

FINAL MEETING SUMMARY

**HANFORD ADVISORY BOARD
River and Plateau Committee Meeting
January 13, 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

Maynard Plahuta welcomed everyone and introductions were made. The November and December meeting summaries were approved with no objections.

Paula Call, Department of Energy – Richland Operations Office (DOE-RL), provided an update on the 2015 vision and the work scope for the river corridor. She said this update is a result of the M 91 milestone change package. She said the dates of these milestones were to be determined by December 31st. She said based on public comments and agency negotiation DOE decided to wait and make the milestone description more comprehensive and push back the date to February 28th. She said the Tri-Party Agreement (TPA) would like to come in and brief the River and Plateau (RAP) committee on the change package. Maynard asked if this briefing could be done at the February RAP meeting. Paula said she cannot say for sure, but as soon as it is appropriate DOE will give the briefing. Dennis Faulk, Environmental Protection Agency (EPA), said with substantial packages and public involvement there is serious negotiation that takes place. He said there was momentum lost over the holidays but progress is starting back up.

Kevin Leary, DOE-RL, said that next week there will be a letter to inform the public about the interim Environmental Assessment (EA) on the barrow source C, Non-Radioactive Dangerous Waste Landfill (NRDWL) and Solid Waste Landfill (SWL). He wants to come and give a briefing on the SWL and the Memorandum of Agreement

(MOA). He said the size changed from 15 acres to 45 acres and the original was for 216 UA cribs. He said Department of Energy (DOE) is still working on revising the MOA to reflect the barrowed source and the point of use changed. He said all the other stipulations in the MOA remain the same. He said DOE has completed the updates for the habitat assessment. Robin Paul, EPA, asked if the Department of Ecology (Ecology) is aware of these changes to the interim EA. Kevin said there was a meeting with Ecology to work on the State Environmental Policy Act (SEPA) check list. Kevin said he will come back to give an update or a formal presentation on the interim EA if the RAP would like. Jean Vanni asked what the reason is for the interim EA. Kevin said there has to be National Environmental Policy Act (NEPA) coverage before the Environmental Impact Statement (EIS) is finalized that is why it is an interim EA. Jean said she thought NRDWL was already covered by the original Hanford EIS. Kevin said he would check on the validity of this. Shelly Cimon asked for clarification on the timeline for the MOA on the barrow source C. Kevin said DOE wants to get the timeline signed within the next few months.

Kevin said due to the controversy on barriers DOE is preparing to do a primer that will be called something such as "ET barriers myths and facts". Dale Engstrom asked if pros and cons of ET barriers are included. Kevin said absolutely, DOE has evolved from the mistakes made at the Umpqua barriers. Maynard asked if there is information regarding barrow source values. Kevin said there is an estimate 45,000 cubic yards of material.

Robin asked Kevin what DOE's thinking is behind doing an interim EA when it was understood the landfills are under the Washington state regulations. Kevin said this will still need NEPA coverage. Jean said originally NRDWL was covered by NEPA under the original Hanford coverage. Kevin said he will look into this.

Central Plateau Cleanup Completion Strategy

Dale Engstrom framed the discussion on the draft advice regarding the central plateau cleanup completion strategy. He said there have been two or three DOE presentations on the central plateau strategy given in RAP meetings. He said there was feeling to do something about this so RAP arranged a central plateau workshop and talking points were derived. He said Hanford Advisory Board (HAB) had talking points from this as well. He said the draft advice comes from a compilation of these HAB comments with additions from Gerry Pollet. He said what is being looked at today is a more final draft on the advice on the central plateau strategy. He said the biggest topic of discussion was that there are not enough decision units being considered. He said the other issue was that it was confusing, he this document will be driving decisions and clarity is an important aspect. He said there was not much reference to the vadose zone problems, there is discussion about groundwater and surface water but the vadose zone was not fully addressed. He said since December the major changes have been clarification in language on burial grounds, unlined trenches and cribs and how these things are monitored. There were no significant changes in the draft advice since the last meeting.

Regulator Perspectives

- Dennis said the advice is consistent with what the EPA is seeing in the central plateau cleanup completion strategy. He said the advice is getting very verbose in the background and could be tightened up. He said in the advice there was discussion on unlined trenches and how this topic is not fully addressed in the strategy. He said this paragraph needs more introduction and background.
- Dennis the vadose zone is lacking a toolbox. He said investing in technology development needs to be dealt with effectively.
- Rick Bond, Ecology said some people who have been involved could not be here today but it is his understanding that Ecology echoes what EPA said.

Agency Perspective

- Briant Charbonneau, DOE, said this advice is helpful and understandable for the TPA. He said DOE wants to address the human health and exposure at the surface and set aside groundwater to find these solutions.
- Briant said now DOE is looking at surface to ground water, if DOE does not have a solution for a deep vadose zone threat DOE cannot do anything for the surface. He said if DOE can get the surface taken care of then another operable units would deal with the ground down. He said the deep vadose zone will not be ignored, and there will be solutions for things such as volatile organics.
- Briant echoed what Dennis said about tightening up the background in the advice. He said on page three half way throughout the first paragraph, he does not know what the “requirement” is referring to.
- Briant said the vadose zone is addressed well. He said the waste sites near canyons are good options. He said DOE would not leave waste near a canyon without treating it. He said protection comes from the cap, and the liner is not meant to last it is only to protect for water until the cap is in place. He said the bulk of the characterization for the burial ground is to identify the threats to the groundwater. He said exposure scenarios will be added and it will be robust. He said DOE also questions where the online trench came from. He said overall there is good information in this advice.

Committee Discussion

- Gerry Pollet said in response to Briant, Washington State has a preference for waste management. He said Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) or Resource Conservation and Recovery Act (RCRA) have to be followed.
- Susan Leckband said she believes the commentary is good. She said there is too much text before getting to the advice and this might take away from the message. She wants to see the background expanded and then get to the advice so it can be read

easily. She said maybe having the advice upfront is a good option. She asked the agencies if the advice was understandable.

- Dennis said the advice was easily understood.
- Margo Voogd, DOE-RL, reiterated Dennis's comment and said the advice needs more reference regarding unlined trenches.
- Jean said referring to the last sentence in the first paragraph of the commentary, that the larger Record of Decision (ROD) is more difficult however should be separate rather than forced into one ROD. She said the references "stick methodology" it is taking a RCRA Treatment, Storage and Disposal (TSD) and making it CERCLA. Dale said part of the assurance is that EPA is going to call it a CERCLA unit but Ecology will mind the RCRA unit. Jean said that the units do not convert to a CERCLA unit. Dale said the advice sates the disagreement with these terminologies. Dennis said the CERCLA and RCRA methodology needs to be followed.
- Dennis said maybe the Corrective Action Decision (CAD) ROD concept needs to be explained. He said DOE wants to apply CERCLA and these concepts need to be explained with overlaying CERCLA. Dale said RCRA is for chemical problems not radiation so when there is a radiation problem CERCLA is needed. He said DOE is looking at large decision units and RAP thinks the decision units should be smaller. Dale said RAP wants DOE to look at smaller decision units and cumulative impact analysis.
- Dennis said the units that are classified as RCRA are purposed to change to CERCLA units; this will be a CAD and a ROD decision. He said Ecology has the authority to sign on this, and it will be put together in a package. Jean asked for a presentation on RCRA units changing to CERCLA units.
- Sandra Lilligren said DOE is not paying attention to the fact that if you leave contamination somewhere there is likely a resource effected. She said there is an injury which is damage then a cost. She suggested adding in potential damage cost related to injured resources. She said DOE needs to become more aware of this issue. She said from philosophical point of view, the vadose zone should be cleared up to avoid Institutional Controls (ICs).
- Maynard asked for clarification on Briant Charbonneau's comment regarding groundwater. Briant said there cannot just be characterization for groundwater. He said exposure and threats have to be looked at. He said for buried waste an inventory of the material is not needed. He said the groundwater threat is the most uncertain. Maynard said determining the threat and knowing what materials are there is important. He said DOE has to be concerned about the threat and identify the contaminants.
- Shelly said the logic in the advice has to have a path; someone coming in has to be able to understand the logic. She said there is a disservice if RAP gives the advice without a background. She said the advice should stay the way it is.
- Gerry said there are people high up in decision making that do not understand RAP advice and it is important to make advice clear. He said the major emphasis of the advice is not fully addressing cumulative impacts which should be central and significant. He said RAP needs to say upfront that there are concerns on cumulative impacts being assessed. He said the advice mentions cumulative impact over 10,000 and CERCLA does not cover things that far into the future.

- Gerry said the RCRA versus CERCLA strategy needs to be discussed. He said the RCRA permitting description has to have SEPA coverage not NEPA coverage and it is important to have that analysis.
- Gerry said State standards are not being applied and that should be integrated into the advice. He said land fill closure as a term is not something that can be done unless proven to meet Washington MTCA standards. He said this is in the advice however RAP needs to remind the agencies that at Hanford landfill standards are not applicable to burial grounds.
- Briant said this is not a decision document. He said hopefully the TPA will come to agreement soon.
- Maynard said this is not a decision document; however RAP needs to keep DOE mindful on these topics.
- Dale said the next draft of the advice will be sent out after getting all the comments integrated. He gave his email so people can send him the comments by the end of the week Close of Business (COB) Friday the 15th. He said the next version will be sent out to the committee on Monday the 18th.
- Shelly said to refer back to advice on Removal, Treatment and Disposal (RTD) and capping.
- Susan Leckband said she will search through past advice to find out this information.

Base Assumptions Advice and Actionable Items

Dale said RAP and HAB discussed the assumptions made by the TPA and how decisions being made at Hanford were addressed. He said this was discussed in RAP and then in the Committee of the Whole (COTW) from there the Issue Managers (IMs) took the topics and created advice. He said he was given three topics and one was eliminated. Susan Hayman, EnviroIssues, said there were seven issues and five had possible actionable items from the COTW meeting and Dale has taken two of those to follow through on.

Dale said comments on the draft advice concerning modeling and unrestricted and restricted use have been integrated and this is a discussion of the preliminary draft of this document. Dale said the first issue was regarding groundwater and “beneficial use”, this was determined to be an error and is now gone. He said unrestricted use versus restricted use is a good concept due to contamination below the surface and the need for a protective measure. He said the two main comments regarding unrestricted use versus restricted use were in reference to making the language more plain and understandable such as changing the term from unrestricted to limited use. He said the second comment was making more of a connection between land use and surface use. He said most of the conversations surrounded exposure scenarios. He said this advice is a little weak however the topics are worth pursuing.

Regulator Perspectives

- Dennis Faulk asked if his name could be taken out of this document. He said if his name is kept in the document he would need to change some of the language and suggested to stay away from quoting. He said if this goes forward as advice to be thorough, the primary reason 15 feet is used is due to MTCA and the ROD embracing this standard. He thinks the term limited use might be problematic, but the issue managers should continue to explore this.
- Rick Bond said a lot of these suggested changes are being addressed and these concepts are very valid. He said there is not enough comment on unrestricted and restricted use.

Committee Discussion

- Gerry said Dale and the other issue managers did a great job and these points should be in the central plateau advice as well. He said the basis of the advice on limited use is consistent with MTCAs notice requirements. He said that it is technically feasible to clear up to 15 feet and he asked if the RAP committee had any issues with this. Dennis said he is trying to communicate that the 15 feet is one of several criteria and the cleanup usually does further down than 15 feet. Gerry said he wanted to know how people read the 15 feet piece. He suggested saying 15 feet is technically feasible and commonly done.
- Susan Leckband said she does not agree with quoting individuals in the advice. She thinks it is a good advice and it speaks directly to policy. She said these ideas of using modeling instead of characterization is clean and good at the policy level, however it could be tightened up. She asked who the Hanford customers are that the document is referring to. She thinks this is a good combination and the topics can be grouped together very well baring small issues. She said the topics should be linked together as originally done.
- Jean asked what is going to be done with knowledge gained from modeling. Dale said there can be a sentence to clarify the purpose of the sensitivity of the sensitivity analysis. Bob Suyama said this clarification is in the advice already and read the sentence to clarify.
- Jean said to have an explanation on the regulatory pathway that supports using this terminality for unrestricted surface use. Dennis said this terminology is not used and unrestricted use is continually used in the RODs.
- Maynard asked if the structure of this advice is the structure that will be followed. He said this advice is structured differently, he is not saying that is right and wrong however it might be good to keep the topics separate.
- Wade said he was an issue manager for these five actionable items that came out of the COTW. He is trying to get help to work on what was suggested concerning natural resources. Sandra said she and Tony might want to work on the natural resource piece. Wade said Greg deBruler wanted to work on this as well.

- Gerry said he really likes the way the advice is written, and he said there has been budget advice structured like this before. His concern is that there are five elements in total and it is important not to lose track of them because of the way the topics are labeled or structured. Bob said the topics could be all clumped together a title representing each issue. He said the timing should be addressed and the topics can be done separately regarding the five issues.
- Susan Leckband said as the topic should be understandable so that the five issues can be tracked. She said there has been past advice that refers to these topics and she will research this.
- Mike Priddy, Washington State Department of Health, said the advice is clear and well written. He said the only issue he had was regarding complete characterization, that is to lofty of a goal. He said maybe suggesting sufficient characterization. Maynard said maybe adequate characterization. Mike said he thinks it is more of a sufficiency than completeness.
- Jean said this is not a decision document, it is advice. She said the RAP committee needs to say what is wanted regarding MTCA standards.
- Mike said the intent is to do adequate characterization referring to the commentary section. He said DOE can only characterize current conditions and only calculations can be used for future characterization. He said RAP cannot expect too much from the models. He said DOE can use models in the cleanup for treating systems; however DOE does not use models as a substitute for characterization. Dale said he can document that DOE has used models in some cases to substitute for characterization. Mike said in the 300 Area it cannot be characterized that uranium is getting into the river, however the amount of uranium can be calculated and that is the difference.
- Maynard asked if the issues with MTCA had been resolved.
- Sandra said from her experience the tribe's vision statement is stronger than MTCA. She said there could be HAB advice on this.
- Wade said there needs to be adequate characterization on the plateau and a lot of the work has not been complete, for example the vadose is not all characterized. He said the additional sampling needs to be done first. He said maybe a stronger term than adequate needs to be considered. Shelly said maybe the advice should just say to do more characterization.
- Liz Mattson said it would be useful to give an example of something that was adequate and something that is not adequate to show what is meant by more characterization.
- Dale said there is a place in the advice concerning simulations driving decisions and this should be clearer.
- Dennis said the committee may want to look at Applicable or Relevant and Appropriate Requirements (ARARs) and how those work. He hears people discussing compliance with MTCA standards. He said EPA could do an ARARS 101.
- Dale said the changes on this advice will be simple and it is the intention to have this advice by Wednesday the 20th in the morning with the comments and changes integrated.
- Bob said both of these advices need to be emailed out for comments to be made on them. Dale said he will include an email address and deadline for comments.

- Maynard said the issue managers should probably meet with Greg deBruler to lay out a timetable, and see if advice even needs to be done on all of the topics.

Long-Term Stewardship

Bob said first Doug Mercer will present the gap analysis. He said the RAP committee is looking at Doug's gap analysis to see if there are aspects in need of discussion. He said the RAP needs to talk about the agenda for the Long-Term Stewardship (LTS) work shop and he handed out the stewardship toolbox to get RAP commentary on and potentially formulating advice on how to utilize these concepts.

Doug Mercer presented on the gap analysis. He said there are five questions that remain on the gap analysis, some of which are significant. He said the first is the relationship between DOE-RL stewardship and the acceptance criteria and if this is parallel with ground conditions. He said the second question is the land use assumptions with perpetuity. He said the third question is cost of remedy and the fourth is funding. He said the fifth question is the lack of knowledge surrounding this topic and conforming to the requirements for the remedy selection.

Doug said the legacy management at DOE will not accept the river corridor area as it is. He said what if any parts of the site will be transferred to legacy management. He does not know what the legacy management process will look like. He said this creates an increase in redundancy and cost and ambiguity of the remedy.

Doug said if DOE is assuming federal ownership in perpetuity and DOE needs to defend this claim along with institutional uncertainties over time and define them. Doug said there is also the question of the benefits with present federal ownership. He said CERCLA encourages site reuse for development and DOE could maintain federal ownership. He said the reuse benefits could be much better with increased cleanup.

Doug said for long term cost of remedy and the transparency of the process, the Natural Resource Damage Assessment (NRDA) settlement is supposed to be post closure, he is unsure if this is considered. He does not see the NRDA costs assessed and thinks it is a statutory problem. He said NRDA damages are a consequence of previous actions and the loss benefits over time. He said once these costs are considered this might not be the case. He said the opportunity cost of reuse in the future need to be considered. The remedies include ICs and the cost to the region is affected.

Doug said there are direct costs to DOE including social costs affiliated with the remedy selection. He said administrative costs for a remedy and who the long term managers will be is uncertain. He said enforcement of this might cost more than originally anticipated.

Doug said he does not know how legacy management is funded and does not see assurance in the continuation of this funding. He is concerned due to lack of information on legacy management funding.

Doug said there is concern for the lack of empirical knowledge. He said there is little knowledge of if ICs work. He said studies have shown that ICs are highly ineffective and not cost affective and the lack of empirical basis to show ICs are a good remedy is very worrisome. He said there is not enough evidence provided by DOE and Headquarters (HQ) regarding the empirical knowledge of ICs. He said the question is if the problem stems from HQs guidance or whether it is at the site level. He said the shortfalls need to be analyzed. He said his concerns are heightened as evidence of failure of ICs come to attention. He said there is need for more empirical analysis.

Agency Perspective

- Boyd Hathaway, DOE-RL, said for DOE it is important to protect the environment with the remedies prescribed. He said the goal is to help future generations. He said after the March 3rd workshop DOE will look for feedback, this plan will go off of what was discussed today and he said Paula is helping keep DOE up to date on concerns. He said there is a lot of good information being discussed and Doug brought up many good thoughts. He said the RAP committee is doing a great job on giving feedback and more minds are better than just one. He asked for more comments on the annotated plan and said the information that was already given is being integrated.
- Boyd said Doug Mercer brought up good points and DOE is bringing them back as part of their program plan.

Regulator Perspectives

- Dennis said these topics will be discussed at the February Board meeting. He requests that if there are specific questions for the EPA to get them to him. He said EPA lives in the world of ICs and remedy selection. He said the EPA tries to minimize the use of ICs in remedies which ties in to perpetuity. He said the EPA hopes the Federal Government can control this; however that is a bad assumption to make when the EPA is doing planning. He said the Federal Governments processes are not going to work for LTS in regards to funding uncertainties. He suspects DOE will have to shift to something that resembles what the EPA does where there is a pot of money. He knows that some states have trust funds and he said there will have to be legislative changes to make it possible for the legislative government to respond to this concept. He thinks the empirical knowledge is good to bring up with his colleagues. He said this is its infancy so it will get better.
- Rick Bond said John Price is the main person following this for Ecology.

Committee Discussion

- Bob asked Boyd if there is a way to get the annotated plan outline. Boyd said yes, and DOE should have a draft to comment on soon, it is being developed. Paula said the draft annotated plan will be done with the issue managers. Boyd said this will be available a week before the workshop.
- Doug said if anyone wants to add to his list of five questions on this topic to let him know.
- Dale said in regards to NRDA, Hanford operates differently because there is NRDA and CERCLA. He said with superfund, cleanup is done then NRDA then it is finished. He said for restoration and assessing the damage of the injury in regards to long term stewardship, when solid waste is left in the burial grounds with a cover it is cheaper, however for NRDA that has to be assessed. Dale said he has not heard anything in the site assessment LTS process about what is going to happen in the assessment process in the future.
- Doug knows DOE is in the prescreening phase and those numbers are not part of the cost assessment process. He said the timing is unknown, which is the gap.
- Maynard said before lunch there was discussion regarding base assumptions with NRDA and perpetuity. He said there is disconnect in that the process constitutes government ownership and LTS and there will be leases. He said his concern with remedy selection is the lack of addressing the land use and those benefits. He said this aspect is sometimes missing from the remedy selection, along with long term costs with LTS. He said it is easier to cover it up; he would like Tim and Jay to address these costs and what the costs have been in the past for remedy selection.
- Shelly she said there is discussion of a paradigm shift with NRDA now, instead of looking at in the future. She said how is this done programmatically to make it effective, what this would look like needs to be discussed.
- Susan Leckband said there are historic LTS workshops from other sites and the gaps were identified with additional information on storage and availability. She asked how the contamination information will be made available so this is understandable. She said legacy management has the authority which is another gap.
- Doug said the lack of empirical knowledge is the most important thing. He said it is hard integrating all of the data; he said this might need to be solved at the national level to be effective at the local level. He said having this info in a public spotlight is a good way to keep funding coming in. He said the shift needs to be from legal analysis to a sociological analysis.
- Maynard asked if the gap analysis should be recorded in a paper or a form that Doug could present to DOE.
- Bob said to formalize the gap analysis.
- Doug said he would write down all of this information.
- Jean asked how future land use ties into this, she said the Yakima tribe is having trouble with land use, she has not heard this being addressed. Maynard said it is covered in the potential and beneficial use of land. Doug said the issue of treaty rights does need to be highlighted; however it is an issue that is only indirectly addressed by NRDA because the tribes have a different status. He said this is not formal in the NRDA process and that tribes are considered a stakeholder and maybe this is not

correct. Susan said there has been a struggle with how this is addressed; the tribes have typically handled this and do not write advice. She said the RAP does not want to step on toes but the tribe's relationship with DOE is separate from the one we have. Doug said the concerns he has heard are the same for the treaty and non treaty, however there might be differences in obligation. Dennis said DOE is advocating Federal control and not allowing other uses. He asked if that is conflicting with Brownfield concerning community needs and rights. Doug said that is correct, it has to do with the national statutory obligations. He said the tribe's treaty rights refer to unused areas, for legacy management this is a sticking point. He said the treaty rights might define some issues to the future use of this site that are not under CERCLA, NEPA or SEPA.

- Boyd said DOE is interested in developing this plan for LTS for the environment. He said there is the march 3rd workshop to and there will be a draft of the plan to have it reviewed and ready for the workshop, he thanked the RAP for helping implement an LTS plan for the site.
- Doug said from a transparency perspective if he is able to talk with site managers between meetings to see how these issues are being processed he could generate confidence within the board. He said the other point is about the national infrastructure that is required for a site stewardship plan.
- Jeff Lerch, WCH, said he will be in the mode of how to approach and manage a LTS plan and getting data and confidence is important. He said if this can be initiated early there will be decades of information and history before going to a different program or entity. He likes that these programs are taking place and gaining confidence.
- Maynard said his concern is the extent of LTS regarding cost in remedy selection. He feels there is a lack of this. Jeff said he is listening to see what happens with cost for remedy selection and how environmental decisions are made. He said he is not really up to speed but he likes that gaps are being looked at.
- Boyd said the program plan being developed has these costs addressed. He said there will be historical data to make this more accurate in order to update the baseline.
- Dennis said the question of costs is always a consideration. He said for remove treat dispose there are still NRDA costs and EPA is just not there yet. He said there is data collected during cleanup and how that is put together is being evaluated. He said this conversation has been had before and there needs to be a way to keep the information current and relevant.
- Dale said in regards to the LTS document, there is nothing discussing NRDA type consequences for restoration. He said these consequences are not in the document, DOE says these concerns are being taken care of but it is not in the document. He said the Hanford Natural Resource Trustee Council (NRTC) is going to come up with an injury assessment for restoration and LTS is going to say there will be need for funding.
- Dennis said there will be liabilities after this for the Federal Government and this needs to be acknowledged.
- Bob Suyama handed out the stewardship toolbox from Rocky Flats. He said this document handles a lot of these gaps that have been brought up in this discussion. He said the document has a list for every remedy which needs to be thought about. He said NRDA and cost would need to be added to this list as well. He said this

document includes a chart that assists in choosing remedies. He said a cost column could be added to this chart to develop an estimate associated with the required actions. He said there is a section which gives direction on how to use the toolbox. He said this could be something to go through for every remedy selection. He said the purpose behind handing this document out is to view a good example. He would be willing to extract this and bring it as a tool or advice to the next HAB meeting and it might be good for the workshop. He said he has heard about these types of flow charts working for groundwater. He said this adds good questions for Tim and Jay to bring up at the HAB meeting. He said there should be brainstorming activity to add to this and see if it could be something that has potential use.

- Doug said to add a LTS discussion to the February board meeting. He agrees that we are not seeing anything new, he said each site struggles to make a tool box, but there are things at the site level that can be improved as well as at the national level regarding stewardship.
- Susan said that for the list of lessons learned she wants more detail on sites that have closed. She said there needs to be an evaluation on how LTS could have been advanced so that it is known what can be done now to get ready for LTS.
- Dennis said to Susan Leckband that her question regarding past LTS information might not be able to be answered by Tim and Jay. He said it needs to be framed in a broader sense.
- Maynard asked about a trust fund and how it is not working. Dennis said that would be good to ask Jay. Doug said Catherin Sharp would be good to ask about trust funds.
- Wade said the military sites have stewardship. He said there is a lot of information and experience out there that can be drawn on. Shelly said a state perspective in terms of Oak Ridge and having examples of LTS trust funds would be helpful.

300 Area RI/FS Work Plan

Dale said this discussion is about the new 300 Area Remedial Investigation and Feasibility Study (RI/FS) work plan and sample analysis work plan which are a part of the river corridor cleanup.

Mike Thompson DOE-RL, presented on the 300 Area RI/FS work plan. He said the 300 Area is the industrial complex that provided fuel. He said the primary contaminant is waist uranium and chemicals included in the fabrication process. He said there was a ROD about ten years ago for Remove Treat and Dispose (RTD). He gave an update of what has been dug up and what remains at the site. He said DOE has decided to keep some of the buildings. He said the drinking water is taken by the City of Richland just downstream from the 300 Area.

Mike presented the 300 Area TPA milestones and target dates from October 2009 until September 2024. He said there is roughly two years to do the ROD for the 300 Area.

Mike went over the 300 Area RI/FS work plan. He highlighted some of the accomplishments in 2009 and said comments have been received from the EPA and the work plan is being modified accordingly. He said there might be some groundwater work done past 2024. He said the work plan identifies the scope of work required to reach a remedial decision. He said the 300 Area work plan reflects significant characterization and remediation progress such as a Contaminants of Potential Concern (COPC) report in 2005 and a River Corridor Baseline Risk Assessment (RCBRA) and Columbia River Remedial Investigation. He said the work plan is required to reach a remedial decision through DOE. He referenced a map of the area and said the groundwater contaminants from the Purex plant include Tritium Iodine 29 among others.

Mike referenced a schematic illustrating various subsurface zones associated with contaminated pathways for the 300 Area based off of work that has been done over the years. He said DOE has a lot of data, but to design remediation schemes DOE will do eleven more wells and more boreholes under the work plan. He said the plumes of Trichloroethylene (TCE) in the ground water were found to be above drinking water standards.

Mike showed the water treatment facility and the liquid waste facilities and said a lot of work has been done regarding these facilities. He referenced a conceptual model and said it is based on if DOE was able to remove the uranium. He said the uranium in the ground water cleans itself up. He said there is a significant mass of uranium that is continuing to feed the uranium plume. He said there is some uranium that is not rewetted that is above the vadose zone. He said there was about 130,000 lbs of uranium removed and taken to Environmental Restoration Disposal Facility (ERDF). He said 50 % of the uranium is estimated to be in the vadose zone sediment and 37% is estimated to be in the smear zone sediment below the disposal sites. He said this uranium continues to keep the site above drinking water standards. He said the riverbed area influenced by discharge from saturated gravel units is where DOE think that uranium is contributing to drinking water along the shoreline. He said that the U flux to the Columbia River from the 300 Area is up to about 190 lbs per year. He showed a diagram of the site and where the eleven wells are located. He said DOE is implementing these wells to determine how much needs to be treated to get the drinking water down to standards.

Mike went over the remedial reports; he said DOE looked at many applications on both ends of the spectrum from no action to removal. He said in the RI/FS work plan DOE ranked these applications. He said DOE is looking at active techniques to remediate this plume.

Regulator Perspectives

- Larry Gadbois, EPA, said this is a work plan to characterize and make a remedy selection. He said the work plan is to narrow in on what would be appropriate and see how much it would cost and run it through CERCLA. He said a work plan is a balance between information in order to guide making a selection.
- Rick said Ecology agrees with EPA.
- Larry said EPA added in a lot of comments on the 300 Area RI/FS. He said in the work plan and discussions with DOE, he has found that DOE is on track to restore the groundwater to drinking water standards. He said the uranium is a challenge but still a goal. He said EPA is trying to write a ROD to do this and the technology is undetermined, however restoring the groundwater is the focus.

Committee Discussion

- Dale Engstrom said Oregon has been strategic about their concerns. He said Mike Thompson identified twenty seven data gaps which demonstrate a humbling picture of the 300 Area site. He said these data gaps include the uranium inventory in the smear zone and vadose zone, groundwater, rates and modes, controls on uranium, and also there are data gaps in the Volatile Organic Compounds (VOC) that are deep in parts of the 300 Area. He said there is question on the inventory for 618 and 11[b1]. He said the site model has improved but has not yet addressed these data gaps. He said this is a modest attempt to address these gaps. He said Oregon would suggest this is incremental not a final stage to get to remedies. Dale said the data on the plume is not addressed in these data gaps and its future. He said the remediation efforts have not been established and there is a rumor of the river water washing the plume out which needs more characterization. He said for hydraulic conductivity there are some things that do not line up. Mike said the data can vary. Dale said Oregon feels there is need for more Hydrologic characterization. Mike said DOE will drill through the aquifer. He said DOE does not know the final configuration and it will be a struggle to see if sampling will be the end result, however there will be a geologist on site and the base screening level is a 15 feet.
- Dale said Oregon is also concerned with KDs[b2] which has to do with the ratio of the physical state of the material contaminated. He said the KDs are being applied over the whole site which is not appropriate. He said results will vary for something such as alcoholicity in the solids and water columns. He said it is hard to have a KD that is characteristic of what is going. He said KDs are not the solution. He said using phosphate applications is not implementable if there is no polyphosphate remediation. Mike said DOE has not dropped Phosphate remediation. He said if phosphate is added to groundwater it makes austenite. He said the concept is to utilize this process in the groundwater to make a more stable form of uranium and then catching what was not converted to austenite. He said there is a lot of groundwater going through there the 300 Area. He said DOE has more work to be done on this. Dale said Oregon feels that polyphosphate applications are not applicable. He said Oregon feels that excavation might be the preferred alternative. He said excavation would end ground

water issues eliminating characterization research. He said it would terminate the need to consider natural resource problems in the future.

- Wade asked what the status of the low level waste is. Mike said he does not know.
- Wade asked about the piping that runs from processing that was in concrete. He said every six feet a hole was drilled and there is a lot of evidence of contamination. He said in the plans there was not anything looking at sub surface. He said the whole characterization program needs to be looking at these waste sites. He said the research facilities did their own studies and those documents should be utilized of this. He said it is important for a feasibility study to look at existing information from other sites. He said the TCE plume in the 300 Area might be more extensive which should be factored in.
- Jean asked if the process trenches are taken into account. Mike said that the process trenches are taken into account.
- Jean asked if the wells cover the RCRA TSDs. Mike said these are new wells put in place to look at Uranium and other contaminants. He said the RCRA facility has their own monitoring and DOE will use this information to assist them.
- Jean said she heard there will not be a separate ROD. Larry said the ROD will cover all of 200 East. He said the TPA has made a commitment to write a ROD for all of the 300 area. He said in that ROD there will be plumes that are looked at and the remedy will be a 200 area decision.
- Jean said she heard that most of the uranium is coming from the smear zone yet 50% is held in the vadose zone. Mike said the current situation is that DOE has not seen a significant increase in the plume. He said the plume is not going away and DOE is trying to figure out why. He said as the groundwater goes up into the smear zone it creates mobile uranium; however the question is on the rate at which the uranium is feeding into the groundwater. He said this has to be characterized and there has to be remediation done. He said if DOE apply phosphates to the surface it has to go through the uranium to get to the smear zone and DOE is doing tests to see what will end up being the next step.
- Shelly asked if documentation on Interim Miscellaneous Underground Storage Tanks (IMUST) is included in this RI/FS. Mike said he is not sure; the most probable remediation is to dispose of the facilities and the pipelines. He DOE is planning on meeting their milestones however DOE is willing to keep excepting comments on them. He said when these comments come in it will likely not be in this next draft; however the comments will not be ignored. He thinks there was some profound comments today and thought it was good.
- Maynard said people need to speak up and talk about their concerns all. He said Oregon and the tribes have addressed their concerns are there others with additional comments.
- Shelly said there should be an emphasis on the comments from Oregon and the Tribes. She said especially from the sampling plan inadequacies, if the board is needed for emphasis that can be discussed.
- Sandra said this is milestone driven work plan for the 300 Area. She said DOE hit the milestone and the 60 days are up for the comment period. She said the only one that is left is the 100 N Area if we want to look at something and have an impact. She said the formulation stage for the 300 Area is over. Mike said DOE will not reject

comments based on milestones. He said DOE will make the milestones but impactful comments will be worked in.

- Susan Leckband said the RAP committee is busy and she suggested the comments from Oregon and the Tribes be elevated to policy level comments. She said for the 300 and 100 N Areas the Board will not follow the technical comments from Oregon, these comments would be better at a policy level.
- Maynard said this is parallel with the with ground water advice and said a lot of this is related to the technical aspects. Shelly said it would be helpful to send a letter to DOE pointing to past advice that is relevant. Dennis said DOE does not need to be reminded on past policies.
- Liz said RAP might be able to come up with something if there is time to work advice around this issue, maybe tabling this topic until the next meeting.
- Dennis said looking at 100 N Area is a good discussion topic to bring up. He said there will be public policy issues regarding this. Mike asked the RAP committee if something like today's presentation on 100 N Area would be useful. Dale said to have DOE do a presentation at the next meeting on the 100 N Area.

Multi-project Teams

John Morse, DOE-RL, said there has been work to coordinate everyone workers on groundwater and soils. He said this need was recognized and memorandums were put in place and teams were formed. John passed out a diagram showing the structure of the Hanford site integration teams for 2010. He said there is the core team which is made up of ORP and RL and the core team looks at what can be improved. He said as this evolved DOE realized there was need for something such as this in different areas at Hanford.

John presented the roles and responsibilities of the teams that cover different areas at Hanford. He said these teams work together and Pacific Northwest National Laboratories (PNNL). He said these teams are flexible and regulators participate in this process as well. He said the meetings vary, for example the River Corridor team meets twice a month and the 200 East and West team meets every other month. He said the primary task for these teams is to identify integration points and work on specific issues. He said the hard work on a daily basis is done by contractors and these teams were established to help them work better.

Regulator Perspectives

- Dennis said these teams have been beneficial. He said depending on the topic these Multi-project teams put out an agenda and he thinks it has been fascinating. He said something such as this has been a long time coming.
- Rick likes the concept of Multi-project teams.

Committee Discussion

- Sandra said these ROD efforts are a good example of where the contractors are working together in these decision units. She said this is really nice to see. John said people working together is the goal and it is not easy.
- Liz asked if these project teams have looked at characterization as a weakness that needs to be addressed. John said data that is being collected on characterization is looked at and the Multi-project teams try to complement this data and make sure everyone is working together.
- Jean said when there are discussions on characterization how does the public get that information. John said the information goes into a formal work plan and the meeting minutes are made available. He said the minutes are lacking in detail however.
- Liz said is the culture to identifying weaknesses in sampling do the teams look at those gaps. John said contractors are all working together and there are a series of self assessments and the contractors have to meet due to Quality Assurance and Quality Control (QAQC) requirements to make sure things are collected properly.
- Ginger Wireman, Ecology, asked if of all the split sampling what is done by EPA and Ecology. John said very little is done by EPA and Ecology for split sampling.

Committee Business

Susan Hayman, EnviroIssues, asked what the RAP committee will be doing on the tank waste closer EIS.

Maynard said the tank waste committee is delving into it; however RAP is not doing much as far as he knows. Gerry said he was afraid that the RAP was not involved in the tank waste closer EIS. He said there is a lot of tank. He wanted to know how RAP would feel about advice on this.

Wade said RAP was supposed to have an expert come in and talk to RAP. Susan Hayman said EI was tasked with the contracting of this, and it is out to bid and it closes January 14th. She said there is an issue managers meeting on the 15th regarding this and that is the status of awarding this after DOE gives approval. She said it should be taken care of by the following Wednesday.

Shelly said if there is not adequate proposal what does that mean do we move forward? Susan Hayman said EI would not award a contract to someone who will not do a good job.

Maynard said he does not want to waste money and try to push this time wise and not get a top notch person to do this, but we can make that choice when the proposals come in.

Tom asked if there is a web page for people to get info to bid on this. Susan Hayman said it is now closed it is already out for bid.

Maynard said there was only one that responded, he thinks it is about their reputation that is on the line if they do not have enough time to make it a quality job. He is concerned about getting a good product. Susan Hayman said the hope is that RAP can look at these proposals. Maynard said there are a lot of unanswered questions at this point. Gerry said he has talk to people about the problems with this selection process, and that individuals were interested and there was a lack of facilitation on compiling this. He said that companies would not be interested in spending money before even getting a bid. He does not think RAP should rely on contractors to do this. He thinks there is a better way to get presenters to serve the need, weather it is a Yakima citizen groups or another expert.

Sandra suggested that her group might be able to come in and talk about it to give an overview and it would not cost a thing. Susan Hayman said who would talk about how this would look. She said the next step is to get leadership from TWC and RAP to talk about this.

Jean asked who is paying. Many said DOE

Jean said so who is making the decision. Susan said EI is relying on HAB to say what they want.

Maynard said to talk about this on the EIC call. Dennis asked if there is a date. Susan Leckband said the third week of February. She said the RAP needs to determine a date regardless of the contracting.

Dennis said United States Geological Survey (USGS) is reviewing the modeling, and if they are done USGS could come in and talk about this.

Gerry said RAP should be open to looking at a day and a half and the model of the budget workshops, and based on this what advise do we want put together.

Shelly said she is confused, about the contract, and if there is criteria from the board. Susan Hayman said there was an issue managers meeting that already decided this. There was a process for this. Susan Leckband said the issue managers said because there is a reduced scope this would still be valuable depending on the bid that comes back.

Jean asked when they will make this decision. Susan Hayman said Jan 15th this Friday.

Gerry said if the issue managers are not on a good path, there are other alternatives.

Susan Hayman went over the Action Items.

It was decided that the committee progress on the agency and board priority list will be moved to the next meeting.

The RAP committee then confirmed the February Committee meeting topics.

Action Items / Commitments

- Insert action items or commitments.
- Insert action items or commitments.

Handouts

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

- Draft Advice coming from the Base Assumptions Committee of the Whole Meeting, Wednesday, December 16, 2009: DOE's Modeling versus More Characterization, Dale Engstrom.
- Stewardship Toolbox: Rocky Flats, Rocky Flats Stewardship Working Group.
- Hanford Site GW/VZ Integration Teams – 2010.

Attendees

HAB Members and Alternates

Tom Carpenter	Floyd Hodges	Maynard Plahuta
Shelley Cimon	Susan Leckband	Gerry Pollet
Dale Engstrom	Sandra Lilligren	Wade Riggsbee
Harold Heacock	Liz Mattson	Bob Suyama
Steve Hudson	Doug Mercer (phone)	Steve White

Others

Paula Call, DOE-RL	Rick Bond, Ecology	Janice Williams, CHPRC
Briant Charboneau, DOE-RL	Nina Menard, Ecology	Marc Jewlt, CHPRC
Kevin Leary, DOE-RL	Ginger Wireman, Ecology	Sonya Johnson, CHPRC
John Morse, DOE-RL	Dennis Faulk, EPA	Dale McKenny, CHPRC
Boyd Hathaway, DOE-RL	Larry Gadbois, EPA	Dale Bidela, CHPRC
K. Michael Thompson, DOE-RL	Rebecca Gerhart, EPA	Susan Hayman, EnviroIssues
Margo Voogd, DOE-RL	Robin Paul, EPA	Blair Scott, EnviroIssues
Jamie Zeisloft, DOE-RL		Gene Van Liew, Local Interest
		Sharon Braswell, MSA
		Rob Pllppo, [b3]MSA
		Barbara Wise, MSA
		Gary Petersen, Tridec
		Peter Bengtson, WCH
		Jeff Lerch, WCH

		Mike Priddy, WDOH
		Jean Vanni, YN – ERWM