

FINAL MEETING SUMMARY

**HANFORD ADVISORY BOARD
RIVER AND PLATEAU COMMITTEE MEETING
November 17, 2010
Richland, WA**

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

Welcome and introductions

Pam Larsen, River and Plateau (RAP) Committee chair, welcomed everyone and introductions were made. The RAP committee approved the October meeting summary.

Paula Call, Department of Energy-Richland Operations Office (DOE-RL), said there are copies of DOE’s response to the Hanford Advisory Board (HAB or Board) Long-term Stewardship (LTS) Advice as well as copies of the LTS plan. She said DOE is beginning the transition of River Corridor Segment One from active cleanup to LTS, and would like to brief the committee on these activities in December.

Pam made an announcement that the City of Moses Lake went to court regarding contamination from a military base and the City indicated that under Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) there was a community involvement aspect for remedy selection. She said a letter was written to gain greater city involvement in the process and the request was granted.

Environmental Restoration Disposal Facility (ERDF) Performance Assessment

Shelley Cimon said while conducting research on Environmental Restoration Disposal Facility (ERDF) she came across some interesting statistics. She reported the following key statistics to the committee:

- There have been 15 million miles of transport to ERDF, with approximately 500 250-ton capacity containers per day.
- Washington Closure Hanford (WCH) continues to construct the liner and leachate collection systems for Super Cells 9 and 10 (seen on the October 6 site tour).
- The liner and leachate collection systems consist of a 3-foot layer of admix, two layers of high-density polyethylene (HDPE), a 1-foot layer of gravel with a 12-inch perforated drainage pipe, a geo-composite layer, and two geo-textile layers. The ad-mix is a 3-foot low-permeability compacted soil layer of the liner system that is manufactured by mixing excavated soil with imported bentonite.
- About 70% of the gravel needed for Super Cell 9 has been placed. More than 40,000 cubic yards of gravel, enough for both super cells, was manufactured at an on-site screening plant.
- WCH has installed more than 85% of the primary HDPE layer and the geo-composite layer in super cell 9 was completed. The secondary HDPE liner was completed earlier this month.
- In Super Cell 10, about 75% of the secondary HDPE layer has been installed. At approximately 70 feet deep, and 52 football fields in area, the two super cells will accommodate 16.4 million tons of waste material.
- The hot cells from the 327 building were placed in ERDF after they had been grouted for stabilization.
- There is a leachate holding tank under construction. The tank is 100 feet in diameter with a capacity of 425,000 gallons and will replace the facility's original leachate storage tank, which has been removed.
- There is also a new maintenance facility under design and an operations center.
- Pacific Northwest National Laboratories (PNNL) continues work on a new waste container tracking system for ERDF which will accurately track waste shipments and equipment and generate real-time reports.
- WCH has bids for construction of ERDF's new septic system. The system was designed by Columbia Engineers and Constructors, a small business based in Richland.
- Two Genie articulating boom man lifts from Power Equipment were delivered and will be used for elevated work such as installing rigging, washing out hazardous waste containers, applying fixatives and adjusting lights.

Chris Smith, DOE-RL, added that the acceptance testing for super cells 9 and 10 will be completed in early December. He said WCH has done a great job and DOE is happy with their work. Owen Robertson, DOE-RL, said things have been going smooth.

Chris said today's presentation is mainly on the ERDF Performance Assessment (PA).

Marc Wood, WCH, presented on the PA analysis for ERDF and said he will provide background information to put the analysis into context. DOE has directed WCH to update the preliminary ERDF PA analysis and the HAB has recommended completion of

the PA analysis to support ongoing ERDF disposal activities. He said the ERDF Record of Decision (ROD) amendment authorizing super cells 9 and 10 requires the preparation of a PA prior to expansion of ERDF.

Marc discussed previous related PA efforts and said there was a preliminary PA analysis in 1995, and a decision was made that the CERCLA process would be the primary focus to satisfy the DOE order with EPA. In 1996, the determination was made that it was adequate, and another cross walk was completed in 2000. He discussed the project team, and said WCH is responsible for project management and approving the PA. He said CH2MHill Plateau Remediation Company (CHPRC) prepares the PA and Safety Management Solutions provides technical oversight.

Marc showed a picture of the current ERDF configuration, including the cells that are currently filled with waste, and those scheduled to be filled with waste in the future. He said the purpose of the ERDF PA is to comply with long-term performance objectives provided by DOE Order 435.1. He said the analysis looks at potential environmental hazards and exposures. He said WCH looks at the pathways dose limit, and maximum contamination levels will be used for groundwater under Order 435.1. He said WCH will establish disposal limits to ensure that performance objectives will be met. He added that with the PA, CERCLA requirements associated with DOE Order 435.1 will be addressed.

Marc said the required analyses are created to determine if the performance objectives are met and all pathways are analyzed. He said for disposal limits WCH conducts analyses for inadvertent intruders, groundwater protection, and sensitivity and uncertainty analyses. He said there is also an As Low as Reasonably Achievable (ALARA) analysis to make sure safety is maintained.

Marc said there are additional analysis constraints due to the fact that there are radiological but not chemical impacts, and the analysis only considers post closure conditions. He said it is important to consider barrier degradation processes and natural processes. He said there will be compliance with performance objectives for 1000 years post closure. He said the highest point dose impacts beyond a 100 meter buffer are utilized and human health effects are considered with dose metrics. DOE approved dose conversion factors are used for these analyses.

Marc said the PA analyses should be based on reasonable activities of the portion of the exposed population likely to receive the highest dose (i.e., the critical group). He said the PA analyses should not be based on “worst-case” assumptions. Rather, the analyses should be based on scenarios that represent reasonable actions of a typical group of individuals performing activities. These activities should be consistent with regional social customs, work, housing practices, expected regional environmental conditions, and the critical group expected to receive the highest doses. He said the intent is to look at average activities, not the worst case scenario analysis.

Marc provided a list of requirements and guidance documents that support the PA.

He said it is important to recognize commonality with other Hanford PAs to make sure there is consistency. He said some similarities found in other PAs include Hanford’s subsurface environment, contaminant migration pathways, human exposure pathways, and environmental protection requirements. He said there will be routine communication

with other analysis coordinators and analysts, standardized use of data and site documents, use of consistent exposure scenarios, and commonly used numerical pathway codes.

Marc discussed the analyses of the ERDF PA. He said there are the relevant requirements, processes, data inputs, analysis methodologies and then a model output. He said there are two requirements for groundwater pathways; groundwater protection and an all-pathways dose. He said the analysis is done from the facility through the ground to show what processes the contaminants go through. He said WCH does a numerical flow and transport code and the output from these analyses are the radionuclide-specific concentration levels over time at various pathway locations. He said in the analysis, a spreadsheet calculation looks at risk and the radionuclide specific dose is created. He then presented charts describing the ERDF PA analyses process for atmospheric pathways, inadvertent intruders, and sensitivity/uncertainty.

Marc presented an ERDF PA schedule and said the process is estimated to take about 33 months and will be finished in early 2013.

Regulator Perspective

- Emy Laija, Environmental Protection Agency (EPA), said the work plan is almost ready for approval and the use of the PA might include the revision of the waste acceptance criteria.

Committee Discussion

- Susan Leckband asked if disposal limits are related to the waste acceptance criteria. Marc said yes.
- Pam asked if there is overlap with any materials in ERDF that could potentially cause an issue. Marc said the chances are low with the way materials are dispersed, and studies on this are done.
- Jean Vanni asked if the leachate analysis has considerations for radiation. Marc said the analysis considers both radiation and non-radiation materials.
- Pam asked if these measurements are taken at the boarder of the facility. Marc said the measurements are taken at the surface. Dale Engstrom asked how contaminants such as uranium and technetium have a threshold with regards to exposure limit, and asked how this is decided. Marc said in the analysis WCH will gain more information to see how the results have changed to get a dose and then this information is used for the disposal limits. He said it is expected that the disposal limits will increase.
- Dale asked if the groundwater analyses include cumulative impacts. Marc said there is a composite analysis being done which includes all the facilities that contribute waste to ERDF.

- Pam asked about the potential for the requirements being changed and if this would affect the April 2013 completion date. Marc said WCH is not expecting a large enough change in inventory to make a large difference. Pam asked if WCH would provide the RAP committee with updates. Marc said yes.
- Pam asked about radon in ERDF. Marc said it takes a long time for radon to decay and there are evaluations on how this will be generated over time.
- Mike Priddy, Department of Health, brought up that dust inhalation is included in some of the exposure pathways but not all. Marc said the radon is in the air and the dust does not contain radon. He added that the dust component is included in the pathways analysis.
- Maynard Plahuta asked if the analysis looks at the half life of constituents. Marc said yes.
- Liz Mattson asked about tracking limits over time, and how this is assured. Marc said there is a tracking process and there is a cumulative inventory taken on a real time basis.
- Liz asked how decay products are controlled. Marc said there are calculations to get the flux, and this feeds back into the limits for constituents. Liz asked what happens if the limits are exceeded. Marc said once the limit is reached then ERDF cannot take any more of that product. He said things are not tracked solely with leachate, there is inventory taken to keep track of the types of materials received at ERDF as well. Liz asked what happens if the calculations are wrong. Marc said the processes are accurate.
- Doug Mercer asked what the biggest areas of uncertainty are. Marc said based on past experience, inventory is the biggest uncertainty to deal with. He said projecting inventory from the whole site is difficult. He said WCH has to set an inventory that matches the limit.
- Doug asked if the error bands will make the risk assessment meaningless. Marc said he does not think so, and that items such as this are factored in and there are certain expectations with capacity.
- Tom Carpenter asked about the 100 post closure objectives, and if there will be opportunity for public comment. Marc said this is a DOE order requirement. Tom asked how this will be submitted. Marc suggested discussing this with Paula Call.
- Shelley asked if the revision of DOE Order 435.1 will inform ERDF operations. Marc said the main things such as performance objectives will not change.
- Shelley asked if the PA requirements will affect waste streams. She said there should be a tutorial on operation of the site, and that there was an alarming amount of water being applied as evidenced during the October 6 HAB site tour. Marc said there is a record kept for liquid volumes.
- Pam suggested having the issue managers discuss these details offline. Shelley said to get questions to her and she will develop next steps.

RCRA Permit Update

Gerry Pollet said that last month Ecology gave a presentation on the status of the Resource Conservation and Recovery Act (RCRA) permit. This month the RAP committee will look at examples of scope of content, and required elements within the general permit. He said a committee of the whole (COTW) is planned and Ecology needs feedback on what should be included. He said this topic is far from being ready for advice, and that this is more of an educational discussion.

Ron Skinnerland, Washington State Department of Ecology (Ecology), presented on the site-wide permit. He said Ecology is envisioning a poster session similar to the Solid Waste Burial Grounds workshop. He said Ecology would like to talk about the 300 Area, the burial grounds, and the corrective action units. He said the permit covers the Treatment, Storage, and Disposal (TSD) of dangerous waste and the entire Hanford site is covered as one TSD facility. He noted that the permit does not cover everything at the Hanford site. The permit will be available for public comment. He said the new RCRA permit will differ from the current permit, the general conditions have been updated and it has the same basic structure. He said the “final” standards versus “interim status” standards will be different from the previous permit. He added that there will be hyperlink features added to the RCRA permit to make it easier to maneuver and understand.

Ron provided a list of the operating units. He said there are some units that are no longer active but are in the permit because they have received waste and are subject to requirements. He said investigations are being done as required to look at risk and prescribe a cleanup alternative. He described that clean closure is removing everything contaminated, or if waste is left in place steps are taken to protect human health and the environment.

Ron showed a brief outline of the permit and pointed out that there is an acronym list included in the permit. He said the Tri-Party Agreement (TPA) is included in the permit and there are emergency management requirements.

Ron said the 300 Area process trenches are a few miles north of Richland’s city limits and were cleaned up in the 1990s, meaning there is now a post closure set of requirements that is being incorporated into the permit. He said through the permit Ecology will require DOE to continue post closure care, and continue groundwater cleanup and monitoring.

Ron said there are sites at Hanford classified as RCRA or CERCLA past practice and there needs to be a process to look at the contamination and make a decision that satisfies both RCRA and CERCLA. He said Ecology uses the Model Toxics Control Act (MTCA) conditions for chemicals to remain consistent, and Ecology will cover all the required contaminants. He said if there is contamination that CERCLA cannot address there is availability to use other methods.

Gerry presented his views on the permit and said he has generated a few questions that he feels should be clarified: “What is the scope of the permit and why is there a permit?”

What are the required elements for each unit in a permit? How do these elements relate to each other? What are the required general provisions for a permit?"

Gerry said Washington State issues the permit to meet minimum federal standards for hazardous waste, and Washington State's hazardous waste laws are more strenuous. He said under the hazardous waste law MTCA regulations are used. He said TSD units are required to have a permit. He said even if a unit did not have a permit but it took waste for treatment, there would have to be storage or disposal in accord with the federal hazardous waste laws. He said DOE needs a permit for closure or corrective action cleanup.

Gerry said interim status has expired for all units, and federal law only allows operation until 1989 without the "Part B" permit. He said there are some units that are operating without a permit, however.

Gerry said there is a general description of the facility, but it has to include the types of waste with specificity. This could be a potential problem and there needs to be a waste analysis plan. He said there have to be procedures to prevent accidental reactions.

Gerry suggested that there be a contingency plan in case of a release. He said there needs to be an inspection schedule, and a maximum inventory for each type of waste. He said there are a set of requirements to describe procedures and preventative measures. He said there have been discussions on plans and requirements that should be in the RCRA permit that are enforceable, such as safety requirements and training programs. These items should be referenced in the permit.

Gerry said the closure plan is critical to cleanup; it defines what waste is accepted, when it will be closed, and how closure standards will be met. He said if the state MTCA standards have not been met, the unit should not be considered a post closure unit when there are standards that have to be met for a closure plan. He said another point is that MTCA standards have become more comprehensive in the past ten years and the standards are now stricter.

Gerry discussed corrective actions and said there needs to be an enforceable schedule in the permit. He said if there is a release there needs to be requirements, and if corrective actions are not included in the permit there cannot be a closure plan.

Gerry said the closure plan requires a description of the wastes and quantities, with enforceable limits. He said aspects of the RCRA permit have to be met and without the closure plan the other elements cannot be built and actions cannot be taken. He said a post closure plan is required for 30 years of monitoring and maintenance. He said there needs to be groundwater monitoring, and DOE should look at soil column monitoring as well.

Gerry said the contingency plan should provide requirements for levels of contamination that require further cleanup. He said the closure plan has to be submitted and approved by DOE and include the maximum inventory requirements and a schedule. The law says there needs to be a schedule for each unit. For removal, treatment and disposal, the RCRA permit provides a system, and each aspect should relate. He said the system closure should be included in the permit. He said the main concern is if units belong in

post closure or not. He said each of the elements should relate to the others and should support health and safety.

Agency Perspective

- Cliff Clark, DOE-RL, said he does not fully agree with all of Gerry's points; however, Gerry has a good understanding of the permit. He then provided posters showing aerial photographs of some of the units.

Committee Discussion

- Susan asked Gerry if he feels that there is not enough detail in the permit. Gerry said the health, safety and training sections are very generic and there are other sections that do not have proper description.
- Jean said she heard there was a plan to close the burial grounds with different closure requirements, which needs more discussion.
- Pam asked if DOE provided adequate information in the permit request. Ron said Ecology determined that the information from DOE was complete enough. The information was not fully complete, but Ecology had enough to start and now the gaps have to be filled in. He said the unit requirements mentioned are intended to be included and Ecology is working to do this. He said the goal of the permit is to meet the dangerous waste requirements. He said there are differences in opinion on if there is enough information included in the permit.
- Pam asked if Ecology defines what is missing and requests more information. Ron said yes, or Ecology provides a process to address the lack of information.
- Jean said there are smaller units under the RCRA permit with their own permits, and the smaller units have their own chapter in the RCRA permit. The units have to meet both the RCRA permit and the individual permit requirements.
- Pam asked how the permit relates to final RODs and corrective action. Ron said the 300 Area is a good example of how the requirements are met. The 300 Area is widespread and if there is a source that is of concern; post closure care would then provide room for action. Pam asked how the unit is classified as post closure when it has not had a ROD issued. Ron said a certain contamination level is maintained, and post closure alludes to the fact that there is still a risk.
- Gerry said other sites have this question regarding regulators wanting to move into post closure without meeting the closure standards.
- Cliff said there are two outcomes with closure; clean closure, and not achieving clean closure. The general result of this process is to cap and monitor. He said this decision is based on technical practicalities and cost. He said in the interim there is monitoring to make sure there are not any changes in conditions, and none of this will get missed in the process. He said there will be a decision that uses the MTCA standards and the decision on whether more removal is needed will be made with the final RODs. He said nothing will fall off the table.

- Maynard said he heard that the permit does not cover everything, are there examples that can be given. Ron said the reactor sites falls under other processes. He said maps will be helpful to make this clear for the general public.
- Gerry said some of the terminology needs to be changed to be clearer for the public.
- Maynard said livestock is mentioned, and asked if this is domestic livestock. Ron said there are barriers to keep out all forms of animals.
- Liz said puzzle pieces and images would be useful to make these concepts understandable.
- Doug asked how this relates to long term stewardship (LTS). Ron said future risk is one key issue while making cleanup decisions.
- Doug asked if the RCRA permit should include this amount detail or if it should be left for the specific unit permits. Ron said there could be better explanation of where the detailed information is located.
- Doug asked how performance assessments are decided upon with regards to scale and integration. Ron said DOE is required to have a PA for certain units.
- Susan said she would like to see how the new TSDs were constructed, and what the process was. She said the introduction should include the description of the RCRA permit being the “big umbrella” permit.
- Shelley asked if the RCRA permit should include a site wide risk composite analysis. Gerry said you have to have an Environmental Impact Statement (EIS) to address this.
- Jean said there is a requirement in the dangerous waste regulations to put performance standards in the permit as an attachment. Gerry said for every unit that does corrective action under RCRA. There has to be a PA.
- Liz said a metaphor should be developed for public consumption, and suggested “baking the least toxic cake”.

The RAP committee decided to have issue managers meet to synthesize the information and feedback generated to date, and then to develop next steps for the committee and the Board.

Deep Vadose Zone Program Plan/Work Plan

Mark Triplett, PNNL, introduced the presenters for the deep vadose zone program plan and work plan. He said the discussion will be on the deep vadose zone operable unit (OU) and an overview of the program plan will be provided to focus the additional investments.

Marty Doornbos, CHPRC, presented on the deep vadose zone cleanup. He discussed the challenges associated with the deep vadose zone cleanup and said the vadose zone is the area between the land surface and the groundwater. He said much of the contamination is

not very mobile and is found in the shallow vadose zone, but there are other contaminants that are more mobile and pose a larger threat to groundwater. These are the contaminants addressed first. He said that conventional surface remedies have had limited effectiveness. He said the contamination is difficult and expensive to access, and different contaminants occur in different hydrological settings. He said remedy performance is difficult to predict, test, and monitor.

Marty said the deep vadose zone project was established to focus on arriving at a cleanup decision for the deep vadose zone. He said this is being supported by research at the applied field research center. He said this is important because there are limited amounts of available technologies for treatment in the deep vadose zone.

Marty provided graphics to referencing the 200-DV-1 OU waste sites. He said these areas are the most likely to have deep vadose zone contamination.

Marty said the deep vadose zone applied field research center was initiated by DOE and was a collaborative effort. He said this research center provides the framework for an integrated research technology development strategy for the deep vadose zone, leverages field investigations and treatability testing, and advances research for DOE office of Science's. He said the program is doing well and is advancing research.

Marty provided the deep vadose zone project timeline with associated milestones. He said some of the ongoing field activities are; surface barrier tests, soil vapor extraction, and soil desiccation tests. He said the planned field activities include uranium sequestration testing, pore water extraction using high air flows, and perched water removal.

Roy Gaphart, PNNL, presented on the development of the long-term deep vadose zone program plan. He said the plan will be a combination of approaches to address the deep vadose zone.

Roy said the long-term deep vadose zone program plan consists of an executive summary, summary of topics, background, scope of deep vadose zone problem, defense-in-depth approach in central plateau, knowledge and capability needed, program description, and program implementation. He then provided a list of the appendices within the deep vadose zone program plan.

Roy went over the applied field research center and read the mission: "to ensure long-term protection of groundwater by developing effective solutions to deep vadose zone challenges in characterization, prediction, remediation, and monitoring and by supporting the deployment of those solutions at Hanford and other DOE sites." He said this is a dual process so there is a broader context to leverage other knowledge and experiences. He said the applied field research center provides framework for innovative research and development, targeting the deep vadose zone knowledge and capabilities. He said there is coordination with field investigations and treatability tests are done by site contractors. He said there is a focus on short to long-term knowledge and capability needs and there are targeted research opportunities.

Roy provided a diagram of how the applied research center program works and the personnel involved.

Mark Triplet said the deep vadose zone program plan is on the web. Paula said it is on the Hanford.gov web page.

Regulatory Perspective

- Rod Lobos, EPA, said the deep vadose zone is regulated by Ecology and EPA. He said the program is going well and more information is being collected to help inform decisions.
- Jeff Lyon, Ecology, said Ecology is happy that new technologies are being investigated. He said Ecology should have more involvement. He mentioned that there is a misrepresentation with the tank farms regarding the deep vadose zone. He said there is an issue with milestones and the timeframe for tanks, and there needs to be better collaboration. He said Ecology believes that HAB input is important and that there should be more collaboration there as well.

Committee Discussion

- Shelley asked where the money is coming from for these efforts. Dawn Wellman, PNNL, said that funding for the applied field research center is from DOE-RL, EM-30 and from the Office of Science. Mark said there are about \$20 million spent on these consolidated efforts.
- Shelley suggested looking at a collaborative venue for analyzing delivery systems for potential projects. She said outside technologies should be investigated.
- Dale said the technologies being analyzed are one sided and there has not been much consideration regarding existing technologies already out there. He said there has been insitu recovery of various materials with mining work. He said there are many technologies that should be considered aside from laboratory sciences. He said the technologies that are being tried are not used outside of Hanford.
- Marty said the TPA has a very systematic approach, and there are people working on technologies that have been deployed in similar situations. He said both investigations are being done and there will be an opportunity to present the technology screening. Shelley said she would appreciate seeing the technology screening, and the HAB would like to be in on the conversation.
- Susan said the HAB has requested more integration in the past and the regulators need to be involved, but the contractor involvement seems to be going well.
- Jean said there is a RCRA corrective measure study but there are not any RCRA TSDs. Jeff said these processes are described in the permit. Nina Menard, Ecology, said CERCLA has public involvement.
- Jeff said there is technology development and milestones; the question is how this all works together.
- Dale said comments can be sent to him and Wade Riggsbee. Paula suggested having a follow up on this topic in a future RAP committee meeting.

324 Building B-Cell Contamination

Mark French, DOE-RL, made an announcement regarding the 324 building and said it is a hot cell facility and that WCH has been in the removal process. While undergoing cleaning activities a source term was detected at 15,000 R/hr and at the bottom there was a breach observed in the liner of the sump. He said there is a concern that the hot cell material leaked out and DOE has put probes under the building that have detected high dose rates. He said the primary contamination is cesium and strontium and that it is good thing this leak was found now. He said the contamination is under the hot cell, which is acting as a shield, and the contamination is not detected in the groundwater. WCH is going to take more samples to see how large of an area is affected, and will determine what actions will need to be taken.

Pam asked if information on this has been released to the press. Mark said there have been discussions with the Tri-City Herald.

Shelley asked if the contamination has gone beyond the building footprint. Mark said there are still tests being done to determine this.

Dave asked how large the hot cell is. He was told it is about 20 feet by 20 feet.

The RAP committee asked for a follow up on this issue in December.

Outfalls along the Columbia River

Shelley provided an introduction and said she has had questions regarding outfall structures. She said she is unsure how many exist and what the planned actions are.

Mark French provided a presentation on the 100 Area river structures and said DOE has been working on how to remove these structures. He said there are four categories of river structures; 8 intake structures, 11 outfall structures, 11 spillways, and 7 groups of river pipelines.

Mark said to minimize the adverse impacts to the Columbia River; the demolition approach for the 100-N and 100-K intake structures and 100-N outfall structure is being developed by DOE and their contractors in consultation with other agencies. He said the consultation for these projects is ongoing and will be completed in December. In addition, DOE is working with the tribal nations to ensure cultural and historical resources are protected.

Mark discussed the 100-N Area demolition plan and said the buildings are being gutted and a berm will be created. He said sampling will be done before demolishing and some of the concrete will be used as fill.

Mark said for the intake structures, DOE will use silt curtains and complete work in the winter, monitoring turbidity throughout the project. He said the intake structures at 100-K are smaller and the same measures will be taken.

Mark said the 100-K demolition plan will required less fill material and, once the structure is removed, the shoreline will be restored. He then showed a chart of the planned action for the outfalls and spillways in the 100 Area and said cleanup of the structures is addressed under existing CERCLA decision documents.

Mark said the river pipelines go out into the middle of the channel and based on the risk assessments DOE will determine what should be done. He said the 100-K remediation efforts do not include pipelines.

Mark said the goals for river structure cleanup at 100-N and 100-K Areas are to protect threatened and endangered species along the Columbia River by minimizing noise, debris, and other potential impacts to ecosystems. He said another goal is to maintain water quality of the Columbia River, and proceed carefully with work in the culturally sensitive areas. He said DOE will accommodate seasonal and daily changes in the Columbia River water elevations, keeping worker safety, and ecological and cultural resource protection in mind. He said DOE will continue to work with regulatory agencies, tribal nations, and stakeholders.

Mark said there is fact sheet that will be sent out to the public as well. Nina said Ecology did have input on the fact sheet along with EPA.

Regulator Perspective

- Rod Lobos said there are differences with the structures that should be considered, and the outfall structures have not been characterized to completion yet.
- Nina said there are not radiation concerns but there are other chemicals and it will need to be looked at further. She said DOE has a good plan on how to deal with the river structures and Ecology would like to hear from the HAB throughout this process. She said there are erosion concerns with the use of a berm in the river, and DOE will let Ecology look at the erosion plan. She said there is not a firm timeline on how fast things will occur.

Committee Discussion

- Pam asked if both intake and outfall pipelines are in the middle of the river. Mark said just the outfall pipelines.
- Maynard asked how deep the pipes are. Mark said they run along the bottom of the river, 30-40 feet.
- Doug asked how contaminated the pipes are. Mark said that the contamination levels vary.
- Dale said addressing the structures along the river is something that has been overlooked. He said there have not been many activities near the river structures and not a lot is known. He said it is his understanding that there will be a limit to the work able to be done at the water level. He said there should be discussion, because if any of the structures are going to be left, characterization should be done. Rod said these activities are being done under CERCLA so permits are not required, and DOE is going through consultation with the Army Corps of Engineers.
- Jean asked how this work will be done near the river. Rod said the areas will be separated from the river first.

- Susan asked if there is an overarching schedule for the river structures. Dennis Reese, WCH, said there will be a haul road and the berms will be completed by February 28 and demolition will continue through September.
- Susan asked if there is a baseline schedule. Mark said work starts in December. Dennis said the plan is to complete the work at 100-N in roughly one year. Mark said these operations will meet the TPA milestones.
- Pam said she is surprised the Army Corps of Engineers is not pushing back on these plans more. Mark said DOE has not received the approved plans from the Corps yet.
- Dick asked why the berms are needed for this task. Dennis said there were studies that showed that the use of berms would be less impactful to the river. He said this also makes it possible to meet the milestone dates. A representative from Ecology said the U.S. Fish and Wildlife Service thought one large impact is better than many small impacts.
- Jean said the Endangered Species Act requires a biological assessment. Cole Lindsey, WCH, said a biological opinion is not always required, only if there will be an adverse effect on a particular species, and the consulting agencies make that decision.
- Jean asked how the regulators are interpreting the CERCLA actions, and how this applies to work in the river. Mark said the work plan speaks to the consultation with agencies on this. Nina said the information is in the work plan.
- Doug said he is not satisfied with the characterization surrounding the berm with regards to riverbed contamination. Ecology said this data is still being collected and the need for more characterization is recognized.

Shelley said she is worried about the berm and erosion control. She said she will work with Jean and follow up on this topic. HAB members with additional questions should provide them to Shelley or Jean. They will synthesize the material and make recommendations for committee next steps.

TPA Change Package Comment Response Document [Joint topic with PIC]

Gerry said there have been four comment responses. Today's discussion focused on the TPA change package for M-15 and the Central Plateau Strategy.

Craig Cameron, EPA, said he was involved in the negotiations and development of the comment responses. The agencies responded to each individual comment. He said that the shaded comments in the response document indicate that the comment is being addressed in the M-91 response document. He said the main change based on comments was who writes the initial draft of the ROD. While it had been proposed to have DOE prepare the first draft, the level of public concern on this point led the agencies to decide to keep EPA writing the draft and then collaborating with DOE on its completion. Craig said another change was based on comments regarding the BC cribs OU having a separate identity and not including the deep vadose zone. He said there were other minor

changes relating to terminology and reducing the number of OUs. He said that while they received comments to simplify the OU naming conventions by geography, it was decided to keep some of the technical names for compliance reasons and make more of an effort to explain the terms when they are used. He said some of the comments were very detailed and required complex answers. There were 17 draft versions of this response document and a lot of time was spent in providing the best responses possible.

Briant Charboneau, DOE-RL, said the process that created this document should be an example for the preparation of response documents. He said there were many comments incorporated and there was a lot of negotiation influenced by input from the HAB and the Tribes. Craig said a lot of this feedback was included in the Central Plateau Strategy which helped form the negotiations. Briant said the TPA homepage, and the RCRA CERCLA past practice definitions were revised as a result of public comment. He added that there were many meetings to address these comments.

John Price, Ecology, said decisions were influenced by past comments and dialogue, interaction over the year with feedback, and putting the draft proposal out for public comment. He said there were fewer changes resulting from the public comment step due to the previous interaction and discussion.

Committee Discussion

- Gerry said there are detailed responses to the comments that a lot of time went into. He said this document is really useful, but this approach is not taken with all of the four change packages. He said in other documents there were summaries of comments that did not address the comments fully.
- Ken Niles said there is concern that there are a lot of comments with only a few changes highlighted. He suggested including the full scope of changes that were made as a result of discussions and dialogue. Craig said that is hard to capture.
- Gerry said capturing the evolution of changes made would be good to highlight. He said this should be a reference point for how responses are prepared. Craig said it is a good point to put in a background of how the course was changed by public comment.
- Gerry said it is important to show where changes were not made, contrary to public comment. He referenced other comment response documents, and said he has heard that people give up on the process when there is not any change resulting from public comments. He said there were also frustrations with agencies not responding separately to comments in other comment response documents. The only way to influence some of these issues is to go outside the public comment process with public meetings and other events. Jean said the effort that went into the Central Plateau Strategy response document should be the model and the HAB needs to be in the loop earlier to have influence on the outcomes. Craig said it is the TPA's responsibility to understand the comments well enough to respond.
- Liz said it is important look at how progress is articulated. She said trying to understand how the negotiation process works is important for the public to understand. Craig said this message does get lost.

- Doug said with regards to documenting processes, the relationships are documentation of how the process works. He said this can be seen with the relationships the HAB has with the TPA. Craig said sometimes there are considerations made on documents with HAB members in mind, as an example.
- Shelley suggested Susan Leckband do an op-ed piece on the relationships the HAB has with the TPA. Susan said she could do this as an example of a successful process.
- Gerry said an individual being able to see his/her comment responded to in detail keeps people in the process and honors their time and effort. This should be kept in mind for future public response documents.

Committee Business

The RAP committee agreed to discuss committee business items with a committee call on Tuesday, November 23 at 9am.

Pam asked Paula if any of the December issues are not ready for discussion. Craig suggested that the reverse wells might not be ready.

Dirk reminded the committee that the cesium in the 300 Area is another new topic that should be discussed.

Follow Up Items

- ERDF PA > Update on Nature of analysis and findings to date (spring)
- ERDF – Technical IM – Get questions to Shelley
- Tutorial on ERDF operations on site (inputs, outputs, leachate, dose limits) (before spring)
- Public Comment options with the PA
- Status for covering (?) Naval reactor coves
- What is the process for incorporating RI/FS into RCRA process? Explain CAP/ROD. (deep vadose zone)
- Email questions regarding DVZ work plan to Susan H. by 11/26 - Wade and Dale to work on advice development and queue up next discussion.
- Follow up presentation update on Building 324 – B cell (Radiochemical Engineering complex)
- Ecology would like to hear the HABs perspective on outfalls/intakes plan
- Would like timeline for the work on outfalls/intake structures
- Jean V. will get BA for Fish impacts and share with committee.
- Roger (Ecology) will get with Jean regarding work plan/CERCLA

- Roger would like more information on river materials covered by berm – bring this information back to committee.
- Jean and Shelley to follow up on outfall/intake concerns and determine appropriate next steps for the committee
- Discuss how we articulate progress/way the public influences decisions (CRP? Web?) – Agencies and HAB > shared responsibility.
- Ask Susan Leckband to consider writing Op. ED on TPA change package process

Handouts

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

- Deep Vadose Zone Cleanup, CHPRC.
- Development of the Long-Term Deep Vadose Zone Program Plan, Roy Gephart, November 17, 2010.
- Hanford RCRA Hazardous Waste Site-wide Permit: A citizen’s guide, Gerry Pollet, November 16, 2010.
- More on the Site-wide permit, Ecology, November 17, 2010.
- Work Plan Summary for the ERDF Performance Assessment Analysis, Marc Wood, WCH, November 2010.
- Hanford’s River Structures and Near-term Cleanup Plans: fact sheet, TPA, November 2010.
- Update on 100-Area River Structures Cleanup, Mark French.

Attendees

HAB Members and Alternates

Tom Carpenter	Pam Larsen	Maynard Plahuta
Shelley Cimon	Susan Leckband	Gerry Pollet
Dirk Dunning	Liz Mattson	Dick Smith
Dale Engstrom	Doug Mercer	Gene Van Liew
Harold Heacock	Ken Niles	Jean Vanni

Others

Paula Call, DOE-RL	Dieter Bohrmann, Ecology	Gus Alvarez, CHPRC
Briant Charboneau, DOE-RL	Rick Bond, Ecology	Marty Doornbos, CHPRC
Cliff Clark, DOE-RL	Jeff Lyon, Ecology	Bob Popielarczyk, CHPRC

Mark French, DOE-RL	Nina Menard, Ecology	Jennie Seaver, CHPRC
Owen Roberts, DOE-RL	John Price, Ecology (on phone)	Marc Wood, CHPRC
Cameron Salony, DOE-RL	Deborah Singleton, Ecology	Susan Hayman, EnviroIssues
Chris Smith, DOE-RL	Ron Skinnarland, Ecology	Blair Scott, EnviroIssues
	Ginger Wireman, Ecology	Suzette Thompsen, MSA
	Craig Cameron, EPA	Barb Wise, MSA
	Emy Laija, EPA	Roy Gephart, PNNL
	Rod Lobos, EPA	Mark Triplett, PNNL
		Dawn Wellman, PNNL
		Peter Bengston, WCH
		Bill Borley, WCH
		Mike Casbon, WCH
		Roger Landon, WCH
		Cole Lindsey, WCH
		Dennis Reese, WCH
		Marc Wood, WCH
		Mike Priddy, WDOH

November RAP Committee Meeting - Transcribed Flip Chart Notes

Follow Up

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Follow Up

14. Jean and Shelley to follow up on outfall/intake concerns and determine appropriate next steps for the committee
15. Discuss how we articulate progress/way the public influences decisions (CRP? Web?) – Agencies and HAB > shared responsibility.
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Concepts for HAB discussion at COTW

1. Training and safety
2. Monitoring requirements
3. 300 Area (post closure/or corrective action?)
4. Affect from more stringent MTCA
5. Ecology's acceptance of the DOE application if incomplete
6. Part A
7. Closure plan and corrective actions
8. Schedules for closure/corrective action

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Concepts for HAB discussion at COTW

9. Should permit cover more general issues? (e.g. tank vapors)
10. Did Ecology meet “overall” conditions/requirements
11. Did Ecology meet individual “unit” conditions/requirements
12. How does RCRA permit relate to other decision-making on the site (e.g. RODs)
13. Scale of PA and integration information composite (cumulative impacts)

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Concepts for HAB discussion at COTW

14. How were new TSDs constructed?
15. Use Jean’s introduction for COTW and public
16. Should it be a requirement for RCRA permit to describe site-wide composite risk
17. Develop a metaphor “making the least toxic Hanford Cake” – public and COTW

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Concepts for Public Workshops for RCRA

1. Examples of what isn’t covered under permit
2. Puzzle pieces
3. Images
4. Relationship of “umbrella” to “unit” permits – chicken/egg dilemma

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Committee Feedback on CRD

1. Capture evolution of changes over the life of a proposal
2. TPA change package response document is an example for the future of how to present this.
3. Highlight how the public influenced the decisions (and also when it didn’t get changed) – this affects how people keep interacted in Public Involvement

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Committee Feedback on CRD

4. Continue to look for opportunities for dialogue on comments before decisions are made
5. Keep HAB apprised and involved early and often
6. Would be nice to let the public know how their interests are brought forward in negotiation discussions, etc.