

FINAL MEETING SUMMARY
HANFORD ADVISORY BOARD
RIVER AND PLATEAU COMMITTEE MEETING
June 8, 2011
Richland, WA

Topics in this Meeting Summary

Welcome and Introductions 1
Integrated Vegetation Management Environmental Assessment Briefing 2
CERCLA 5-Year Review 6
Columbia River Outfalls and Intakes & Other Project Updates 13
Committee Business..... 15
Handouts 16
Attendees 17
Appendix 1 - Transcribed Flip Chart Notes..... 18

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.

Welcome and Introductions

Dale Engstrom, River and Plateau Committee (RAP) vice-chair, welcomed the committee and introductions were made. The committee decided to defer approval of the May meeting summary to allow committee members additional review time.

J.D. Dowell, United States Department of Energy-Richland Operations Office (DOE-RL) introduced himself as the new Central Plateau Assistant Manager. J.D. wanted to ensure the Hanford Advisory Board (Board or HAB) understands that he shares the same strong integrity and principles of DOE to build consensus for decision-making. He mentioned the importance of government transparency. J.D. said another important management tenet is collaboration. He said public input allows DOE to be a progressive, innovative and responsive organization within the government. J.D. said consensus is also crucial. DOE strives to reach consensus on decisions whenever possible. J.D. said transparency becomes important when consensus cannot be reached. He appreciates the opportunity to work with the Board.

Pam Larsen, RAP chair, asked if anyone wanted to share comments about the Deep Vadose Zone Treatability Technologies Workshop held on June 7.

Dale said he had some reservations about the meeting because he thought DOE would only vet the technologies currently under consideration. Dale said that was not the case. DOE provided a wide examination of many different technologies. He said the workshop was very well done and DOE put a great deal of effort into capturing comments and understanding where more information was needed. Dale said there were two items of concern that were brought up at the end of the workshop. The first concern was that individuals outside of DOE would like to know more about the criteria for alternative selection. The second concern was that all of the work must be completed by June of 2012.

Shelley Cimon said she is glad to hear that DOE is beginning to discuss down-selection of technologies. She is interested in the next phase where DOE will begin screening technologies over the long and short-term to move away from institutional controls. Shelley said one item the Board commented on in the past is the tenet to do no further harm, which is very important when approaching cleanup in the Central Plateau.

Maynard Plahuta said he was impressed with the workshop and the commitment to transparency. He said there were individuals who attended from CH2M Hill Plateau Remediation Company (CHPRC), which was not common at other workshops. Maynard seconded Dale's concern about the work needing to be accomplished by 2012 and the importance of the Board remaining active on the topic by continually tracking progress.

Integrated Vegetation Management Environmental Assessment Briefing

Woody Russell, DOE-Office of River Protection (DOE-ORP), said he was the National Environmental Policy Act (NEPA) compliance officer for the Hanford Site. He provided a briefing on the forthcoming Integrated Vegetation Management Environmental Assessment (EA) along with the accompanying public involvement process.

He said the EA will evaluate two actions: a Proposed Action to use a comprehensive and integrated approach for managing invasive plants and noxious weeds at the Hanford Site and a No Action Alternative that would continue the current individual or project-specific approach for managing vegetation. He said DOE was examining two aspects of vegetation management under the Proposed Action alternative. The first aspect is vegetation management in the industrial areas (tank farms, cribs, ditches, etc.) where DOE primarily uses physical or chemical means to control vegetation. The second aspect examines vegetation control across the bulk of the Hanford Site with a focus on open rangeland. Woody said the scope of the EA covers the entire Hanford Site, but does not include National Monument Lands. He added that the EA also does not consider which plant species will be used for re-vegetation. Woody said the EA examines the general environmental effects of re-vegetation, such as the impact of plowing or using an aerial seed application.

Woody said the purpose of the re-vegetation program is to remove noxious weeds that replace native plants and degrade wildlife habitat. Noxious weeds are a flammable fuel source, especially tumbleweed and cheatgrass. He said DOE conducted a fair amount of burning along

roadways and utility lines to control those weeds and provide firebreaks. Noxious weeds can also spread contamination through root uptake. The goal is to control these weeds and re-vegetate using native species, negating the need for continuous vegetation management.

Woody said DOE had been using a piecemeal approach for managing invasive plants and noxious weeds for years. The new EA considers vegetation management in an integrated manner where the various control methods are balanced to minimize the impacts to native species and cultural resources. Efforts will focus on the promotion of native species rather than continuing to expend efforts on noxious weed control, which is a different concept than in the past.

Woody said the public involvement process for the EA would involve notification letters to tribal, federal, state and local governments; advance notice of the upcoming comment period, a 30-day public comment period starting in early July; and comments addressed in the final EA and Determination.

Regulator Perspective

- Washington State Department of Ecology (Ecology) and the United States Environmental Protection Agency (EPA) did not have any comments to add.

Committee Discussion

- Paula Call, DOE-RL, said DOE uses the plant species list in the Biological Resources Management Plan (BRMAP). This plan evaluates the different options for specific plant species to use in re-vegetation.
- Dale asked if Woody could talk about the differences between the current program versus the previous program. Woody said DOE has been using prescribed burning and herbicide applications for quite some time, but these have not been integrated within the context of a broader approach. He said DOE is also planning re-vegetation programs more extensively in advance to plant within the appropriate timeframe following noxious weed removal actions.
- Dale said he applauds DOE for doing the EA and broader planning for noxious weed control programs. He said this is a timely discussion because of upcoming remediation along the River Corridor. Dale said often discussions about re-vegetation include a list of species generated by the United States Forest Service that might not be native to the Hanford Site. Dale cautioned that re-vegetation efforts should consider future work plans so native species are not planted in areas that will be excavated. Dale mentioned that there are many plant species with deep roots that uptake contaminated water, especially sagebrush. Dale cautioned against removing all deep-rooted plants because many of these are native species. Woody said DOE is managing those species only in areas where there is the potential for contaminant uptake. Sagebrush is not removed if it is not necessary. DOE will use species with shallow roots to protect the cap.

- Shelley said she is curious about the success rate for re-vegetation and the number of times DOE must return to a planting site. She also asked if there are attempts to scale down the amount of herbicide being used. Woody said the intent is to decrease the amount of herbicides. Woody said DOE must examine a variety of considerations, which are included in the EA, when deciding on the best approach to manage an area with noxious weeds and what the impacts of that approach might be. Woody added that the EA does not discuss specific projects in detail. For specific projects, DOE will be required to conduct a cultural and biological review.
- Shelley asked if DOE received an increase in funding to conduct the EA. Woody said he is not sure. Steve Stites, DOE-RL, said he is not aware of any changes in funding. He said DOE is still conducting initial studies to determine potential impacts of their activities. Steve said when wildfires occur on the Hanford Site, they are unable to re-vegetate quickly enough so invasive species enter the area, requiring more efforts in eradicating those species from the site. He said it is a never ending cycle and DOE is still working to identify effective re-vegetation mechanisms.
- Maynard asked if DOE integrates their vegetation management activities with the United States Fish and Wildlife Service (USFWS). Woody said they do. Paula Call, DOE-RL, said USFWS had limited funding when they began their efforts to create integrated vegetation management plans. She said there is coordination between the agencies and added that they have been integrating efforts for years. Maynard said coordination is critical to success.
- Maynard said vegetation management plans call for using native plants. He said 20 years ago a variety of sagebrush brought from Utah was planted on the Hanford Site. This variety became a problem due to interbreeding with the native species. Maynard asked how difficult it is to find species that are native to the area. Paula acknowledged that is a challenge. She said over the previous ten years there have been good programs that collect and grow local seed. Shelley said the Board should address this issue when writing about the EA.
- Doug Mercer asked if there was a shared vision or guidance for a more formal level of integration between USFWS and DOE at a landscape level. Woody said there is potential for that. He said the agencies often work together and share the same end goal.
- Doug asked about edible plants. He is curious how much of the re-vegetation might be edible or traditionally used by First Nations. Woody said that information would be in the Biological Management Plan. Doug asked how the Biological Management Plan is related to the BRMAP. Woody said the Biological Management Plan assesses the impacts of taking an action, while the BRMAP examines the species used for re-vegetation. He said the EA does not analyze the impacts of various native species, only the impacts of planting.
- Shelley asked if DOE was considering endangered or threatened species. Woody said those species must be considered in cultural and biological reviews that DOE will prepare

as they begin to utilize control methods on specific sites. He said the EA is an overall plan with a lot of generalizations that still need to be fine-tuned through the biological and cultural reviews for each specific site.

- Gerry Pollet asked if DOE was going to review individual herbicides. Woody said they are not attempting to determine which herbicides should be used. The EA considers the impacts that should be considered when selecting an herbicide.
- Gerry said he used a Freedom of Information Act (FOIA) request a few years ago and noticed that many herbicides that EPA previously banned had been used on the Hanford Site. He asked how closely these were applied to the River Corridor and how DOE was handling the issue. Woody said he is unsure how the situation was dealt with in the past. He added there are criteria and needs that must be considered when choosing an herbicide.
- Jean Vanni said the EA is incomplete if it does not include considerations of the specific herbicides that might be used. She asked when the public would be able to look at those affects and whether specific herbicides would be included in a cultural review. Woody said it would be very difficult to include that level of detail in the NEPA. He said conducting a cultural and biological review across the entire site before completing an EA is unrealistic since DOE does not know where they will be applying the various treatments. The EA examines the considerations that must be made when a certain treatment is used. The question will be if all the potential impacts have been identified and if a reasonable approach is being used to select the most appropriate treatment.
- Jean said she thought an EA is supposed to evaluate whether there are significant impacts. She does not think DOE will have much success finding an impact because they are not looking at the specifics. Woody said DOE is seeking feedback on whether the impacts that would be considered for action are appropriate in the EA. DOE cannot provide the level of detail being asked for in every situation.
- Gerry said it is reasonable to expect an EA to include some specifics such as a description of the restrictions that might be placed within 300 yards of the Columbia River. He said this level of detail is reasonable and is provided by agencies all the time. Woody said that would be a good comment for the Board to provide.
- Gene Van Liew asked if the prescribed burning is primarily for cheatgrass and tumbleweeds. He suggested that DOE consider bundling tumbleweeds to avoid the air impacts of burning. The bales can be used to prevent soil erosion or as protective homes for game. Gene said bales condense the plants so they no longer grow and the seeds do not spread quickly. Woody said DOE did not include a discussion of baling in the EA, but it is something they could consider.
- Gene asked if DOE had set up any contacts with local nurseries to obtain native seed and plants for re-vegetation. He understands that in the past many nurseries were opposed to providing native plants for the Hanford Site. Woody said DOE does have programs set up with several nurseries. Dick Smith said there is a program through Washington State

University. Shelley said the Hanford Site has contracts with many growers in the area and beyond. The Tribes also have some native plant propagation programs. Gene pointed out that if replanting is not conducted quickly after burning, cheatgrass will return to the area because the seeds remain in soil for years. Woody said that if DOE was going to burn, they would be prepared to replant immediately.

- Susan Leckband said the 30 day comment period begins in July, but the Board is not meeting until September. She asked if an extension would be possible so that the Board could offer advice at the September Board meeting. Susan noted that re-vegetation is critical as the Hanford Site is reduced in size and thanked DOE for completing the EA. She said this is the perfect opportunity for the Board to offer policy-level advice. Susan said she hopes DOE will allow an extension for Board comments. Woody said he would bring that request back to DOE.
- Liz Mattson said she is concerned that the different types of herbicides are not listed. She said the impacts of burning are straightforward, but there are so many potential herbicides that there should be some kind of definition. Woody said there are some high-level considerations of the impacts of herbicide applications in the EA, such as noting there may be areas that aerial herbicide applications are inappropriate.
- Jean said the Rattlesnake Mountain Management Plan is on hold right now because it had been tied into the Tank Closure and Waste Management (TC&WM) Environmental Impact Statement (EIS). Jean added that the EIS includes a discussion of vegetation. She asked if DOE is coordinating vegetation on Rattlesnake Mountain with the Hanford Site. Woody said that question is tied into BRMAP. DOE is aware of the requirements for Rattlesnake Mountain and there will be questions since efforts have stalled.
- Shelley asked what the current plan is for addressing vegetation found to be radioactive. Woody said he is not sure. He believes tumbleweeds are bundled and disposed of at the Environmental Restoration Disposal Facility (ERDF). Shelley asked if that was addressed in the EA. Woody said it is not addressed in that context. Shelley said the Board should capture this issue in their comments.

Pam said there does appear to be RAP interest in the EA topic. Cathy said the next opportunity for advice would be in September. Susan asked DOE to provide an answer by the June 23 Executive Issues Committee call as to whether the Board could receive an extension on comments so they would know how to move forward. Jean, Dale and Shelley agreed to be Issue Managers (IMs) for this topic.

CERCLA 5-Year Review

Vince Panesko, IM for the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) 5-Year Review, commented on his prior experience doing radiation reporting for DOE during his career. He said personal judgment is used extensively as well as what should be included for any documents for DOE-Headquarters (DOE-HQ). There is some guidance about

content to be included in the 5-Year Review, but there is also discretion regarding the concept of protectiveness. Vince said, from his perspective, the regulations and requirements to create the report were being thought of as an obligation.

Vince said in order to verify protectiveness, he expects someone to go to the site with a checklist and verify that soil is at background levels. DOE currently has the soil sample data, radiation measurements and visual measurements that can be used to state whether remediation at a site is protective by institutional controls (ICs). Vince said the Board did not like the previous 5-Year Review and challenged it in Advice #190.

Vince hopes RAP will consider the definition of protectiveness and why DOE is not taking measurements at each radiation site. He said the new 5-Year Review will potentially be available in June. He said RAP will need to discuss when comments or advice from the Board would be appropriate. Vince said one Board recommendation could be that DOE have a checklist for every site outlining the steps taken to determine if remediation was effective.

Cliff Clark, DOE-RL, gave a status update on the 5-Year Review. He said the document is still in preparation and information for the analysis was coming in as recently as the previous week. DOE's goal is to submit a final report to EPA by November 6, 2011. DOE is also still planning to provide a draft of the document to the regulators soon so they have time to review the document before the final version is released. DOE will also make the document available online for public review hopefully by the end of the month. Cliff said DOE will consider any comments and address salient points, but will not be providing a formal response.

Cliff said he would reiterate what he told RAP at the March committee meeting. He said DOE has an obligation to conduct a 5-Year Review as the responsible party under CERCLA. Cliff acknowledged that EPA conducted the first 5-Year Review and DOE conducted the second, which they received some criticism for. He said the current 5-Year Review has been completely re-formatted at EPA's suggestion.

Cliff said EPA offered guidance on how to make determinations of protectiveness of a remedy. He said one determination could be that there is not enough information available to make a determination of whether remedies are protective or not. The other determination could be that remedies are likely to be protective once they are completed. Cliff said most determinations in the report will fall under the second category. Most remedies are being conducted under interim actions with the intent that work already completed will be consistent with final remedies, although DOE often does not know what the final remedy will be. Cliff said the goal of this 5-Year Review, as with the previous reviews, is to ensure any immediate threats to human health are addressed and that remedies will meet long-term protectiveness goals.

Regulator Perspective

- Chris Guzzetti, EPA, said EPA is working as closely with DOE as possible. He said this review conforms more closely to EPA's guidance than the previous 5-Year Review not only because of its readability, but also because the 5-Year Review process has been

examined nationally in extensive detail. EPA held discussions about the 5-Year Review to ensure Records of Decision (RODs) are protective or that a comprehensive protectiveness statement is included. Many of the remedies at the Hanford Site are in interim status until final RODs are available. Chris said the next 5-Year Review will be better because the final RODs will be available.

- Rick Bond, Ecology, said Ecology provided comments on the 5-Year Review the previous winter, which DOE is addressing. He said Ecology has not been very involved in the process over the last several months.

Committee Discussion

- Dale said since the Board does not have the most current 5-Year Review, they are speaking in terms of the second Review. He acknowledged that since a lot of the RODs are interim RODs, DOE's job is rather difficult. The agency must write a review without having much to work with. Dale agreed with Vince's statements and said they were also in concurrence with Board tendencies. He said the approach taken for the 5-Year Review has not been thorough enough in terms of cost effectiveness and review of new technologies over the long-term. He said the opinion is that DOE considers the 5-Year Review a rubber stamp exercise. Dale felt there should be a greater effort. Dale said that, like Vince, he is looking for verification that there is a validation process that thoroughly examines whether the remediation techniques are effective, including what the long-term effectiveness will be in the future.
- Pam asked if there are major topic areas discussed in the 5-Year Review. She used the extensive discussion of the Uranium in the 300 Area from the second 5-Year Review as an example. Cliff said problematic items will continue to be examined. Cliff said he sees people working on the Hanford Site all the time, even at sites that have been considered completed. No areas are being neglected. Cliff said DOE could add more description in the 5-Year Review about these types of activities. He said it is difficult to conduct a final analysis since DOE is working with interim decision documents. When the final RODs are issued, it will offer a real opportunity to tell DOE what should be done and will make DOE's job much easier.
- Gerry said there are a significant number of sites that currently show risks above standards and will continue to exhibit these risks over 100 years. He asked how that issue is reflected in the 5-Year Review. Cliff said decisions on protectiveness will be incomplete.
- Jean asked if DOE acknowledges uncertainty in the 5-Year Review because of the River Corridor Baseline Risk Assessment (RCBRA). Cliff said they do. Gerry said the 5-Year Review is supposed to make a determination of whether the interim actions are protective and, if not, to determine which elements still need to be addressed. He asked if DOE is reflecting on the remedies that are not working. Cliff said he cannot answer that question because the final draft is not yet available. Paula said a final RCBRA will be available in

September that includes some changes based on the regulations and stakeholder input for the draft RCBRA.

- Gerry asked Chris about environmental justice. He said there appears to be very clear guidance for an environmental justice review, including assumptions for the 5-Year Review. He asked if that review would occur and how the reliance on ICs would have future impacts on tribes. Chris said he is unfamiliar with the environmental justice aspect. He noted that one of the recommendations that came out of the previous 5-Year Review was to complete the RCBRA. He said all these reports and efforts feed into each other. Chris said the current 5-Year Review has a cut-off point of September 2010. He could not recall when the draft RCBRA was issued so he was unsure if that analysis was included in the 5-Year Review. Any efforts conducted after September 2010 will be captured in the next 5-Year Review.
- Doug said the 5-Year Review requires a scientific basis for determining if ICs are protective. DOE is required to conduct a systematic evaluation of the remedy. He asked if engineered remedies need to provide back-up evidence of their protectiveness. Cliff said any engineered part of the remedy would need to meet standards. Doug said there needs to be an empirical and scientific basis for stating whether a remedy is protective or not. Doug asked if DOE was looking for that kind of evidence. Cliff said that would be completed as part of the remedy and in the Remedial Investigation/Feasibility Study (RI/FS) providing the decision that an IC was going to be used. He said DOE does not revisit the basis for selected remedies in the 5-Year Review. DOE focuses on whether the remedy is working as it was intended when the decision was made. Doug clarified that the 5-Year Review only determines whether a remedy is working as claimed in that moment, not whether the decision that lead to the claim is incorrect. Cliff said it was never the intention for DOE to re-examine every decision. If there is new information regarding the effectiveness of an IC, it should be considered in the 5-Year Review to see if it is still being effective. If there is no new evidence, DOE can assume that remedy is effective.
- Doug said an IC is effective in so far as the information provided about that remedy is understandable by all parties that have a role in maintaining that remedy. He said the 5-Year Review needs to ensure the various audiences understand the hazards of the site including the parties who will be implicated in the remedy. Cliff said it is very difficult to ensure that every individual understands all the information they might need to know. He said DOE completely reformatted the 5-Year Review because they took the criticism very seriously that it was hard to read. This review is meant to be understandable by the general public.
- Liz said there does seem to be an attitude of finality for some sites. She asked about articulation in the written document, such as for determinations of significance or non-significance. Cliff said EPA proposed the specifics on what would constitute protectiveness. He said there is a step-wise process to help make evaluations. Liz asked if determinations were classified as is/is not/will be protective in the 5-Year Review. Cliff

said that is simplistically fairly close. DOE does not have sufficient information to judge protectiveness at this time so he cannot fully answer that question. He said one determination could be that DOE does not have a final complete action so they cannot know whether the remedy is protective, but believes it will be protective once the work is complete. Another determination is that a remedy is proceeding as planned, meeting the expectation and is either effective or not at the remedy.

- Liz asked if there were definite determinations of protectiveness. Cliff said the definitive determinations would be made by the ROD. He said remedies outlined in the ROD are intended to be protective. If after five years nothing has changed, the remedy is assumed to still be working the way it was intended and is protective. If something else happens, such as someone drilling a well and finding a contaminant that should have been removed, DOE will need to re-evaluate the situation before saying the remedy is protective.
- Liz recommended defining protectiveness very clearly in the 5-Year Review. She said if protectiveness is determined on a decision-specific or remedy-specific basis, then that should be clearly stated in the document.
- Vince referred back to ICs. He said RAP has heard from different branches of DOE about the weakness of ICs. He said everyone knows ICs fail and are not adequate for protection. Another branch of DOE states ICs are fine. Vince is concerned about this inconsistency within DOE, which he believes must be addressed. Vince said another concern he has is what IC means. He said in his opinion an example of an IC is some sites that have been remediated by simply not allowing people on the site. Vince said measures need to be taken instead of just assuming the work is done. The assumption is that the radioactive material will remain where it is and not move; that it will not migrate into groundwater.
- Dick asked if anyone physically returns to remediated sites to examine whether something happened in the previous five years. Cliff said he cannot answer that question for every area on the Hanford Site. He said some locations are fairly remote with no activities being conducted and he is not sure if someone is returning to those sites on a regular basis. DOE does conduct a fly-over every year to look for radioactivity, which is how some of the spread was traced. Cliff said there are many activities that occur, but are not captured in the 5-Year Review. He said individuals who are frequently at the Hanford Site see these activities occurring, but others do not know the full extent.
- Dick asked about the types of active surveillance that supports protectiveness decisions. Cliff mentioned the cocooned reactors as an example. He said all that remains of the reactors is a core with a surrounding shell that is welded shut. Cliff said every five years the reactors are opened and radiation technicians conduct a survey of the reactor itself as well as the surrounding area to make sure no contamination has spread. He said DOE conducts on-site monitoring using dosimeters and sampling. These activities are conducted on a routine basis, but they are not actually part of CERCLA. Cliff added that the Washington State Department of Health (DOH) has another program to compare

DOE results to their results. Dick said he thinks there should be some discussion of these activities within the 5-Year Review document. Cliff said that might be possible.

- Maynard said he agrees with Vince, but considers the situation differently. He said ICs work under limited conditions. Maynard does not want to state that all ICs will not work. He said for isotopes that only pose a threat for a few years, ICs might be effective. Maynard said the 5-Year Review should document the monitoring data available in order to help the public understand that these ICs are protective. Cliff said he is not implying that these activities are not important. The activities are separate from the CERCLA. He said the programs have been in place since the 1940's.
- Maynard said conditions can change without anyone realizing that the conditions have changed. He said DOE should conduct checks and measurements on a periodic basis, to ensure the situation is still the same. Cliff mentioned the Horn Rapids Landfill. He said the IC at that site includes a fence with warning signs stating the site is an old landfill where asbestos is stored. There are people who verify the fences and signs are still standing and drive around to ensure there are no holes in the fence or tire marks that would indicate someone is accessing the site. Cliff said ICs can be very effective as long as they are being monitored.
- Todd Martin said there are many activities occurring on-site to determine protectiveness. All these activities satisfy a regulatory requirement. Todd said he would like a 5-10 page summary explaining what activities are occurring, what regulations those activities satisfy and what activities they support. He said a site-wide risk assessment strategy is missing that would illustrate how all the different pieces form a puzzle. Todd said he would like to see a simple document that explains what DOE is doing and why. He does not think that would be part of the 5-Year Review. The issue is general to the Hanford Site because there is no clear picture of how everything fits together. Cliff agrees and added that there are a number of reports issued every year, which cover a lot of material. Todd said he would like to understand the physical line between the different reports.
- Liz asked how visibility plays a role in the priorities for the 5-Year Review. She said cocooned reactors are different than radiation 15 feet beneath the surface. The radiation is not assessed; the fence is assessed. She said the fence is not the actual problem so she questions assessing the fence as opposed to the radiation. Liz expressed confusion about who is in charge of the review and asked whether DOE or EPA is leading the effort. Cliff said the simple answer is that the Statutes and Executive Order on a federal site, in this case a DOE site, make DOE responsible. DOE is the lead agency under CERCLA for the Hanford Site. The role of EPA is to ensure that the federal agency conducts the 5-Year Review in a way that is consistent with how EPA believes it should be conducted. EPA does not have any regulatory power per say, but they do have a great deal of clout in ensuring the federal agency conducts the review within the requirements of the law. At the conclusion of the review, DOE must provide a report to EPA. EPA then makes a determination on whether protectiveness statements are accurate.

- Dale thanked Cliff for speaking with RAP. He said once an alternative is selected and codified in the ROD the process ends. Someone needs to verify that the remediation is working into the future and validate whether remedies are protective. Dale mentioned the importance of having a budget that allows for effective monitoring. Cliff said there will be legacy management funding, but Congress determines that amount. Dale said that is the concern; that sometime in the future the activities Cliff is describing will cease when the budget is reduced.
- Pam said RAP is raising legitimate questions that may be missing in the current draft of the 5-Year Review. Pam said the 5-Year Review must be thorough enough to meet the expectations of the public. She is interested to see how DOE responds to the previous Board advice in the current 5-Year Review.
- Gerry asked if EPA would validate that signage has repeated failed, especially in 300 Area cleanup sites. There is evidence people are visiting the sites, despite the ICs. He stressed the important role EPA plays and noted that EPA must report to Congress and issue its own determination. EPA can order additional ICs. He said the 5-Year Review of the Harbor Island Superfund Site is a good example of how other reviews are conducted and asked if DOE used other reviews as examples for the Hanford Site. Chris said DOE used Idaho as an example, but the Hanford Site is very unique. Gerry said the complexity of other Superfund Sites dwarfs Hanford in the number of liable parties and vast array or contaminants. Gerry said the Harbor Island Review included good formatting with simple questions asked of each unit.
- Chris described the three guiding questions DOE received from EPA. The first question asks what the technical assumptions are. The second question asks if the assumptions are still valid. The third question asks if any other information has become available that would call those assumptions into question. He said these are the questions DOE is using for the current 5-Year Review, which were not used before.
- Chris said the other major concern he is hearing involves the concept of ICs. He said even if the remedy is not yet protective, DOE should be able to explain what is being done in the interim. Chris said activities could be considered protective because of the treatment plus the IC. He said when a ROD includes an IC as part of the proposed plan, more would be required and that would not be sufficient.
- Vince commented that he has different experience than many people from DOE, EPA and Ecology who have come and gone over the past 40 years. In his opinion, Vince said the approach taken over the last 60 years is the failing approach. Cribs and burial grounds were designed with 10-15 feet of clean dirt over the top. He said that was considered protective. Vince cautioned that DOE is repeating the same mistakes.
- Jean said she hoped DOE would look outside the box and incorporate suggestions from the current discussion even if that would result in a process that differs from other CERCLA sites. She said there are many closure verification packages and other items that will be issued in anticipation of the final RODs.

Vince said the 5-Year Review will be available at the end of June. CathyMcCague, EnviroIssues said she would send notice to the Board when it is available. Paula said the comment period has been changed. She said the review period will occur sometime in July when the draft is available. The Board will be able to offer advice in September.

Doug announced he is forming a non-profit for young adults on civic and corporate partnerships. He is using Hanford as a pilot and has generated interest among many organizations. He said there will be a brown bag lunch held during the break for anyone who is interested in participating or would like to learn more.

Columbia River Outfalls and Intakes & Other Project Updates

Mark French, DOE-RL, said he is the Federal Project Director for the River Corridor project. He provided an update on River Corridor closure projects starting with the 618-10 Burial Ground. Mark said that Washington Closure Hanford (WCH) found what they were expecting and there were no surprises at the burial ground. He said excavation was occurring with the initial work funded through American Recovery and Reinvestment Act (ARRA). Work is expected to be complete on schedule at the end of September. Mark said WCH used lessons learned from 618-10 for 618-11. They installed 2 cone penetrometers at each vertical pipe unit (VPU) and none in the trenches. WCH expects to complete that work in the next few weeks. Mark said another area WCH is working on is remediation of the VPU as well as straight remediation.

Mark moved into a discussion of the 324 Building. He said WCH conducted an initial characterization and has been working on remediation technologies. The initial list included 100 technologies, which has been greatly reduced. WCH saw a significant reduction in dose once the probes reached under the cobble area under the building. Gary Snow, WCH, said the initial characterization was just under the sand liner and then WCH used a bigger machine to reach the cobble. The probes reached a steeper angle and moved beyond the contamination to find where the bottom was. Mark said samples were taken to the 325 Laboratory for analysis, which will greatly simplify efforts.

Mark next provided a brief update on efforts at N Reactor. Mark said WCH is working with Ecology, USFWS, National Marine Fishers Service (NMFS), and other organizations to remove the river structures. He said WCH is expecting an NMFS document in a few weeks followed by a document from USFWS and another document from the U.S. Army Corps of Engineers. He said DOE is working closely with Ecology, WCH and vendors to decide on the best approach for the removal of structures and to develop a treatment method for removing the sediment. He said they held a final meeting with the contractors last week, creating a path forward.

Regulator Perspective

- EPA and Ecology had no comments to make.

Committee Discussion

- Jean asked what the reasoning is behind sediment removal. Mark said there are metals, polychlorinated biphenyls, oils and other contaminants. Jean said a concrete sample should be taken to ensure the concrete is not contaminated. Mark said WCH is removing the sediment and then backfilling. The remaining portion of the river structure will be isolated from the river. The source of contamination that would have the potential to reach the river in the future will be removed and disposed of at ERDF. DOE believes what they are doing is protective of the environment and they do not see a need for additional sampling.
- Pam asked if a dike is being installed. Mark said a gravel rock bench will be installed that will provide a work area for removal of the structures. Gary said there will be rocks against the structures that will slope away into the Columbia River.
- Susan asked if WCH had found the bottom of the contamination at Building 324 and if so, could it be removed. Gary said they have found areas where there is no contamination. They know the contamination stops somewhere between where it began and the bottom of the sampling. There are many technologies being considered for removing the contamination under the building. Mark said divers will do the actual sludge removal.
- Jean asked if DOE will conduct additional consultations with the tribes after receiving the biological assessment. Mark said he is not sure if there will be more consultation, but DOE has spoke with the tribes and have a tribal working group. This group was briefed several months previously about removing the structures. He said there would probably be more discussions.
- Jean said she had not been aware other types of biological assessments were being conducted on the Columbia River. She said it is possible to mitigate impacts all along the Columbia River, not just at each site-specific area. Jean recommended broadening the scope beyond the N Reactor and 100N structures. Mark said there are currently no plans to work in other reactor areas.
- Jean said she participated in a discussion yesterday where DOE stated they revised an environmental assessment and would install a berm, then remove the berm and install shallow pools. Mark said that is not part of the biological assessment.
- Robin Varljen, Ecology, said Jean is referring to the different sloping that will be used. When a bench is installed at a certain slope, it changes the slope for mitigation on the river edge. She said that is what Jean requested from mitigation. Mark said a pond would allow water to enter the remediation site along with salmon and other creatures. He said they do not want to create areas that would trap fish. Jean said the shallow pools she referred to are actually shallow grading. Mark said the discussion involved shallow water habitat.
- Jean said one question that has never been answered involves a calculation that explains the amount of erosion for the berm. She asked about the amount of silt that would enter the Columbia River in the future. Mark said an erosion study does not exist and they

would need to develop a model to obtain the calculation. Jean said she is concerned because DOE said they would use cobble, which does not contain a lot of dirt. DOE also said they will re-vegetate the berm. Gary said the rock bench in the water and the slopes will be re-vegetated, but there were never plans to re-vegetate on top of the berm.

- Shelley asked if DOE was expecting an adverse biological opinion. Mark said they were not. Shelley asked what the schedule is. Mark said there are different opinions from different agencies about the amount of slope but it should be consistent.
- Dick said he remembers earlier discussions where DOE indicated they would remove screens and install dams. Gary said WCH did that. Screens were removed and stop logs installed to isolate the structures from the Columbia River. The berm will be in front of those stop logs.

Gary said the last opinion is expected to be issued towards the end of June. Shelley said RAP will wait for that document before taking further action. She thanked Mark and Gary for providing an update and said RAP looks forward to hearing more when more information is available.

Committee Business

The committee updated the 6-month work plan. Pam said there would be no meetings in July to reduce Board expenses. Potential August RAP topics include: the Hanford Site-wide Permit, River Corridor Closure Projects, River Upwelling Package, Long-Term Stewardship (LTS) Plan Implementation, River Corridor Final Decisions, and draft advice for the CERCLA 5 Year Review.

Jean and Gene agreed to be issue managers on the biological opinion issue. Doug said he would like to participate in tracking the issue because he views it as closely linked to the final River Corridor decision.

Maynard asked Paula if it would be appropriate to include a presentation on asset relocation. Paula said DOE is looking at the lands zoned industrial in the same way because there is the potential for very different use. Maynard suggested that could be another topic for future Board discussion. Paula said the Board should provide a framing question to help DOE understand their interest better.

Jerry Peltier asked how much of the DOE land along the Columbia River will become part of the national protected lands. He asked how much of the Hanford Site would become USFWS land and whether they would accept these lands for long-term stewardship. Paula said the final boundary has not been set, but will likely be a quarter mile inland. The monument does not include the 300 Area.

Dale said he is waiting to see what the next steps will be coming out of the deep vadose zone workshop. He asked if there would be any advice forthcoming from the Board. Shelley said she would like the Board to participate in the down-select process. She suggested writing a letter to thank DOE for the excellent workshop, which could be done through email. Shelley and Dale offered to draft the letter and send it to Susan for submittal.

Vince offered to draft advice on the CERCLA topic with assistance from Doug. Dale said the advice will go to the Board in September. Susan said it is important to make sure the committee has enough time to comment on the draft.

The committee decided not to have a call in June. There will be a call in July to plan for a full day meeting in August.

Handouts

- Integrated Vegetation Management Environmental Assessment. DOE, June 8, 2011.
- What is the CERCLA 5-Year Review? HAB – RAP committee
- River Corridor Closure Project Update. WCH, June 8, 2011.

Attendees

HAB Members and Alternates

Shelley Cimon	Liz Mattson	Gerry Pollet
Dale Engstrom	Todd Martin	Wade Riggsbee
Harold Heacock	Doug Mercer	Dick Smith
Steve Hudson (phone)	Vince Panesko	Lyle Smith
Pam Larsen	Jerry Peltier	Gene Van Liew
Susan Leckband	Maynard Plahuta	Jean Vanni

Others

Woody Russell, DOE-ORP	Rick Bond, Ecology	Tom Rogers, DOH
Cliff Clark, DOE-RL	Madeleine Brown, Ecology	Nicole Addington, EnviroIssues
J.D. Dowell, DOE-RL	Larry Gadbois, EPA	Cathy McCague, EnviroIssues
Mark French, DOE-RL	Chris Guzzetti, EPA	Sharon Braswell, MSA (phone)
Steve Stites, DOE-RL	Rod Lobos, EPA	Cole Lindsey, MSA
	Stacy Nichols, Ecology	Barb Wise, MSA
	Jacqui Simpson, Ecology	Doug Sherwood, Rivers Edge Environmental
	Robin Varljen, Ecology	Peter Bengtson, WCH
		Gary Snow, WCH
		Jill Thomson, WCH

Appendix 1 - Transcribed Flip Chart Notes

Potential Advice Policy Points – CERCLA 5 Year Review

1. Check list of criteria for every radiation site
 - a. What is the process – evaluate the long-term effectiveness
 - b. Periodic checks to ensure nothing has change at the radiation site or if there has been a change to note it
2. EPA review of Environmental Justice assumptions of institutional controls (Chris, EPA to check on EPA's role)
3. Ensure readability and understandability of document by general public (those impacted by remedies chosen)
4. Define protectiveness
5. Address inconsistencies of inconsistencies of institutional controls (within DOE)
 - a. Address soil problems under tanks
 - b. Are there technologies out there for drilling waste out of tanks? Directional drilling?

Page 1

Potential Advice Policy Points – CERCLA 5 Year Review cont'd

6. Address mobility of contaminants
7. Review include reference to monitoring data to assist public in understanding remedy's protectiveness
8. Need to develop site-wide risk analysis
 - a. How do all of the risk assessments, analyses, EISs relate, integrate and support one another?
9. Support funding for continuation of 5 year review
 - a. Study /investigate protectiveness/remedy selection

Page 2

Environmental Assessment

1. Use local, native seeds from here (local nurseries)
2. Continue integration with Fish & Wildlife
3. Restrictions of herbicide use
 - a. Would like to know which ones used and method of application
4. Extend comment period to accept Board advice/comments at September Board meeting
5. Revegetate/Plant at appropriate time
6. How are contaminated brush/plants harvested? What is the plan for disposal?
7. Dale, Shelley, Jean are the issue managers
8. DOE will let EIC know if comment period can be extended on their June 23 call

Page 3
