chart Notes for key points/follow up actions recorded during the committee discussion.

The committee reviewed the June meetings topics table. The potential June RAP meeting is currently planned for June 19. No decisions have been made with committee calls yet.

There was a question on Colleen French’s availability to speak on DOE’s response to HAB Advice 242 since the committee meeting week was moved. She plans to address each point of the Board’s advice and the Board’s response to DOE will largely depend on the information she provides. Barb Wise, MSA, noted the need to check on Colleen’s availability.

For purposes of the 6-month RAP Committee Work Plan, RAP may request a briefing in August on the Vertical Pipe Units (VPUs).

**Attachments**

- Attachment 1: Transcribed flip chart notes
- Attachment 2: Draft HAB advice on the 300 Area RI/FS and PP
- Attachment 3: ERDF PA progress briefing
- Attachment 4: Draft HAB advice on delaying decisions associated with the final TC&WM EIS
- Attachment 5: Draft additional background for the TC&WM EIS advice

**Attendees**

HAB Members and Alternates

Shelley Cimon	Pam Larsen	Richard Stout
Dirk Dunning	Liz Mattson	Bob Suyama
Dale Engstrom	Vince Panesko	Gene Van Liew
Harold Heacock	Maynard Plahuta	Jean Vanni
John Howieson	Dick Smith	Steve White
Steve Hudson (phone)	John Stanfill	

Others

Mary Beth Burandt, DOE-ORP	Madeleine Brown, Ecology	Bill McMahan, CHPRC
R. Doug Hildebrand, DOE-RL	Suzanne Dahl, Ecology	Sunil Mehta, CHPRC
Cathy Louie, DOE-RL	Brenda Jentzen, Ecology	Nicole Addington, EnviroIssues
Tiffany Nguyen, DOE-RL	Nina Menard, Ecology	Susan Hayman, EnviroIssues
Jon Peschong, DOE-RL	Dave Einan, EPA	Jessica Ruehrwein, EnviroIssues
Owen Robertson, DOE-RL	Larry Gadbois, EPA	Sharon Braswell, MSA
Mike Thompson, DOE-RL		Barb Wise, MSA
		Elliot Bailey, Public

		Riejia DeShazo, Public
		Peter Bengtson, WCH
		Bill Borlaug, WCH
		Mike Casbon, WCH
		Mark McKenna, WCH