

FINAL MEETING SUMMARY
HANFORD ADVISORY BOARD
RIVER AND PLATEAU COMMITTEE MEETING
November 15, 2006
Richland, WA

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<p><i>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.</i></p>
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Welcome and Introductions

Jerry Peltier, River and Plateau Committee (RAP) Chair, welcomed the committee and introductions were made.

Changes to the October RAP meeting summary were incorporated, and the summary was approved.

River Corridor Update – N-Area Groundwater

Mike Thompson, Department of Energy-Richland Operations Office (DOE-RL), discussed the status of groundwater remediation work in the N Area. DOE-RL determined the decade-old pump and treat system operating in the N Area is not effective for reducing strontium (⁹⁰Sr) concentrations in the Columbia River. An improved apatite sequestration technology was selected from the Innovative Treatment Remedial Demonstration (ITRD) program. During the initial test of the technology in an area along the river, ⁹⁰Sr concentrations increased 25 times their current levels. Because of these unexpectedly high results, scientists changed the apatite solution chemistry. A follow-up test resulted in a more acceptable increase of 3.3 times current concentrations. DOE-RL

believes it has the necessary information and test results to proceed with a 300-foot injection of apatite solution. A schedule for the injection is being developed.

Regulator Perspectives

Dib Goswami, Washington State Department of Ecology (Ecology), said Ecology was initially skeptical of the apatite sequestration technology and monitored the first test injection closely. Ecology is encouraged by the results of the second test, and monitoring data indicate the technology is behaving as expected. The main lesson learned from the tests is the amount of apatite solution necessary to generate appropriate ^{90}Sr sequestration. Ecology believes apatite sequestration has a lot of potential to stop ^{90}Sr from reaching the river. The technology is undergoing a 12- to 14-month study, and Ecology will continue to monitor its effectiveness closely.

Larry Gadbois, Environmental Protection Agency (EPA), said N Area has the right conditions for effective application of the apatite sequestration technology. However, DOE-RL also needs to apply the technology to the 200 Area, which has more difficult issues and conditions.

Committee Discussion

- *What is the diameter spread and depth used in the apatite solution tests?* Mike said the solution was injected in a 30-foot diameter spread. The apatite injection must consider the Ringold and Hanford geologic formations, and DOE-RL is working on these engineering issues using results from the two tests. Mike said he will share the schedule and process with the Board as they develop.
- *What was the cause of the increased concentrations of ^{90}Sr after the apatite injections?* Mike said DOE-RL expected calcium citrate to bounce ^{90}Sr off the soil initially and cause increased concentrations of ^{90}Sr ; however, the increase was significantly more than expected, which prompted a second test to reduce the increased concentration.
- *Is the apatite expected to permanently bind with ^{90}Sr ?* , and after three half lives, 90% of the ^{90}Sr would be sequestered.
- *Is there a long enough history with apatite to be confident that will sequester $\text{Sr}90$ for 90 years?* Mike said it is expected to bind permanently; studies of crystal morphology indicate that sequestered ^{90}Sr will remain sequestered. One half life of ^{90}Sr is 27 years, so DOE-RL will have the opportunity to monitor up-gradient and down-gradient of the injection locations to ensure ^{90}Sr remains sequestered.
- *What is the concentration of ^{90}Sr in the Columbia River?* The peak ^{90}Sr concentration in the river was 3,200 pico curies per liter. During the second injection, the peak release observed was 2,100 pico curies per liter, which decreased in three days. Concentrations of ^{90}Sr are detected in river tubes, but also seen locally in river transects. 60,000 gallons of apatite solution were injected, and very little flushed

back into river. Mike said DOE-RL wants to determine whether ⁹⁰Sr can be sequestered during high river levels.

- *Where is the coyote willow treatability test being conducted?* The treatability test is in D Area. A fertilizer test is being conducted in a non-⁹⁰Sr area to control potential issues and make sure the willows will grow as intended.
- *Is the apatite technology useful for other contaminants?* Mike said apatite sequestration can be used for uranium and other metals. In the 300 Area, DOE-RL is using polyphosphates to sequester uranium.
- *What is the funding status for implementing these technologies?* Mike said the House of Representatives budget includes an earmark for these technologies, but the Senate budget does not. DOE-RL is likely to be operating on a Continuing Resolution until the Senate makes its decision. Mike said some Congressional staffers were concerned about the process for the technology selections, which did not use an open, competitive bid process. DOE will likely apply an open bid process during the next round of technology selections.

U.S. Fish and Wildlife Service Comprehensive Conservation Plan

Greg Hughes and Dan Haas, U.S. Fish and Wildlife Service (USFWS), provided a presentation of the Comprehensive Conservation Plan for the Hanford Reach National Monument. Greg noted that USFWS is an important partner in the management of the Hanford Reach National Monument, and currently DOE and USFWS are joint stewards of the monument. A presidential memorandum instructs DOE to work with USFWS to protect areas of the Reach and wildlife habitat in perpetuity; however, this is missing from existing long-term stewardship plans. USFWS discussed the plan with the regulatory agencies and the Washington Department of Health (WDOH), and developed a Monument Uses Fact Sheet to answer the public's questions. The plan will be released in December. Greg encouraged the Board to set up a presentation from Don Steffek, USFWS Chief of Contaminants, on issues the Natural Resource Trustees Council (NRTC) is dealing with regarding the site-wide ecological risk assessment.

Greg said the plan represents the first monument management planning effort, and is a landscape-level planning document similar to DOE's Comprehensive Land Use Plan. The plan was written by DOE and USFWS to coordinate the mission, goals, and management planning for the monument. Development of the plan involved a very successful process to achieve a broad consensus, including planning workshops with the public, tribes, and other interested parties that helped craft the plan's vision and goals. The tribes participated as cooperating agencies/governments.

The following alternatives are included in the environmental impact statement (EIS) for the monument management plan:

- Alternative A: The no action alternative. Maintains current management efforts with no future planning.

- Alternative B: Conservation of Proclamation Resources with a restoration emphasis. Based on finite budget, this alternative emphasizes ecosystem restoration and management, with some public recreation.
- Alternative C: Conservation with an open space emphasis. This alternative focuses on protecting the undeveloped heart of the monument by limiting public use to existing roads and trails. Provides increased public use.
- Alternative D: Conservation with a public use emphasis. This alternative includes providing additional trail and public use concepts. Potential cultural use property designations are based on consultation with the tribes. Under this alternative, limited entry is provided along specific roads, boat launches, camping facilities, and trails.
- Alternative E: Conservation with an open space emphasis (modification of Alternative C). Provides increased opportunities for public use and enjoyment. Maintains protections for open spaces, but allows for more public use access.
- Alternative F: Conservation with a restoration emphasis (modification of Alternative B). The Confederated Tribes of the Umatilla Indian Reservation (CTUIR) proposed this alternative to make resource protection a management priority. In this alternative, everything south of the river is closed to public use and everything north of the river is open. Also, everyone who goes on the monument would need a permit.

Greg explained the location selection for a monument heritage and interpretive center. Local jurisdictions unanimously selected Columbia Point South as the preferred site for the heritage and interpretive center. The heritage and interpretive center project receives support from several cooperative partners, including the Federal Highway Administration (FHWA) a variety of non-profit and community organizations. The project is projected to be completed in spring 2008 at a cost of \$48.1 million. USFWS will hold four public meetings to take comments on the plan: January 30 in Mattawa; January 31 in Sunnyside; February 5 in Richland; and February 8 in Pasco.

Dana Ward, DOE-RL, said DOE-RL has worked with USFWS throughout the plan development process, so DOE-RL agrees with much of it. This plan will set the course for management of the monument, and DOE-RL wants to be cautious to make sure this is the appropriate plan.

Regulator Perspectives

John Price, Ecology, said the EIS alternatives analysis must consider the reasonable maximum exposure scenarios, which are very important to long-term stewardship. DOE has authority to plan land use for at least 50 years; however, DOE and Ecology disagree about how far DOE's land use responsibilities extend. In many respects, the current 100 Area plans achieve an appropriate cleanup level for the proposed future land uses.

Larry Gadbois, Environmental Protection Agency (EPA), agreed that DOE has appropriately designated most of the 100 Area for unrestricted surface use. All the activities discussed in the USFWS plan are the activities being considered in the Hanford

cleanup plan.

Committee Discussion

- *How does the plan propose to restrict public use in some areas of the monument?* Greg said existing use rules apply until DOE releases various areas under the long-term stewardship plan. Management plans require DOE and regulatory agencies' approval. Institutional controls (ICs) need to be applied appropriately to ensure public safety.
- *How often are land use management plans reviewed?* Greg said the decision to develop another plan is made every 15 years. In the meantime, the agencies gather monitoring data to ensure best management practices are applied. Dan said much of the detailed management stipulations appear in the step-down management plans, which can be reviewed more often.
- *Will this plan become the land use plan for Hanford?* Greg said it would only apply to land use of the monument, not the Hanford site.
- *How is DOE responding to this plan?* Jerry said he has heard DOE has the authority to tell USFWS that certain areas are closed, regardless of the Record of Decision (ROD) issued for the plan. Greg said it is true DOE has authority over management decisions; however, given their participation in the plan development process, it would be disappointing if they decide not to adopt the plan.
- *Who is liable for cleanup if the land is transferred?* Greg said USFWS is not advocating for a land transfer, and does not want to assume liability. Under land transaction regulations, USFWS will not take contaminated lands. The Payment in Lieu of Taxes (PILT) liability is also a problem for USFWS.
- Several committee members expressed concern about cleanup liability in the event of a land transfer. Maynard Plahuta said he believes DOE has responsibility for lands in perpetuity; however, he is concerned that DOE will not clean up areas adequately for the type of uses projected by the USFWS plan and what the general public expects. Shelley Cimon noted that DOE's Office of Legacy Management is still in its infancy and will be the future broker of the site. The closing of other DOE sites, such as Rocky Flats, is an opportunity to learn how other sites approach achieving final end states. Greg said he has consulted with the USFWS managers at Rocky Flats. Colorado has legislation that allows for USFWS management of Rocky Flats, and the federal government retains liability, but can it be transferred to different federal agencies. Greg said USFWS has not been involved in discussions about how Hanford lands are to be restored after cleanup.
- Pam Larsen said she understands that the Hanford Land Use Plan had the authority of the Secretary of Energy, so USFWS could develop whatever management plan they wanted, but DOE has ultimate authority. Since the Hanford Reach was created by Presidential Order, not the Secretary of Energy, she believes it should be managed by USFWS.

- John Stanfill noted the Nez Perce Tribe worked with USFWS and DOE to voice concerns about land transfer and land use planning issues. At every meeting the tribe was told DOE would maintain ownership of land and USFWS will manage it. He said this creates contradictions, and the tribe does not see a clear path forward.
- Wade Riggsbee said the Yakama Nation has similar concerns that need to be addressed. The Yakamas are particularly concerned about the potential for the Secretary of Energy to override the decision for DOE to transfer land to USFWS before cleanup is complete. The tribe has attempted to express its concerns as high up as possible in the Department of the Interior (DOI). NRTC is very active on this issue, and is trying to bring all the interested parties back into the discussions. Wade said he believes it is important to increase Board involvement in NRTC activities.
- Ken Gasper said there are some practical future management issues that require USFWS participation. He suggested opportunities exist to put USFWS management into practice, such as areas that are in transition to clean closure. He suggested transitioning management of already clean areas from DOE to USFWS, instead of waiting until the entire site is completely clean. Greg said as long as the Reach is under permit management, DOE makes final management decisions. However, the plan includes provisions for USFWS management of public use in case permit restrictions can be lifted.
- The committee discussed pursuing opportunities to work with the NRTC. The committee decided to pursue a workshop, with participation from NRTC. Holding the workshop in January would enable the Board to have a presentation on the issue and develop potential advice for the February Board meeting. Susan Leckband recommended considering substantial past Board advice on land use issues for a workshop on future monument management planning. She believes the workshop is a good idea, but needs to be carefully crafted. Maynard added that it is critical to understand that land use issues will play into all cleanup decisions.

River Corridor Update – Draft Integration Strategy Document

John Sands, DOE-RL, provided an update on the draft integration strategy document. The document is available on Washington Closure Hanford's (WCH) website. The document is a contract deliverable from WCH to DOE, to explain the status of River Corridor activities and how WCH plans to complete its scope of work. The document also presents a number of issues for final cleanup in the River Corridor and options for grouping final RODs. The document also serves as an information source to help the Tri-Party Agreement (TPA) agencies discuss cleanup decisions. John pointed out a new information sheet presenting the document rationale and scope. DOE and WCH will accept comments on the draft document through the end of the year.

Regulator Perspectives

Larry Gadbois said the document serves as a type of baseline, since it describes the work WCH needs to do, and identifies potential interfaces and conflicts for final closure. There are several draft RODs in the River Corridor, and this document is a WCH

proposal for selecting a final ROD and achieving their scope of work. He noted that the TPA agencies have a much bigger scope of work, including other contaminated areas and groundwater. This document is a good tool for describing one piece of Hanford cleanup.

Committee Discussion

- *What is the ultimate purpose of the document?* John said the TPA agencies plan to use this document and others to determine how to achieve River Corridor closure, which will lead to a TPA milestone package. Part of this entails making sure the contract for River Corridor cleanup is explicit in its expectations. He said the TPA agencies have not determined how to group final RODs, so this is a good opportunity for the Board to provide input.
- *Does the document take USFWS's Comprehensive Conservation Plan into account in its consideration of final RODs?* John said the RODs discussed in the document consider the potential future land use provisions in the USFWS plan, and assume the land will remain the responsibility of the federal government.
- *Has DOE or its contractors looked at Fernald and Rocky Flats for successful cleanup lessons learned?* John said DOE has not looked at cleanup strategies at Fernald or Rocky Flats; however, there may be some lessons learned that would be worth considering at Hanford.
- *Why would the Board and public want to comment on a document prior to review and comment by the TPA agencies?* Gerry Pollet expressed concern that the situation in the River Corridor is reminiscent of past issues with the disconnects between scheduled TPA milestones and DOE contract requirements. Larry said EPA considers the document to be a contractor proposal, which could provide some innovative thought about how to address cleanup issues. He noted that the TPA agencies are not obligated to comment or respond to the document. John Price said the document is a good indication of WCH's understanding of its scope. It also provides insight into final ROD discussions. He emphasized that the TPA agencies are not limited to the alternatives in the document, and are really considering a wider set of requirements and alternatives.
- Wade said groundwater is an essential piece of the cleanup strategy, and Fluor needs to generate its own groundwater cleanup strategy plan to develop an integrated plan for River Corridor cleanup. Gerry expressed concern about the gap in time between source and groundwater cleanup. John Sands said DOE recently committed to Congress that the groundwater project would be an integrator for the risk assessment. This language is included in Fluor's contract extension. DOE has integrated teams with Fluor and WCH to help with integration issues. If regulatory decisions lump groundwater and source cleanup together, there will be some scheduling issues, which the TPA agencies' discussions will consider.
- Gerry expressed concern that the document amounts to DOE paying contractors to propose defining final closure. John said DOE originally wanted contractors to define final closure, but the TPA agencies plan to do that.

- Several committee members said there does not seem to be value in the Board considering advice on the document. Pam said it could be worth reviewing to help the Board consider future River Corridor work. John Price said Board advice on ROD groupings would be useful, which may be linked to previous risk assessment advice.

Committee Work on Risk Assessment

The committee continued discussion on the risk assessment guidance document Gerry developed.

Gerry said he does not believe using the mean (average) exposure scenario is appropriate, and emphasized the committee should discuss adding a value that emphasizes only using the reasonable maximum exposure scenario. There was general committee support for developing two different Board products: 1) risk assessment advice specific to current efforts; and 2) general Board risk assessment guidance. Since the risk assessment guidance is not Board advice, committee members felt the cover letter to the guidance needs to request DOE encourage contractors to use the guidance.

Susan Kreid said Board Advice #61 discusses site-wide application of risk assessments. She supports adding values to the guidance that ensure the transparency of risk assessment assumptions, and that the Board expects risk assessments to be living documents. Gerry said he would do a thorough review of Board advice on risk assessments to make sure the draft guidance captures the suite of Board values on the topic. The risk assessment guidance will be available for committee review at the January RAP meeting, in preparation for the February Board meeting.

Regulator Perspectives

As additional context for the guidance, John Price explained the cleanup tables used for contaminant concentration cleanup. He said the lowest cleanup values are used, and there are screening numbers for ecological risk receptors. Soil contaminant levels are examined, and if they are above the risk receptor threshold, a decision is made whether to go forward or do a risk assessment. Risk assessment-related cleanup issues will not get resolved until a final ROD is issued.

Committee Discussion

- *Is there a way to integrate cleanup tables with Board guidance?* Since a lot of the draft risk assessment guidance discusses the reasonable maximum exposure, Larry suggested the clean up table values could reflect the reasonable maximum exposure.
- *What happens when modeling assumptions do not reflect field conditions? Is it an automatic assumption that site-specific data will supplant the cleanup tables?* John Price said the tables represent the default cleanup levels, but site-specific conditions can prompt a reevaluation. Ninety percent of the time the cleanup tables have worked

well. Gerry noted that the cleanup tables are very relevant to the Tank Waste Committee's (TWC) contaminant characterization discussion.

- Gerry expressed concern that the mean exposure scenario is fraught with potential to undermine the reasonable maximum exposure scenario. He said he would like to see the Board consider advice that recommends not using a mean exposure scenario. Donna Morgans said the mean exposure scenario is guidance regulatory agencies use in the decision-making process. The committee agreed to discuss advice at the January meeting.
- Karen Lutz, DOE-RL, noted there seems to be a disconnect between the risk assessment purpose and scope, and what some committee members took away from the last WCH workshop. She thought it might be useful to have another discussion of risk assessments before the committee considers drafting advice.

Committee Work on Groundwater Values Flow Chart

Jerry described previous committee discussions about developing a flowchart to develop the Board's groundwater values. This product would be similar to the Board values product developed for Central Plateau cleanup decisions.

Rob Davis described guiding principles and process steps for developing a Groundwater Remedial Action Values Diagram:

- 1) Identification and site-wide coordination
- 2) Characterization of contaminant plumes and groundwater use
- 3) Evaluate the risk to the environment and groundwater posed by each plume
- 4) Evaluate external scenarios that change contaminant spread
- 5) Identify alternative/corrective actions
- 6) Monitor plume

Rob noted that adding a piece on closure to the values is a good idea, since groundwater will be coupled with closure decisions. He expressed concern about giving primary groundwater cleanup responsibility to a single contractor, and suggested DOE develop a coordination council to guide sitewide groundwater remediation.

Committee Discussion

- Jerry emphasized insisting upon regulatory compliance with groundwater conditions. Rob said the question becomes whether regulatory compliance is a value or just a point in time. Gerry said the Board has already indicated DOE's presumption of institutional controls (ICs) for 150 years is unacceptable.
- Maynard cautioned that the Board may not want to implement a groundwater closure value, since it will be important to support a process for continuing to look at new technologies that may improve groundwater cleanup.

- Susan Kreid said she believes the Board needs to provide expectations for each step in the groundwater cleanup process. This includes a list of values for remedial groundwater actions. Rob noted the need to account for time in risk evaluation.
- Ken said the Board needs to identify groundwater cleanup priorities for DOE (i.e., is stopping contamination from reaching the Columbia River more important than addressing contaminant plumes in the groundwater?).
- Rob agreed to work on refining the groundwater values flowchart with a subcommittee including Jerry, Shelley, Rob, and Pam. The goal is to have a draft for committee consideration before the January RAP meeting, and be ready to present at the February Board meeting.

Plans for Remote-Handled Transuranic Waste (RH-TRU)

Mark French, DOE-RL, discussed plans for permitting transport of RH-TRU waste to the Waste Isolation Pilot Plant (WIPP) for disposal and storage. The plan has to be implemented by March 2007. The plan includes the RH-TRU permit and incorporates language from the appropriations bill. The level of data validation required to send waste to WIPP is reduced under the plan. The Carlsbad contractor will perform certification at each site. DOE plans to ship roughly 1,000 cubic meters (about 5,000 drums) of RH-TRU to WIPP. The RH-TRU permit will take longer to implement at Hanford, so Idaho will be the first to send RH-TRU to WIPP in January 2007.

K Basin sludge must go through a determination to be classified as RH-TRU waste before being shipped to WIPP, but DOE expects to be able to ship the waste to WIPP.

Regulator Perspectives

Deborah Singleton, Ecology, said the shipment of RH-TRU to Carlsbad will also depend on T Plant's ability to package the waste.

Committee Discussion

- *Does the forecast of 1,000 cubic meters include 618-10 and 11?* Mark said that depends on Ecology and DOE discussions about milestone changes.
- *Is K Basin sludge being handled at the same time as other RH-TRU?* Deborah said the K Basin sludge waste cannot be handled at the same time as other RH-TRU waste at the T Plant facility.
- *Was waste meant for T Plant?* Mark said the original baseline planned for K Basin sludge to be stored at T Plant. As the process progressed, it was determined to be easier to treat the waste at the point of generation, and then send it to T Plant for storage. Mark said Yucca Mountain is the fallback position for storing K Basin sludge if it cannot be sent to WIPP.

- *How will WIPP store RH- TRU?* Mark said WIPP estimated the amount of RH-TRU waste to be stored, and may put in additional panels to increase disposal capacity. WIPP may also consider drilling deeper to increase capacity for RH-TRU. Mark said he is not sure whether the permit discusses how the waste will be placed in the facility; however, WIPP does not expect capacity to be an issue.
- *What analytical capabilities does Hanford have for RH-TRU, and what is the timeline for having the waste analyzed?* Mark said Hanford does not have a certified lab, but the 222S lab can do the necessary analysis. Gerry expressed concern there is no certified facility with the capability of performing the chemical analysis. Specifically, Gerry said he would like to know whether it is a matter of physical limitations or a certification issue. Mark said he was not sure about the capabilities of all the facilities, but he will get back to the committee. Gerry noted a recent Inspector General's (IG) report says Hanford does not have the capability to conduct chemical analysis of RH-TRU.
- *Is all the RH-TRU material pre-1970 TRU?* Frank Roddy, DOE-RL, said there is about 500,000 cubic meters of pre-1970 TRU, but he is unsure how much of that is RH-TRU.

200 SW-2 Burial Grounds

Frank Roddy presented information on low level burial grounds on the Central Plateau. He described past waste burial practices and recent efforts to characterize the burial grounds. The scope of the project includes 22 burial grounds, over 350 burial trenches, and roughly half a million cubic meters of waste representing more than nine million curies. The project consulted the following relevant Board advice: #132, #170, #173, and #174.

Frank said DOE-RL is currently working on data quality objectives (DQOs) to develop a burial ground sampling plan. The project needs to define the types, locations, and amounts of additional characterization necessary to understand the extent of the buried material. Project remedial actions are scheduled to be complete by 2024.

Frank discussed 2006 activities, including historical records research, developing data quality objectives, drafting sampling and analysis instructions, geophysical investigations, radiation surveys, and passive organic vapor surveys.

Regulator Perspectives

John Price said Ecology is pleased with the results from the burial ground records research. He said this is a challenging project, which will last for several years. John expressed interest in having the committee hear an update because there could be quite a bit of interest in burial grounds in the near future. A workplan is due in September 2007.

Committee Discussion

- *Are buried tanks empty?* Frank said the buried tanks were emptied, but it is likely some had chemical heels left behind.
- *What are the surface readings taken at the burial grounds?* Frank said surface readings are typically taken using a tractor. In places with wind erosion, gravel shields are installed to lessen radiation.
- Gerry commented that the Board's advice on the Solid Waste EIS included advice on burial grounds.
- *Is there some review of waste material in the burial grounds?* Frank said non-intrusive surface measurements were taken (six inches from the surface). DOE plans to investigate the sampling that must be done to evaluate remedial designs.
- *How is historical data used to inform characterization efforts?* In some cases, historical data includes what was buried, the burial site, and the beginning and end of the burial areas. DOE has reviewed 147,000 burial records to date.
- *Does the burial ground work plan use Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) balancing criteria?* John said DOE considers Model Toxics Control Act (MTCA) requirements to the maximum extent practicable. Gerry said there is a huge difference between CERCLA criteria and MTCA requirements, and they are not designed to be comparable. John said DOE is well aware of the requirements.
- *Is there any liquid in the buried waste?* Frank said the Central Plateau burial grounds contain mostly solid waste, but since not much effort was made to seal buried containers, it is possible some small quantities of liquids were buried. However, it is most likely that any liquids have already leaked out.
- *Has any monitoring been done to determine whether there has been an impact to the vadose zone and/or groundwater?* Frank said DOE is collecting monitoring samples, and no contamination has been observed yet.
- *Does DOE plan to survey the bottom of the burial grounds to determine whether or not to remove any contaminated soils?* Frank said DOE has not gotten to that point yet.
- Gerry expressed concern about how long monitoring will take. He believes the burial grounds monitoring system is inadequate, and most of the groundwater monitoring near the burial grounds does not reach groundwater. He suggested DOE should invest in a compliant vadose zone monitoring system.
- *What sampling levels of carbon tetrachloride have been found, and has any effort been made to conduct chemical inventory for burial grounds?* Frank said the burial ground characterization program is just getting started, so the chemical inventory is currently unknown. John said that some of the burial grounds are being permitted as treatment storage units; however, the vadose zone around these areas is a different topic. Gerry emphasized that boreholes should be put in place regardless for early detection and characterization purposes. He expressed concern that burial grounds do not receive priority in the decisions about the number of wells drilled annually.

Deborah said the TPA agencies are working on the process to get boreholes permitted. One of the major issues is groundwater monitoring and what model to use for the burial grounds. She said Ecology recognizes this needs to happen. Gerry requested Ecology provide the cost of putting in additional boreholes. John said Ecology is following the same permitting process followed by the Superfund program throughout the state. He emphasized the need to obtain additional data and information before installing a sufficient monitoring system.

- *Is DOE using lessons learned from other Hanford solid waste sites to inform the burial ground characterization plans?* Frank said lessons learned from other solid waste areas and other DOE sites are used.
- *Is burial ground monitoring more of a priority than it seems to be with the regulatory agencies?* Deborah said that for Treatment Storage and Disposal (TSD) units, Ecology is working towards getting compliant monitoring systems in place. She reiterated that more information is necessary to ensure a robust and effective monitoring system is installed. Gerry requested the committee receive a status update on TSD and Past Practice Units in advance of discussions of the fiscal year 2008 (FY08) budget (sometime in the February or March timeframe).
- John Price asked the committee whether the discussion of burial ground characterization is timely. Generally, the committee agreed it was useful to hear about burial ground issues at this time. Maynard said it helps to demonstrate the challenges and complexity of the work being done. Shelley added that it would also help for the Board to hear a presentation on this issue if there are stalemates in negotiations.

Committee Work Plan

The work plan has been updated to reflect this year's Board Priorities. Committee members will review the work plan and identify additional issue managers and specific topics.

Committee Business

Shelley provided an update on the agenda for the upcoming SSAB chairs meeting. She encouraged Board members to review the agenda. She noted that EPA will provide a workshop on the Federal Advisory Committee Act (FACA).

The next committee meeting is tentatively scheduled for January 10. The committee discussed potential meeting topics:

- Workshop with NRTC
- Groundwater product
- Risk assessment guide
- River Corridor Baseline Risk Assessment draft advice
- Update on railcars being dug up in the 100 F Area

The committee decided a November call was unnecessary. A December committee call will be held 12/19 to discuss the January meeting agenda.

Karen announced that the CERCLA 5-Year Review report is complete and has been sent to the regulatory agencies. It is available online, and she will send the website to the Board. She indicated there was significant dialogue and input on the review, which changed a lot of the long-term protectiveness statements to focus on short-term protectiveness.

Action Items / Commitments

- Gerry will work on revising the risk assessment guidance and will prepare draft advice on the River Corridor risk assessments.
- In preparation for a workshop with the NRTC, Jerry and Shelley will approach USFWS and Oregon and will ask Wade or John Stanfill for help from on tribal side.
- Rob Davis will work on redeveloping the groundwater values flowchart with a subcommittee including Jerry, Shelley and Pam.
- Gerry will prepare a briefing on the Natural Resources Defense Council (NRDC) report on groundwater. (This may be a joint discussion with the Tank Waste Committee.)

Handouts

NOTE: Copies of meeting handouts can be obtained through the Hanford Advisory Board Administrator at (509) 942-1906, or tholm@enviroissues.com

- Fact Sheet for Use by the U.S. Fish and Wildlife Service (USFWS), Department of Energy – Richland Operations Office, Washington State Department of Ecology, U.S. Environmental Protection Agency, Washington Department of Health, 11/15/06.
- Information Sheet: Integrated Strategy for Achieving Final Cleanup Decision in the River Corridor, Washington Closure Hanford, November 2006.
- Remedial Design Report/ Remedial Action Work Plan for the 100 Area, Department of Energy, February 2005.
- Basis for Remedial Action: Calculation of Contamination-Specific Cleanup Levels (appears in the Remedial Design Report/ Remedial Action Work Plan for the 100 Area), Department of Energy – Richland Operations Office, February 2005.
- Simplified Ground Water Decision Pathway, Tom Stoops, 1/3/06.
- Groundwater Values and End State Advice, Rob Davis, 11/15/06.
- Guiding Principles for developing a Groundwater Remedial Action Values Diagram, Greg deBruler, (original date unknown).
- 200-SW-2 Operable Unit, Frank Roddy, Department of Energy – Richland Operations Office, 11/15/06.
- Hanford Advisory Board Risk Assessment Values and Hanford Advisory Board Guide for Risk Assessments, Gerry Pollet, 11/15/06.
- River and Plateau Committee FY 2007 Work Planning Table (11/15/06), 11/15/06.

Attendees

HAB Members and Alternates

Shelley Cimon	Deborah McBaugh	Wade Riggsbee
Rob Davis	Donna Morgans	Dick Smith
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