FINAL MEETING SUMMARY

HANFORD ADVISORY BOARD
RIVER AND PLATEAU COMMITTEE
April 18, 2012
Richland, WA

Topics in this Meeting Summary

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 everyone and introductions were made. The committee approved the February and March committee summaries. There were edits to clarify discussion points and one contradictory edit that need to be clarified with the Washington State Department of Ecology (Ecology).

Pam introduced Richard Stout, who is a new member of the Hanford Advisory Board (Board or HAB).

Susan Hayman, EnviroIssues, said there would be a new process for meeting summaries. Summaries will now be posted to the SharePoint site so people will be able to see proposed edits with the track changes feature. Nicole Addington, EnviroIssues, will post the final draft a week prior to the next committee meeting.

TRU Discussion Topics[*]

Introduction

Dale Engstrom, Issue Manager (IM) for the Transuranic waste (TRU) topic, briefly reviewed the committee's long-standing interest in this topic, and the continued confusion for HAB members of what constitutes TRU waste. He said Larry Gadbois, U.S. Environmental Protection Agency (EPA) offered to provide a tutorial on the subject, which will hopefully bring some clarity.

Tutorial

Larry presented context and definitions for TRU waste (Attachment 2). He reviewed different waste classes and noted that TRU was a distinction created by the U.S. Department of Energy (DOE) in 1970 to describe a specific type of waste category. Waste created prior to 1970 may have the characteristics of TRU, but is not categorized by DOE as TRU because it predates the adoption of the definition. Larry said he appreciated the HAB advice that recommended radioactive waste be managed based on the risk it poses, ignoring distinctions between pre-1970 and post-1970 classifications. Larry also described dilution criteria. Waste can be diluted if that is an outcome of the process for treating other constituents in the waste, or for safety reasons. Waste cannot be intentionally diluted simply as a means to avoid the TRU classification. Larry then reviewed three examples of TRU waste from the Hanford Site – 308 Building ducts, 324 B Cell, and 618-11 vertical pipe units.

Agency perspectives

Deborah Singleton, Ecology, said Ecology had the opportunity to watch the burial grounds retrieval process associated with the TRU (M-91) TPA milestones. Ecology hopes that the milestones will match closure dates for the Waste Isolation Pilot Plant (WIPP), while recognizing the challenges ahead as the drums are deteriorating. New techniques will be needed to retrieve burial ground waste since bulk retrieval can no longer be used. A significant challenge is how to identify and retrieve drums in the ground. Not only will the drums be retrieved, but also all the materials around the drum.

Mike Collins, DOE-Richland Operations Office (RL), said that since the classification of TRU waste in 1970, a lot of waste has been retrieved. When waste is retrieved, it is assumed to be TRU. Determination of whether waste is TRU or not occurs when waste is brought to the Central Waste Complex, assayed and re-packaged into a form that is appropriate for disposal. TRU waste will go to WIPP; waste not TRU will not go to ERDF.

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.

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

C: What are the effects of alpha emitting particles on the body?

R: Alpha emitting particles do not travel very far, but are able to do a lot of damage in a short distance. The particles cannot penetrate tissue, so there must be an internal exposure in order to pose a hazard, but that internal exposure can be very damaging because a lot of energy is focused into a small area.

Q: Are you measuring the waste packages to determine if material under Building 324 is TRU even when you are not expecting it to be TRU?

R: An assessment of waste will be conducted as it is placed in the hot cells to make a final determination of whether the waste is TRU or not.

Q: Are the samples taken from the vertical pipe units (VPUs) in 618-10/11 segmented to identify if there are differences in radioactivity at different depths? It seems likely there would be hot spots.

R: The entire soil column is being homogenized using a rock auger that pulverizes the content of the VPUs. We retrieve a sample (approximately 55 gallons) of the entire core from top to bottom, and place it in one large sample container. The sample container is then brought to the 200 Area to determine if the homogenized sample classifies as TRU waste or not. Prior to this homogenization, we know from cone penetrometers that there are some layers that are hotter than others. Everything is being mixed as part of the technological solution, which will moderate the hotter layers and non-hot layers. If the sample is found to be TRU, we will sample additional drums. Some drums will classify as TRU and others will not. If the initial core sample is not TRU, then we will move forward with the cleanup plan.

C: Material under the 324 Building is incredibly hot. There will need to be a lot of blending for the waste to not classify as TRU. The blending question seems very subjective.

R: Building 324 is extremely radioactive and the retrieval process is intended to mix that hot soil with uncontaminated soil and grout, which will decrease the radiation dose. There is a safety technological basis for this process. We cannot surgically extract the small area that would be considered TRU, because of worker exposure concerns. There is no way it could be kept intact. Safety is the driver controlling this job. Contractors are given the responsibility to determine a safe approach to completing the work. EPA oversees the process to ensure environmental laws are not being violated and there do not appear to be any violations in the Building 324 retrieval process.

Q: Waste still poses a hazard whether it is mixed or not mixed. The hazardous waste will just be dispersed beyond the hot zones.

R: The hazard is reduced because the waste is spread over a larger volume. The danger results from radioactive waste being concentrated in a small area, which releases more energy so that people exposed will be in greater danger than if the waste was less concentrated.

C: What happens if spent fuel fragments are found in the VPUs during 618-10/11 retrieval? Those fragments would mean all the VPU waste would be TRU.

R: EPA spent a lot of effort investigating the spent fuel question. The historical records do not suggest there is spent fuel, although those records are sketchy. The labs that generated the waste were evaluating spent fuel. However, the spent fuel evaluated at the labs and subsequently disposed of in the VPUs was broken down into scraps and powders that are considered too small to be significant.

Q: Would the designation change if a chunk of spent fuel was found in a VPU?

R: It is EPA and DOE's responsibility to remove any spent fuel found to be in the VPUs. There is no reason to believe spent fuel is present at 618-10/11. DOE did due diligence and said there is no spent fuel. Any spent fuel would be considered high-level waste. If spent fuel is found, it is pulled aside and does not go to the Environmental Restoration and Disposal Facility (ERDF).

Q: Will material that is excavated be considered post-1970 and eligible for classification as TRU even it was buried prior to 1970? Will that lead to contractors or DOE not wanting to excavate material if there is the potential for it to be classified as TRU once removed?

R: The Board has given advice in the past that the risk is the same if waste was buried prior to 1970 or after 1970. If we are focused on retrieving waste on a risk basis then the 1970 distinction becomes irrelevant. Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) regulations look at it from a risk perspective. Risk is the major driver for Hanford Site cleanup. If it is a risk, dig it up; if it does not pose a risk, do not dig it up.

Q: Can you clarify the designation of TRU and alpha-emitters from other processes? The designation of TRU does not appear to follow a particular risk. It seems to be more of a political designation.

R: TRU is a DOE designation; it is not political. A certain amount of alpha emitters (and half-life) qualify as TRU waste. There can still be alpha emitters in waste that is not considered TRU, but there will be less of them.

Q: There are definitions of TRU in physics books. There are elements beyond uranium in the periodic table that are classified as TRU, but are not considered TRU under the DOE definition. Thousands of elements are alpha-emitters. It would be helpful to see a list with what elements are considered TRU by DOE. What are the elements that DOE is responsible for?

R: DOE can provide a list of elements that would be categorized as TRU. There are clearly isotopes that are equally as risky as the isotopes included in DOE's TRU definition, but that are not subject to special handling even though they are radioactive. Cesium and strontium are the obvious examples that are hazardous, but not considered TRU.

C: Though spent fuel that may exist in the VPUs will be pulverized into very small pieces, there is the potential for fuel to be found someplace else. There was a recent article about the last fuel in the K Basin being put in a multi-canister overpack (MCO) and taken to the cold vacuum drying facility. If cold

vacuum drying will not continue to be used, I do not think there will be a process for putting the fuel in MCOs.

R: This is a concern for the future of K Basin. Even if the cold vacuum drying facility is shut down with the intention of using it again in the future, a readiness process must still be undertaken (need trained people, need a process) after the last few MCOs are moved to the canister storage building (CSB). There is always the potential of finding fuel, which requires processing before it can be placed in the CSB.

Q: How long will the next evolution of the VPU process take from start to finish?

R: The intent is to bring in an auguring system followed by sampling. That will likely take approximately 6-12 months.

Q: What kind of oversight/validation of the process will take place during packaging and as decisions are made on where material will be sent?

R: In terms of EPA oversight, the agency only has seven full-time employees for the entire Hanford Site so EPA cannot be present all the time. DOE has facility representatives (Fac Reps) who are on-site, but no one is there around the clock. The Defense Nuclear Facility Safety Board (DNFSB) has been involved. The DNFSB is also limited in the amount of time they can spend at the Hanford Site. Contractors are responsible for conducting work honestly; we need to trust in the integrity of the contractors.

Q: Is there an oversight plan?

R: There is not a specific plan. EPA does tend to be involved with the contractors in writing procedures.

DOE stated that the Fac Reps who act as DOE safety representatives are not considering waste categorization per se, but they are looking at safety oversight and ensuring procedures are followed, including the procedures that define waste.

Q: Are there any incentives related to how quickly the contractor cleans up the site/sends waste to ERDF? Does it take longer to dispose of waste that is found to be TRU?

R: Contractors do not get incentives for completing work ahead of schedule. There would not be a benefit; a sample of the column needs to be taken from top to bottom. The only issue would be if we suspected someone was going to cheat on sample results, which we do not have any reason to believe.

DOE said that timing depends on the configuration of the package, the contents of package and concentrations of radionuclides. Some elements take longer to analyze.

C: It would be useful to have a larger conversation about waste classification beyond the TRU discussion. How do we classify waste based on DOE definitions and how do DOE definitions compare to other

definitions? The Tank Waste Committee (TWC) and Budgets and Contractors Committee might be interested in discussing this topic.

The committee decided there was not a need for any immediate action, but discussions about waste and waste disposal procedures would be useful in the future. They agreed it was an excellent discussion and tutorial that might be beneficial to share with the entire Board. Questions and comments specifically related to the 618 10/11 VPU remediation will be tracked by EnviroIssues and provided to the issue managers of this topic scheduled for discussion at next month's RAP meeting.

324 Building B-Cell Remediation Approach*

DOE presentation

Mark French, DOE-RL and Don McBride, Washington Closure Hanford (WCH) provided an update on 324 Building B-Cell remediation of soil contamination (Attachment 3).

Agency perspectives

Larry noted that safety was mentioned in the TRU discussion and also by WCH for designing a safe retrieval process. Safety is paramount. EPA does not play a role in determining what is safe for the contractors; EPA reviews designs, but acts as more of a "sanity check" and does not try to redesign processes. 324 Building B-Cell cleanup is following a remove, treat, dispose (RTD) remedy that is meeting EPA expectations.

Elis Eberlein, Ecology, said that risk is a big factor. The contamination is not moving so the risk is purely to the people managing the waste. The soil does need to be removed from the site, and using the C and D cells seems like a good solution since those are probably the safest waste boxes available.

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.

Q: How many geoprobes were used to collect data?

> *R: There are nine probes in a fan shape under the cell. The probes are spread laterally and the angles are somewhat different. The probes are pushing from about 50-60 feet away at the North side of the building. Not every part of the cell can be covered from that angle. There are more detailed drawings that illustrate the configuration of the probes that can be provided to RAP.*

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

C: The concern lies in the uncertainty with limited sampling and limited number of geoprobes. Has there been an investigation into the cause of the release? Cesium would be expected to be bound within the first few centimeters of soil, but strontium would be expected to reach groundwater.

R: There is a bounding case for how far strontium is expected to travel. The overriding concern is for worker exposure from the waste containing cesium and how to safely remove materials from within the cell. Excavators can handle fairly high amounts of strontium and have done so successfully on the Hanford Site.

C: The volume of the cells may not be great enough to hold the volume of contaminated sediment from beneath the building.

R: The full perimeter of the expansion joint is in the seven to ten foot range. All of that material, plus the less contaminated material, will fit in the C and D cells. If we find less contamination than expected we will not need to excavate as deeply. There are radiation readings from inside the cell that indicate where the worst of the material appears to be. There are also temperature readings in the soil that indicate where the plume might be.

Q: The spill occurred in the 1980s. Cesium and strontium have already gone through one half life, but the materials are still thermally hot. Does that create any problems with placing materials in the glove box?

R: Thermal calculations are underway on the final waste form. There is a fairly good wattage output, in particular for strontium. Temperature measures have reached 140 degrees in some areas of the soil. The transport analysis should take this into account. The hot cells were originally designed to hold this type of material.

Q: Was there a significant cost difference among the RTD alternatives?

R: The cost was not a main factor in deciding among the RTD alternatives. The real jump in cost would be if a new facility was necessary.

Q: Do you feel there are qualified subcontractors that can do this work?

R: Yes. An expression of interest was issued in January, and a number of companies responded. A prequalification questionnaire has been completed that sets a high bar for teams to qualify. There are multiple qualified bidders to proceed to the next step.

Q: Where will the health physical technician (HPT) coverage come from if this is subcontracted work?

R: WCH will cover the HPT aspect. WCH will manage the facility and the nuclear safety aspects of this work. The subcontracted teams will be managing themselves and the use of their equipment, but 324 Building is still a WCH managed project.

Q: Was WCH staff involved in alternative selection?

R: The alternatives were shared with WCH staff. The staff is interested in the process and is free to share their thoughts with management. This is a hazardous job. A lot of work planning is done

ahead of time. DOE has oversight on the process and reached out to a technical assistance group from DOE Headquarters. The DNFSB will also get involved as we get closer to implementing the cleanup process. There will be a lot of attention on this cleanup.

The committee decided to ask for another update from DOE sometime after June, potentially in August, when a bidder has been chosen and the complete remediation path forward has been decided. An update could be given to the entire Board in September.

WCH noted that a bidder might be selected, but the procurement process will still be ongoing through August. A technical approach will have been decided. DOE can offer a briefing in June or August and then RAP can determine the need for September advice or further presentations.

100-K Area Remedial Investigation/Feasibility Study and Proposed Plan*

Introduction

Dale, IM for the 100-K Area Remedial Investigation/Feasibility Study (RI/FS) and Proposed Plan (PP) said this is the latest round of presentations/discussions on the RI/FS and PP for 100-K. The Board responded to an earlier draft version and DOE promised to return with an update. RAP is interested in hearing how the plan for 100-K has evolved and what the status is today.

Update

Jim Hanson, DOE-RL, said he has received the red-line strikeout draft version of the RI/FS and PP for 100-K. That document will be sent to EPA later this week after DOE completes modifications. Initially, DOE had identified Alternative 2 as their preferred alternative. Alternative 2 now incorporates additional technologies associated with cleanup of areas of uncertainty for deep vadose zone contamination, and incorporates soil flushing. After further evaluation, DOE has identified Alternative 3 as its preferred alternative, which includes more aggressive pumping and treatment of groundwater. Alternatives 2 and 3 are similar in that they both incorporate RTD to meet the Preliminary Remediation Goals (PRGs).

Agency perspectives

Chris Guzzetti, EPA said the switch from Alternative 2 to Alternative 3 as DOE's preferred alternatives was the biggest change from the earlier draft. There have also been adjustments to the waste site adjacent to the reactor. DOE had essentially proposed a surface barrier and will be presenting more information to EPA; it is an ongoing discussion. EPA is evaluating the protectiveness of surface barriers proposed for the down gradient waste sites (KE-1, KE-3 and UPR). The other really important components are the infiltration rates for the groundwater and irrigation scenario. It appears that DOE and EPA will reach agreement on the path forward. Chris said that DOE was putting together a draft TPA change package

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

that would create a separate operable unit (OU) for the orchard lands, and that a separate RI/FS would be prepared for the orchard land OU. EPA and Ecology have signed the change request and are waiting for DOE's response. If DOE does not sign the draft change package, the agencies go into dispute. Larry explained there is a dispute resolution process laid out in the TPA. The process moves through successively higher levels of management until an agreement is reached. All three TPA agencies have agreed to make the orchards a separate OU, but the impact of that is still under discussion. DOE proposed to do a RI; the regulatory agencies counter proposed to do an RI/FS.

Brenda Jentzen, Ecology, said Ecology agrees the orchard lands should be a separate OU. How they are addressed should be dealt with consistently throughout Washington State.

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.

Q: Will these proposed screening levels associated with irrigation be reflected in the tables under the Model Toxics Control Act PRGs?

> *R: DOE is evaluating waste sites on a screening basis using irrigation. If a site does not pass the soil screening level, DOE will complete an evaluation against a PRG. PRGs do not include an irrigation component because of DOE's perspective on future land use in this area.*
>
> *There will be a column under the Subsurface over Multiple Phases model (STOMP) and a column under groundwater protection in Table 7.1. PRGs would be included in Table 8.3.*

C: DOE used the irrigation scenarios as described in the PRGs, but then modeled under STOMP using the irrigation scenarios. It seems like the values changes between the screening level and using STOMP. How can these values change?

> *R: DOE runs the waste site analysis based on the information available and then runs a waste site analysis assuming that irrigation is being applied. This follows a conservative approach.*

C: Is it correct to say that along the River Corridor DOE considered unrestricted use because it does not believe there will ever be irrigation opportunities along the River Corridor?

> *R: That is DOE's position associated with future land use. DOE believes that irrigation will not be applied in the future.*

Q: Are people who drill wells covered under irrigation?

> *R: Wells will be restricted. DOE will be placing institutional controls at locations were groundwater does not meet criteria. There will also be institutional controls for vadose soils that may exceed direct contact scenarios. DOE is ensuring that waste site remediation meets direct contact exposure levels.*

Q: What is Ecology's position on irrigation not being considered as a future use?

R: Ecology believes DOE should use irrigation in the models, and is talking with DOE about language to be used in the PP that, even though irrigation is not intended, the majority of the site will pass the scenarios that include irrigation. Ecology hopes the institutional controls will be placed on the sites that do not pass, but the majority will not have restrictions. Ecology has maneuvered around the irrigation question. The protection of human health and the environment has not changed.

C: The Yakama Nation tribe believes this approach as written in the draft document, may violate our treaty rights.

Q: How does creating a separate OU for orchard lands affect the RI/FS and PP schedule?

R: EPA's perspective is that the benefit of the orchard lands becoming their own OU is that they will not be included in the 100-K or other 100 Area RI/FSs. It will not affect other schedules since that element has been removed.

Q: How long will institutional controls be necessary for orchards that used fertilizer containing arsenic in order to be protective of human health and groundwater?

R: That decision is not being made in the 100-K Area RI/FS and will be determined in the Orchards operable unit. A separate RI/FS will be completed for orchard lands and will consider those types of questions.

Q: What happens to the waste sites that extended into these orchard lands? Will these be cleaned? Some of the sites comingle or overlap.

R: The contaminants of concern (COCs) associated with the site are targeted, which does not include lead and arsenic. The K Area RI/FS will address the waste sites and the associated COCs based on the information available. COCs associated with the orchard lands will be cleaned up if they are associated with the waste sites.

C: RAP would like to see these decisions in writing rather than simply hearing from the agencies what they are planning. When will these documents be available for comment?

R: The 100-K PP will probably be available in July, but a more definitive answer is expected next week. June might be a good time for the next update since the next draft PP will be going to EPA in June or early July.

EPA and DOE noted that when DOE sends their copy to EPA officially the Board and tribes are copied. The information is available as soon as it is sent to EPA. The document will not be released until all agencies agree on what it says. The PP is released as a TPA document, which is why all agencies are involved and all must agree on releasing it to the public. EPA's review will take a minimum of two to three weeks. The public comment period for the PP will be 30 days, although there always is an option to extend that. Board members want the comment period to end after the September HAB meeting.

The committee noted that there is some concern about scheduling for the June committee meetings since EPA will not be available due to conflicts with potential River Corridor public information workshops. Several RAP members expressed an interest in holding committee meetings in July since that would be a better time to discuss the 100-K RI/FS and PP. The decision will be made on the April 26 Executive Issue Committee call.

The committee could be briefed in July and then offer opinions in an informal way. Those opinions might be incorporated into the Proposed Plan and formal advice could be issued in September. Committee members did caution against developing advice through email and phone calls. Successful advice that is approved by the Board most often is first developed in committee meetings and then refined. RAP will review what is in the actual document and receive another briefing before deciding on a path forward.

Draft Advice – 300 Area RI/FS and Proposed Plan[*]

Issue Manager framing

Dale, IM for the topic, reviewed the history of advice development on this topic. He said RAP developed draft advice for the 300 Area RI/FS and PP to bring to the April Board meeting. The draft was developed through email and over the phone, and RAP reached consensus on the draft advice. The intention was to provide advice earlier to the TPA agencies so they could use it before issuing Revision 0. When the draft advice went to the full Board, it was not approved and sent back to RAP for further work. Dale said the Board is offering advice on a document that is evolving and changing in ways the Board does not know about. It might be useful to wait until the actual document is available for review before offering advice. The other option is to improve advice points and bring the advice before the Board again at the June meeting.

Agency perspectives

Brenda said Ecology was concerned about the discussion of uranium sequestration at the Remedy Review Board, because DOE appeared to be saying they would not attempt another approach and go to monitored natural attenuation (MNA) if sequestration does not work. Ecology does not support MNA for uranium. Ecology is less concerned if the sequestration approach is successful than if the approach is not successful and DOE does not pursue any further cleanup actions. Brenda said Ecology is also concerned about comparisons of nitrate to uranium. Nitrate will move out of the system while uranium will remain for a very long time. If DOE really does believe that there is a nitrate plume originating from off-site, they can ask those parties to clean it up. Whoever is responsible for contaminating the Hanford Site is responsible for cleaning it up.

> *R: The issue is if DOE is going to invest resources and cleanup money in restoration of the aquifer. If the aquifer is not restored, DOE has not met the goal. From a taxpayer perspective,*

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

investing approximately $400 million to remove one contaminant from an area with multiple contaminants still leaves the water undrinkable, so restoration, the goal, has not been met.

Committee discussion

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

Steve Hudson offered to help rewrite the document. He said he reviewed the document and provided an analysis of the advice points (Attachment 4). Many of the advice points echo one another. He suggested RAP discuss what the key points are to shorten and refine the advice.

Some committee members felt the Board might be offering advice that is unnecessary, since DOE and EPA are in the process of revising the document. Waiting until the document is released might be the best approach. EPA has made it clear that any advice to make an "interim" decision would be unacceptable. The Board's other advice points might already be incorporated into the revised document. Since draft advice has already gone before the Board, agencies have heard Board members' opinions and may be able to incorporate them into the next version before the Board issues formal advice.

Other committee members believe the Board should offer advice on this, even if the documents are still in draft form, and believe the final document will not change substantially from what it is right now. The HAB can still advise that the agencies issue an interim decision, regardless of the agencies' stated preference for a final decision.

C: The agencies belief that RTD in the 300 Area would make the problem worse might change RAP's approach to the advice. Is this really the case?

R: DOE believes that the biggest issue with excavation is the large quantities of residual uranium. In order to effectively remove uranium from groundwater, the periodically rewetted zone needs to be excavated at the aquifer's lowest state. Uranium tends to bind to the mineral matrixes, coating gravel and fine grain material. The RTD approach with semi-saturated material would maximize the dissolution of uranium into groundwater. Also, dust control can create issues. New uranium plumes appear to have resulted from dust suppression at 618-7 and 618-10.

C: There are other approaches that can be used for dust suppression. Water is not the only option.

R: EPA stated that even when trying to minimize the use of water for dust suppression, a small uranium plum was created.

C: The concern of many Board members is that a final ROD is likely to be issued with a remedy that has not been proven. This was evidenced before with monitored natural attenuation that did not work. Sequestration is a solution to try, but it might not be the final solution. This area is upriver of drinking water and so is especially sensitive.

C: RAP should ask itself if the advice is asking the right questions. The risk in the 300 Area is quite low and it is not increasing. Should DOE be spending money to clean this up at this point in time? There are higher priorities in terms of risk to public health and the environment.

C: The decision to clean up the 300 Area is not a discretionary decision to make. The site is on the National Priorities List and since uranium exceeds drinking water standards, the site must be cleaned up. The nitrate needs to be cleaned up in addition to the uranium. The agencies do not have the option to decide that something does not warrant cleanup. This was one of the comments made by HAB members during advice review.

C: It is predicted that the uranium will be below limits within 40 years with no action. That is important to keep in mind. However, there is some question about the validity of that 40 year estimate.

> *R: EPA said that the document timeframe was 38 years based on modeling. U.S. Geological Services looked at the modeling and saw some simplifications. It could be more like 30 years. EPA does agree with DOE that the revised infiltration rate is more appropriate to the area, which would flush the vadose zone faster than originally predicted. The uranium plume is small, but there is another huge nitrate plume several times the maximum contaminant level. The nitrate plume will remain even after the uranium is gone. The CERCLA process requires restoration to drinking water standards.*

C: All the river corridor sites have the same issue as plumes move from the Central Plateau. The 300 Area is not an isolated case.

C: RAP has reservations about sequestration technology and how well it will resolve the uranium issue. The Board could suggest that the technology be tried before making a final determination.

> *R: DOE said the change package set forth in the milestones for delivery of the PP is based on negotiations between the three agencies. The three agencies agreed to TPA milestones that set a schedule to sign the RODs. DOE will meet their commitment to submit a PP. The Board will have to convince the State and EPA Region 10 to agree to any alternative approach the Board is proposing.*

Q: Did all three agencies agree that the technology is acceptable? The other option is to proceed with the technology and use RTD if it does not meet expectations. Where is the Phase 1 discussion referred to in the Response?

> *R: DOE will not submit a PP that includes RTD for removing uranium to the 200 Area. That would be a billion dollar commitment that would release more uranium than any other approach.*
>
> *EPA said technologies at the Hanford Site move forward all the time before they are fully proven to be effective. WTP is a good example. The PP states that if results are not satisfactory under Phase 1, the approach will be revisited. DOE will not automatically move to MNA. That was in the first version of the PP, but it has changed. DOE will be required to conduct a new FS if sequestration does not work. Larry will send the paragraph with that proposed language to RAP.*

DOE said that Larry's proposed language has not been finalized at the management level. DOE would like contingency plans if the technology is highly successful, moderately successful, or not successful.

C: One committee member stated they could never support RTD without an entire Environmental Impact Statement (EIS) because excavation uncovers many other problems. RTD is sometimes appropriate, but it would not be in this instance.

C: Uranium is a very common element. People in other areas of the world have far higher levels of uranium in their soils by nature.

R: (HAB member) There is a huge difference between naturally occurring uranium (Ur 238) and uranium (Ur 235, 236) from the 300 Area. These uranium isotopes are far more radioactive because of spent fuel rods. There are studies looking at the unique uranium isotopes found at the Hanford Site.

The committee reviewed Steve's document and identified areas of agreement on whether to move forward with, or drop, specific advice bullets. The committee decided to look at the advice again in May. Steve and Dale will prepare the next iteration in consultation with the other IMs and bring it back to RAP in May.

Site-wide Permit (Joint with PIC)[*]

Issue Manager update

Liz Mattson, IM for the Site-wide Permit (Permit) handed out a copy of the revised draft of the Permit public workshop agenda (Attachment 5). She said this version of the agenda has been revised based on RAP's input at the March meeting. Liz said she and Jean Vanni met with Dieter Bohrmann, Ecology, and Madeleine Brown, Ecology, to work on the agenda and it is now in Ecology's hands. Any edits will be final and then Ecology will distribute the agenda.

Liz said there was a useful presentation at the TWC meeting the previous day on tank-related Permit units. Ecology brought handouts ("baseball cards") with information on some of the Permit units that were pertinent to TWC. The presentation helped several TWC members become more interested in the Permit.

Liz reviewed the proposed workshop agenda. She said major changes were in the timing and removal of several topics from the 12:30-2:00 timeslot. Madeleine added that Ecology will also be talking about the risk budget tool and site waste. She said Ecology is preparing to mail and email a public notice on the workshop.

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

Committee discussion

Note: This section reflects a synthesis of individual comments.

The committee noted that there will be time between the May 3 workshop and the June Board meeting to gather input and begin thinking about how to prepare September advice. Pam reported that a video on the Permit process is being prepared by Hanford Communities. There is an effort underway to have the workshop televised.

Ecology suggested visiting the Permit section of their website. There is an overall fact sheet that might be useful, as well as the baseball cards on each Permit unit.

Suggestions about the agenda should be emailed to Madeleine soon. Several topic leads from RAP are needed to talk about Permit units that are of interest to the Board/committee. The template for TWC could be useful after the workshop at the May committee meeting or whenever the Permit is on the agenda again. Ecology will send an email encouraging Board members to take an interest in the Permit.

Committee Business

The committee began, but did not complete, updates to the Six Month Workplan. The 300 Area RI/FS and PP advice will be added to the potential May meeting agenda. RAP would also like time to discuss potential advice for the Tank Closure and Waste Management EIS (TC&WM EIS) ROD, which might be a joint topic with TWC. The Permit should also be on the May agenda to at least discuss the workshop outcome.

The committee moved several topics into upcoming months that were not timely or would not be ready for discussion until more information becomes available. They agreed to finish the workplan and May meeting topics table during the committee call on Tuesday.

Attachments

Attachment 1: Transcribed flip chart notes
Attachment 2: Transuranic waste presentation
Attachment 3: 324 Soil Contamination: Update for River and Plateau Committee
Attachment 4: Steve Hudson edits to 300 Area RI/FS and PP draft advice
Attachment 5: Revised draft Permit public workshop agenda

Attendees

HAB Members and Alternatives

Dale Engstrom	Pam Larsen	John Stanfill
Earl Fordham (phone) – ex officio	Liz Mattson	Richard Stout
Laura Hanses	Sarah McCalmont	Robert Suyama
Harold Heacock	Maynard Plahuta	Jean Vanni
Steve Hudson	Dick Smith	

Others

Paula Call, DOE-RL	Madeleine Brown, Ecology	Jennie Seaver, CHPRC
Mike Collins, DOE-RL	Albert Chang, Ecology	George Klinger, CTUIR
J.D. Dowell, DOE-RL	Elis Eberlein, Ecology	Nicole Addington, EnviroIssues
Mark French DOE-RL	Brenda Jentzen, Ecology	Susan Hayman, EnviroIssues
Jim Hanson, DOE-RL	Andrea Prignano, Ecology	Jessica Ruehrwein, EnviroIssues
Mike Thompson, DOE-RL (phone)	Deborah Singleton, Ecology	Barb Wise, MSA
Steve Weil, DOE-RL	Ron Skinnarland, Ecology	Shannon Cram, Public
	Larry Gadbois, EPA	Peter Bengtson, WCH
	Chris Guzzetti, EPA	Steve Marske, WCH
	Emy Laija, EPA (phone)	Don McBride, WCH
		Mark McKenna, WCH