

FINAL MEETING SUMMARY

HANFORD ADVISORY BOARD

November 3 - 4, 2005

Seattle, WA

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This is only a summary of issues and actions in this meeting. It may not fully represent the ideas discussed or opinions given. Examination of this document cannot equal or replace attendance and public participation.

Executive Summary

Board Action

The Hanford Advisory Board (HAB or the Board) adopted five pieces of advice:

- Activities at the Plutonium Finishing Plant
- 200 B/C Cribs Focused Feasibility Study and Proposed Plan
- 200-UW-1 Waste Sites Proposed Plan
- Contract Management and Upcoming Major Contracts
- The Bulk Vitrification Demonstration Project

Plutonium Finishing Plant (PFP)

Board members received an update from Mike Weis on activities at PFP. The costs for PFP will not decrease as much as initially thought, as the plutonium will be stored on site for longer than originally anticipated. Increased security requirements may affect the cleanup budget. The Board considered advice on the way PFP cleanup and budget is being addressed.

200 B/C Cribs Focused Feasibility Study and Proposed Plan

The Board considered advice on 200 B/C Cribs Focused Feasibility Study and Proposed Plan as a follow up to Advice #173, the capping decision flow. The Board does not think the initial study evaluated realistic cleanup scenarios.

200-UW-1 Waste Sites Proposed Plan

The Board considered advice in response to the response received from the Department of Energy (DOE) on Advice #177. The DOE response did not address all of the concerns the Board expressed in that advice.

Hanford Contracting and Government Accountability Office (GAO) Recommendations

The Board discussed advice on project management and upcoming major contracts at DOE. Recent GAO reports and DOE Order 413.3 give systems and suggestions for improvement to the project management structure.

Bulk Vitrification

The Board discussed advice regarding considerations for continuing the bulk vitrification demonstration project. The Board asked DOE and Ecology to develop go/no go criteria for the project.

Site Specific Advisory Board (SSAB) Update

Todd Martin, Shelley Cimon, and Susan Leckband recently attended the SSAB Chairs meeting. They brought back a letter for the Board to review and approve or deny Todd's signature. The Board declined to have Todd sign this letter.

University of Washington Researcher Panel

The Board heard presentations from five researchers at the University of Washington who are working on Hanford-related issues.

Board Business

Todd attended and spoke at the National Environmental Policy Act of 1960 anniversary celebration. February Board topics were discussed.

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Susan Leckband, Non-Union, Non-Management Employees (Hanford Work Force) Vice Chair, called the meeting of the Hanford Advisory Board (HAB or Board) to order. The meeting was open to the public and offered ongoing opportunities for public comment.

Board members in attendance are listed at the end of this summary, as are members of the public. Six seats were not represented: Confederated Tribes of the Umatilla Indian Reservation (Tribal Government), Franklin & Grant Counties (Local Government), Hanford Atomic Metal Trades Council (Hanford Work Force), Hanford Watch (Regional Environmental/Citizen) and two Public-at-Large seats.

Welcome and Introductions

Susan thanked the agency heads for participating in the Seattle State of the Site meeting.

This meeting was Mike Wilson's last as Ecology's Nuclear Waste Program Manager. He will be going to Washington, D.C. to be more active on behalf of Ecology in big picture policy issues and to create more of a presence for the program with policy makers.

Approval of September Meeting Summary

The Board approved the September meeting summary with changes submitted by Jerri Main, Public-at-Large and Madeleine Brown, Washington League of Women Voters (Regional Environmental/Citizen).

Plutonium Finishing Plant (PFP)

Mike Weis, U.S. Department of Energy-Richland Operations (DOE-RL) presented an update on the status of the Plutonium Finishing Plant (PFP) decontamination and decommissioning (D&D). Work at PFP has primarily focused on making the waste as stable as possible under the assumption that it would be shipped off site for its final disposition. New safety standards will soon be required to protect the material from the increased perceived threat. By 2008 Hanford will have to meet the government's criteria for safety. The material will be staying on site longer than initially anticipated, but the preparations made for shipping the material position Hanford well to ensure the new security requirements are met by the deadline. DOE is aware that, while the funding allocations for PFP were set to taper off, delayed D&D and increased security requirements mean the costs will not taper as much as originally anticipated. DOE will work to find the appropriate balance across the site and to ensure the most efficient implementation of the new security standards.

Rick Jansons, Non-Union, Non-Management Employees (Hanford Work Force) introduced the advice. The primary impetus for the advice was a concern about where the PFP cleanup dollars were going and the loss due to the discontinuation of accelerated cleanup at PFP. There were also concerns about how plutonium is being handled around the DOE complex and how plutonium at Hanford would be stored.

Regulator Perspectives

Nick Ceto, U.S. Environmental Protection Agency (EPA), stated he thinks this advice is timely, as EPA had a meeting a couple weeks before with project managers from around the DOE complex. The advice reiterates the point that these new security requirements are pulling dollars away from cleanup. This is money the public expects to go towards cleanup. Nick suggested the advice could focus more on the need for a national repository, rather than on how the material is stored on site.

Mike Wilson, Washington State Department of Ecology (Ecology), stated the issue of cleanup dollars versus security dollars is one that DOE is aware of and working to address. He also noted he does not think

storing plutonium in multiple sites around the country is the most efficient solution; building multiple separate storage facilities simply delays the inevitable and costs more in the meantime.

Board Discussion and Questions

Dirk Dunning, Oregon Department of Energy (State of Oregon), noted in the mid-1990's there was a complex-wide analysis regarding plutonium disposition. If DOE decides to use 241-Z to store the plutonium at Hanford they will need to produce a new Environmental Impact Statement or, at the very least, an addendum to the original. Dirk pointed out that one of the big problems with PFP is that it was built at a time of lower seismic criteria and it didn't even meet those standards.

Earl Fordham, Washington State Department of Health (Ex-Officio), questioned a statement in the draft advice about the ventilation systems at PFP not being up to standard. He acknowledged there was a failure a couple years ago, but a recent audit showed no problems with compliance. Rick clarified that this piece in the advice was from Vince Panesko, City of Richland (Local Government). Vince was concerned because the way the plant was originally built there were large fans that helped to route any releases through the appropriate filters before venting them through the main stacks. It was Vince's information that PFP is currently running on the back-up fans. His point was that additional funding will be needed for preventive maintenance of these fans and other equipment, since the plant will not complete D&D as anticipated. Mike Weis replied that Fluor is investigating what should be done to maintain safety at PFP based on new assumptions.

Jim Trombold, Physicians for Social Responsibility (Local/Regional Public Health), stated the Board should not try to dictate or micro-manage where Hanford funding comes from, but rather make sure that their values and priorities are understood. He would like to see the Board focus on making sure cleanup funds are being used for cleanup and that there is adequate funding overall. Rick added a key point to the advice is that cleanup funds should not be used for storing plutonium. Jim said the Board should note that this is a prime example of what can happen when DOE doesn't have an overall plutonium cleanup strategy in place.

Al Boldt, Government Accountability Project (Hanford Work Force), pointed out that the new security modifications are not the only thing taking away from PFP cleanup funding. He also noted the Defense Nuclear Facility Safety Board (DNFSB) stated in October that some PFP D&D activities may be suspended for years due to budget constraints and the diversion of funds to K-basins. Nick added that, as far as EPA is concerned, Hanford is a budget-constrained cleanup project right now. Money is being diverted to K-basins, but there are problems at K-basins that cannot be ignored.

Rob Davis, City of Pasco (Local Government), asked what the size of the budget for the increased security requirements is. It is about 5 percent of the Hanford annual budget.

Dirk said he would like to be sure the advice is clear in stating new, inexperienced workers lack the current workforce's historic experience with the site. This inexperience will cause an inherent vulnerability. Pam Brown, City of Richland (Local Government), said that is not fair: the new workers are not sent onto the site untrained. Rick agreed with Dirk that while new workers are given academic training, there is no way to train them with the history and experience current workers already have. Margery Swint, Benton-Franklin Public Health (Local/Regional Public Health), also noted it is historically true that new workers have more accidents.

The advice was adopted.

200 B/C Focused Feasibility Study and Proposed Plan

Maynard Plahuta, Benton County (Local Government), introduced the advice, stating this advice follows after Advice #173. The Board has spent a fair amount of time discussing retrieve, treat and dispose (RTD) versus capping. The Board has been pleased to hear the agencies say they are taking the Board's

recommendations. However, in practice it seems they are planning to implement these recommendations in very different ways. In light of this disagreement, it seems appropriate for the Board to further clarify its stance. The advice asks for more tests and research to help clarify the environmental aspects and find better source term information. Is 150 years enough? How are decisions explained and what controls will be in place during the suggested time frame? There are also funding concerns, as costs can get quite large over time. If some of the material were removed it is possible that, over time, the total cost could be less.

Board Discussion and Questions

Jeff Luke, Non-Union, Non-Management Employees (Hanford Work Force), asked about the scenarios presented to the River and Plateau (RAP) committee regarding acceptable limits for worker exposure. It seems the roles have been reversed if the Board is saying that worker exposure is not too high, when DOE says that it is. Nick replied that the scenarios used to calculate dose were based on current practices at the Environmental Restoration Disposal Facility (ERDF), assuming the practices would be the same at B/C Cribs. They did not take into account the difference in the composition of the materials or the fact that workers at B/C Cribs will be employing as low as reasonably achievable (ALARA) practices. It is reasonable to request a fair analysis be done, based on the practices that would actually be used in cleaning up the B/C Cribs. John Price, Ecology, stated that Ecology supports EPA's stance on this issue.

Rob Davis stated he does not think all the options in the decision flow (Advice #173) have been followed. He noted capping is the last alternative. He would like to see all the new technologies DOE researched before deciding to cap. Dirk also noted that the analyses included in the report were done two years ago, so even newer technologies were not included. It seems DOE just assumed they would need to cap the site and didn't look for alternatives. Caps are not a good answer for B/C Crib remediation because the groundwater is so close to the surface. He remarked that workers were shielded for work in the N-area, why can't they be shielded for this work?

Keith Smith, Public-at-Large, thinks the contractors are biased towards capping as a way to make their fee. He would like to see DOE ask the workers for suggestions on how to do the work with minimum worker exposure. In the past, the workers have come up with innovative ideas on ways to reduce exposure.

Joe Voice, DOE-RL, asked for clarification, as it seemed the Board was asking for another office within DOE, aside from DOE-RL and DOE-ORP, to take on a formal role within the process. Dirk confirmed this is what the advice is suggesting. The Board thinks the Department of Energy-Office of Legacy Management (LM) should be more formally involved in the decision-making, since they are the ones who will have to deal with it when all is said and done.

The advice was adopted.

200-UW-1 Waste Sites Proposed Plan

The Board issued Advice #177 and received a response from DOE on September 9, 2005. The Board felt the response was insufficient and did not address all of the Board's concerns expressed in Advice #177. Dick Smith, City of Kennewick (Local Government), produced a handout detailing the points of Advice #177 and the response to those points.

Agency Perspective

John Price stated Ecology did receive the advice along with Advice #173 and good public comments. They are still working through all of these. Ecology does not think they need additional advice on this topic. This new advice is in response to DOE's response, but Ecology is the agency responsible for responding to this advice. Essentially, DOE's response doesn't count. Some of the suggestions were that some of the concepts in Advice #177 be tested. He suggested letting these early tests play out, so that further analysis can be completed. Regarding the institutional controls concern, he reference Advice #132, which said the best approach to institutional controls is continued human presence. The Tri-Party agency response to this advice was agreement and the suggestion of further discussion, but, up to this point, there has been no further discussion.

Nick noted that EPA largely plays a support role in this matter and will defer to Ecology.

Board Discussion and Questions

Gerry Pollet, Heart of America Northwest (Regional Environmental/Citizen), stated John's response is why the current advice is needed. The public will not have an adequate chance to review the results if the analysis is not given to the public until the final decision is made. The public is entitled to see a reasonable plan and to see what happens if the site is excavated to 20 or 45 feet. It is also important to have a plan that looks at the likelihood of loss of controls. The likelihood of failure of institutional controls over 150 years is 100%.

Greg deBruler, Columbia Riverkeeper (Regional Environmental/Citizen), stated the Proposed Plan looks at unrealistic scenarios when it considers digging down 200 feet. In reality, digging 20-40 feet would capture most of the source term. Also, LM needs to be involved, especially if they are the ones who will be dealing with it in the long-term. Ideally, LM would be asking to compare full life cycle costs and the costs of deferring to institutional controls. Pam agreed having LM involved would be useful. Her understanding is LM looks at a site's Records of Decision (RODs) and decides whether or not they will take over that site.

Dirk pointed out that decisions on barriers are based on conceptual modeling and there is no basis for a conceptual model at Hanford. The models are wrong and have been shown not to work; this needs to be taken into account for Hanford.

Rob stated he would like to see DOE take a more proactive approach to Advice #173 by producing a document listing applicable new technologies and how those might factor in to decisions to cap.

John Price noted there are 15 sites slated for RTD. The dose rates for those were unacceptable. The other sites have acceptable dose rates 50 years from now.

Dick said he would rather see a plan for what happens when the institutional controls fail than an analysis of those controls. DOE should focus on writing the plan to deal with the failure, rather than analyzing the failure. Susan Leckband asked for a distinction between the long-term stewardship plan and an institutional controls plan.

Todd Martin, Citizens for a Clean Eastern Washington (Regional Environmental/Citizen), noted a key part of the advice addresses the depth to which sites are excavated. He pointed out there is a difference between the cesium that is 20-40 feet below the surface and the technetium that is deeper and threatens groundwater. He said the Board should make sure not to say indirectly that they don't care about the deeper contaminants.

The advice was adopted.

Hanford Contracting and Government Accountability Office (GAO) Recommendations

Harold Heacock, TRIDEC (Local Business), introduced the advice with a review of the recent Government Accountability Office (GAO) reports regarding DOE contracting and project management practices. There were a series of GAO reports on the overall DOE Project Management System, which resulted in DOE adopting an integrated cost schedule and status management procedures. The project management problems continue to occur. Five recent GAO reports focus specifically on Hanford.

Board Discussion and Questions

Maynard asked for clarification on the types of contracts being addressed. Gerry responded the advice is addressing major contracts, not small sub-contracts or purchase orders.

Dick noted a number of years ago DOE projectized most of their work. The problem with that is the people in charge don't have project management skills. A report by the National Academy of Sciences noted there is no clear DOE project manager career path. DOE issued Order 413.3 to address some of the project management problems, but until that is enforced, they will continue to have problems.

Rick stated the artificial separation between DOE-RL and DOE-ORP prevents the efficient movement of skilled employees between projects. It forces employees to be fired and then rehired to work in what could be the same area, just under a different contract.

Jerry Peltier, City of West Richland (Local Government), stated since Fluor projectized the work, everyone is a manager over some scope of work. Most of the workers and managers have never seen the guidance document for Order 413.3.

Gerry stated the timing of this advice is critical. This is the Board's only chance to comment on the contracts that will replace the current Fluor and CH2MHill contracts. It will be too late to say DOE should investigate whether or not all Central Plateau cleanup work could be done under one contractor. The lessons of the GAO reports are intertwined. The point of the advice is to take the lessons learned from the GAO reports and apply them to the new management structure and how management reform is to be done. The budget cannot afford another round of GAO reports.

Madeleine Brown stated everyone knows letting new contracts costs more due to lost hours, but there is no way to quantify that number. She does not want the Board to ask DOE to chase a number that can never be accurate in the first place. Maxine Hines, Oregon Hanford Cleanup Board (State of Oregon), agreed and said the Board needs to take every chance to be supportive of workers. Keith remarked that the number may not be completely accurate, but it gives an idea of the cost. DOE should know the cost so they will know if a contract change is worthwhile. Making contracts so that contractors are held to specific deliverables, rather than to fee, would be a positive step towards better project management.

Gerry commented that you can't have a valid estimate without having valid incentives. Incentives in the upfront contract help get things done under cost and on schedule, but, in order for that to work, independent cost and schedule reviews are necessary. He noted there is no way to know what it will cost to cleanup, but once the cleanup is scoped, then an independent valuation of the scope is possible. The contractor could then receive a 10% profit if they come in under the valuation and lose 10% profit if they are over the valuation. That way, they are awarded for a fair cost valuation. Mike Keizer, Central Washington Building Trades (Hanford Work Force), commented many fee-for-performance contracts are done at the peril of worker safety.

The advice was adopted.

Bulk Vitrification

Rick Jansons introduced the advice. Bulk vitrification is a research, development and demonstration (RD&D) project. The goals of the project are to find a way to treat low-activity (LAW) tank waste faster, save money and meet the 2028 Tri-Party Agreement (TPA) milestone. The Tank Waste Committee (TWC) is concerned that costs have increased significantly and the quality of the waste form may not be "as good as glass," as was initially anticipated. The iron in the sand is forming chunks, creating a non-homogenous mixture. The advice asks DOE to create go/no-go decision-making criteria for the project. It also asks Ecology to develop the same type of criteria as a regulator. The recommendation would be for these criteria to be available to the public in time to make a difference in the 2007/2008 budget appropriation requests. The advice also requests DOE not skip the June 2006 milestone to produce an interim report evaluating the data available at that time.

Board Discussion and Questions

Al Conklin, Washington State Department of Health (Ex-Officio), stated he thought bulk vitrification was supposed to be an affordable alternative to the Waste Treatment Plant (WTP). He asked for clarification as to the cause of the cost overruns. Dick Smith stated one of the reasons bulk vitrification was supposed to be so inexpensive was that it could be done in the open air, but now they are moving it into buildings. He thinks the costs will be comparable to the amount of time lost. He also noted that, so far, the product is not "as good as glass." He suggested it would be possible to build the WTP to function sufficiently to get rid of bulk vitrification altogether. He supports the idea of having an alternative technology if it can be ready before the WTP, to get a head start on the 2028 milestone, but if that isn't possible he does not see a benefit. Al Boldt stated they have poured a lot of concrete pads. A full-scale facility would cost about \$100 million and that does not include the DNFSB changes. It could cost as much as \$2 billion. This cost is nearly as much as building a second WTP. Dirk noted another comparison would be to look at cost per ton treated: the bulk vitrification cost per ton is beginning to approach WTP cost.

Keith noted the point of an RD&D permit is that the project can easily be torn down and the area will be returned to its original condition. With the amount of concrete and steel being used, that is no longer likely.

Dick asked if there is really a dire need for tank space. He noted that most of the liquids in the single shell tanks have been pumped out and the solids aren't going anywhere. Pam stated the double shell tanks holding most of the liquids are also past their lives. It isn't a good idea to wait until there is a leak to look for a solution.

Gerry stated if bulk vitrification is jeopardizing the possibility of having the WTP ready by 2011, then DOE should consider suspending the bulk vitrification RD&D project until the WTP is fully funded. The WTP and bulk vitrification are competing against each other for funding. When bulk vitrification was introduced the cost was about \$40 million. When the request for proposal went out the cost was \$60 million. Now they have spent around \$67 million and costs could grow to as much as \$150 million or more. The committee isn't saying to pull the plug on bulk vitrification, they are just asking that everyone take a step back and really evaluate if this is going to be a useful technology.

Dick said the criteria for the bulk vitrification project are fairly easy. The first question is, is the final waste form "as good as glass?" If the answer is yes, then the other criteria are: the cost per unit of waste treated, operating expenses, and the ability to satisfy milestones in comparison to other alternatives. Dirk added the possibility of environmental releases and Gerry added the risks from disposal at the Integrated Disposal Facility (IDF). The advice is not meant to detail the criteria list for the agencies, but rather to get them started thinking about their own criteria.

The advice was adopted.

Site Specific Advisory Board (SSAB) Update

Todd updated the Board on the most recent SSAB Chairs meeting. At the meeting they discussed the national forum, which will occur in the spring. The chairs also looked at high level waste (HLW) around the DOE complex and developed a letter to DOE. Todd asked Board members to read the letter and then agree whether or not he could sign it.

Board Discussion and Questions

Gerry asked Todd to explain the paragraphs regarding the remote-handled transuranic (TRU) waste permit modifications and HLW and EPA standards. He expressed concern that these paragraphs may sound like something illegal and certainly not anything the Board would want applied at Hanford. Gerry added he is disappointed this is the first the Board has heard of the March 2006 timeframe for the draft disposition strategies for low-level waste (LLW) and mixed low-level waste (MLLW). Todd responded the Board was not notified of the spring date for the draft strategy because the Chairs have had a hard time pinning DOE down to a date. DOE has been very willing to sit and talk with the Chairs about what they are doing, but

the actual timing of the meeting keeps getting pushed back. They have been told multiple times about the need for public involvement, and Todd thinks they want to do the right thing, but DOE-Headquarters (HQ) infrastructure isn't helping them accomplish this. For example, there are intra-government group meetings and the Chairs have asked to be included in them. DOE-HQ has now agreed the Chairs should be involved, but there is no support, resources or notice to help the Chairs participate.

Shelly Cimon, Public-at-Large, noted there is a lot of interest to get the SSABs involved and see some networking, but when she asked about money and how that would happen, the topic fell flat.

Todd noted he knew the paragraphs on Yucca Mountain and the Waste Isolation Pilot Project (WIPP) modifications would be sticky for some Board members. The Savannah River Site Board added a minority report to their minutes, stating they do not support the paragraph on LLW and MLLW. Todd stated he wanted a yes or no decision from Hanford Advisory Board members. He does not want a minority report or any other caveat.

Dirk asked for clarification if the language regarding support of EPA "standards for a federal high-level waste repository" actually means supporting the standards or just EPA's decision. Todd stated the sentence was carefully worded, including the use of the word, "some." Dirk asked if the Board would support a near-surface repository at Hanford. Todd said he doubts it, but Hanford does not have anything pending with EPA. Gerry said the Board should not endorse any part of the letter if they are not ok with the proposal happening at Hanford. If the Board agrees to have Todd sign the letter, there must be clear notes that they are not in support of EPA's standards.

On Friday, Dirk announced to the Board that the State of Oregon would not agree to Todd signing the letter. The exposure rates EPA is proposing past 10,000 years are very high and would not be acceptable at Hanford, so they cannot be acceptable elsewhere.

Todd said he could sign with an exception noted for Oregon, but he would rather not. Al Boldt said the Government Accountability Project (GAP) would oppose signing the letter for the same reasons as Oregon. Susan Leckband expressed disappointment, as the letter, as with all letters from the SSAB Chairs, had gone through incredible machinations. It is vital that the Boards stick together, as two of them will be falling out of existence soon. Not signing the letter hurts the chairs, losing the strength they had in numbers and damaging morale and the sense of teamwork. Jim Trombold said he doesn't think this letter is a good way to build teamwork and suggested more agreement letters like the one on the national forum. Building communication is important, but the Board should not be pressured to agree to something they don't agree with wholeheartedly. Shelly agreed with Susan, but also said it just means they will have to work harder at the next Chairs meeting to find the common ground.

Todd will not sign the letter and will notify the Chairs of the Board's decision.

University of Washington Researcher Panel

The Public Involvement and Communications Committee (PIC) invited researchers working on topics related to Hanford to speak to the Board about their work. After the presentations, Board members were given a chance to ask questions of the panelists.

Panel Presentations

Bill Rodgers, Professor of Environmental Law, told the Board that he was a marine during World War II. After the war he spoke with a Marine General who said the Marine Corps had calculated a date, based on attrition, when there would be no more Marines. Hanford made a big difference for the Marines and the war. He is most familiar with the National Environmental Policy Act (NEPA) and Superfund issues, but not specifically with Hanford. He made it clear that none of the Tribes asked him to speak for them. He informed Board members there are four reasons why the Tribes are important to the work of the Board:

- Treaty Rights. Tribes have been to the Supreme Court seven times regarding treaty rights. There is no question of their importance. Treaties in the Pacific Northwest are even more important, as they have an enormous presence, much more so than at sites in Texas or Massachusetts.
- Tribes are treated as independent states. This is especially important, as Tribes are probably one of the most exposed populations. With respect to toxins, the amount of fish people eat is very important.
- Natural resource trustees. Only three parties can speak for the groundwater, animals and fish: Federal Government, State Government and Tribes.
- A truly eternal perspective. He cited the will of Samson Tooley who had been to the Supreme Court. In his will he left his fishing sites to his children. This means the family will own that site forever. For the Tribes, the land is a part of them and they are part of the land.

Bill stated there has been some interesting recent litigation surrounding Yucca Mountain. DOE had set out rules that would protect the site for 10,000 years and the court came back and said that was not long enough and the National Academy of Science said it would have to be protective for 1 million years. That is an unbelievably long period of time. There also seems to be a stalemate on assessing damages for natural resource purposes. It is important for science to look carefully and properly in a way that will logically lead to the next step. A good thing to note about most natural resource lawsuits: the settlements are dedicated to the improvement, protection and rehabilitation of the resource.

Tom Leschine, Director of the School of Marine Affairs, stated he used to work with the Consortium for Risk Evaluation with Stakeholder Participation (CRESP). During that time, he learned that it is a challenge to integrate science and technology with ongoing decision-making. For example, exploring all reasonable alternatives may get in the way of getting work done. Scientists promote learning by doing, but it is possible for the learning to get in the way of the work. He suggested that science does not just include the hard sciences and engineering, but also incorporates the social sciences and environmental decision-making. There is a serious distinction between “cleanup” and what really happens. Decisions are made and more and more material and contaminants are left behind. It seems there have been on-going negotiations to see how much can be left behind. Long-term stewardship is important. In 1996, the National Academy of Sciences produced a Long-term Stewardship report recommending a phased strategy of implementation. Implementation would involve working with a small amount to determine the appropriate remediation steps. The recommendation advocated delay, but that did not happen. They also did a systems analysis on the tank farms. A systems analyst reviewed the problem and asked why the groundwater and waste wasn’t all dispositioned at the same time. Completion to DOE means removing whatever they can get out and then stabilizing what is left and monitoring what isn’t stabilized. Most cleanup dollars are going toward “cleanup” and not towards analyzing what is left behind.

Tim Takaro, Clinical Assistant Professor of Environmental and Occupational Health Sciences, remarked that his passion is Beryllium Disease. Despite the work that has been done at Hanford over the last ten years, beryllium still poses a risk to workers. Beryllium is a metal with high heat capacity and strength. They found many uses for it at Hanford. Beryllium-induced toxicity is mostly lung related, but can affect other organs, too. It is essentially an allergic reaction. After initial exposure, the immune system becomes over-reactive and begins to attack the body. There is also a genetic predisposition to beryllium sensitivity. There have been cases identified in spouses and children who have never been to the source. An unusual thing about beryllium toxicity is the dose response. If a person is a susceptible individual, it doesn’t take much to cause a reaction. Hanford first acknowledged the beryllium problem in 1995. Characterization is somewhat limited so, in the absence of comprehensive sampling, they tested workers to determine probable exposure areas. They used these tests to identify and map higher risk buildings. Building trades workers seem to be at the lowest risk for exposure. The disturbing thing is that, over a 30-year period, current worker rates are about the same as former worker rates. More research is needed to understand why the current worker rate is so high. The numbers are getting close to the numbers at Rocky Flats, which is where the most beryllium was used.

Doug Mercer, Lecturer of Geography and Environmental Policy, first started working on Hanford issues in 1996. He noted people can have a very different opinion of Hanford and incidences at Hanford based on the news and the way the news is presented in their area. He did an analysis of newspaper coverage of the fires that occurred at Hanford in 2000. Each of the articles is classified as wary, vigilant, confident, or full of dread. The Tri-City Herald fell in the realm of confident. The Seattle Times was more highly vigilant/confident; the Seattle Post-Intelligencer article was full of dread. Newspapers are not leaders but are actually followers of what we believe. The general public has more confidence in and gives more credibility to the Board than they give to professors, DOE scientists, or DOE managers. The title is very important. He admonished the Board to use their role wisely. Doug introduced the theoretical democracy concept, which illustrates three models for decision-making.

- Direct democracy – vote for what you think is right.
- The well-informed expert – e.g., the Board.
- Expert-led sources – e.g., the agencies.

Most everyone said they'd trust the well-informed expert most. Direct democracy scored lowest.

Doug analyzed regional and national papers to see if Hanford funding is doomed. Washington State's governor stated Hanford funding is dependent on people caring about the funding. The unfortunate thing is, people care about disasters. Disasters get people's attention. In this scenario, it would be great for funding if Hanford had a disaster every 5-10 years. It also depends on what the Board has to say. The Board represents a theory of democracy and depends on honest discussion of theories and views. He closed by stating that Hanford is about apples and not about sagebrush. People think in a timeframe of about 50 years. Natural historians think in terms of 5,000 years, and Tribes think on an even larger timescale. In the end, all of these timescales are true and they must be taken into account and woven together as a part of the larger story.

Dick Merrill, Professor Emeritus, was a demographer concerned with where the exposed population was located and what kind of people they were. Many of them were farmers, including in areas around the Hanford site itself. He later participated in CRESA, reviewing conflicts over future affected areas, including issues with level and intensity of development and risk of long-term exposure. The conflict between local, regional and national interests is classic: concerns are divided between the local economy and the concept of the site as a national program opportunity. In addition, Tribes have treaty rights and possibly competing land use ideas. Until the 1980's, land use planning was considered a local function and states did not have a role, but Hanford is different. This gives better leverage than normal land use planning rules. It isn't surprising to see Oregon and Washington pulling for preservation of the area. If environmental risks are viewed more seriously in the long run, cleanup may end up on the side of environmental preservation. If not, then cleanup may be influenced by more metropolitan influences and we may see a revolt similar to the revolt against Portland telling the rest of the state what to do.

Board Discussion and Questions

Jim Trombold said it is nice to know the Board is so well respected. He agreed with Doug, when people are concerned they throw money at the problem. He thinks academics are guilty of allowing their opinions to be swayed by corporations, rather than by scientists. He wondered if Hanford would have to continually push the hysteria button in order to keep funding. Tom said this reminds him of what Bill said; the general public does not feel a legacy to World War II. People don't see a debt to be repaid to those who worked so hard and fast, but left a huge mess in their path. Unfortunately, because of the way things are done, this is one of the ways to keep funds coming in. Some think of funding Hanford as pork barreling.

Pam thanked the panelists for coming and said Dick's comments reminded her of how angry she was that Seattle and Portland thought they had any say in the Richland land use plan. She asked Tim if he was worried about an increase in beryllium exposures with all the buildings being decommissioned. Tim responded that DOE is doing the cleanup with beryllium exposure in mind. And while it is hard to say how effective these measures are, it's a step in the right direction.

Susan Leckband noted there are a lot of programs available to workers who might be concerned about beryllium exposure. There are health and worker programs and any worker who has worked in one of the identified buildings can be tested. Tim also pointed out that beryllium exposure is getting a lot more attention at Hanford than at some other sites. The history of beryllium and the available resources are listed on the web site.

Gerry informed the panelists the Board had been discussing timeframes and the idea that 150 years is the period of time in which they anticipate the breakdown of institutional controls. This timeframe has obvious implications regarding treaty rights and public use. He asked any of the panelists to comment on the possibility of institutional controls lasting for 150 years and what the Board's advice should be on this subject. Bill responded that there was an analysis done on futurists. The result of that study was that futurists tend to underestimate changes in technology and overestimate changes in human behavior. It is dangerous to assume that people in the future will be more informed or more careful. Doug said the concept of rolling stewardship is very important. The CERCLA 5-year Review is a great idea. The question becomes, how do you institutionalize this so that it really happens? Tom remarked that 50 years is probably the farthest out you can go. When failures occur, they happen spontaneously. There has to be continuous monitoring. He also noted that how data is stored is a big problem. CD-ROMs will probably be as useful in the future as 8-track tapes are now.

Maxine asked Tim if he thinks the beryllium numbers are so high because of increased cleanup. Tim said he is not sure, as the exposure assessments make it hard to tell. The assessments were done to the radiological standard of eight feet, but there is a lot outside of those eight feet. For example, beryllium will settle out in the dust up in the rafters and exposure can occur when the dust is disturbed. Electricians have a very high rate of exposure, probably from being up in the rafters changing light bulbs.

Jim would like to see the idea of natural resource damage included in the Central Plateau decision flow path advice (Advice #173). The Board was thinking of the river as the only natural resource at risk, but there is also the concept of general natural resource damage.

Tri-Party Agency Updates

DOE-ORP

Roy Schepens, DOE-ORP, said WTP construction is continuing and they are working on the design and engineering for the pre-treatment facilities based on the new seismic criteria. They have just completed the pour of the first melter slab and will complete the pour of the second slab later this year. Retrieval has begun on tank C-201 and he hopes to start on C-103 next week. In November, they hope to deploy the salt mantis that was developed to retrieve the salt cake in S-112, where they have reached the limits of technology with sluicing. He noted the bulk vitrification project is the first implementation of the lessons learned from the National Academy of Sciences and GAO reports, namely, that they need to build a pilot project before going full-scale. Right now they are in cold simulation testing. After testing is complete, they will move to design and then construction. They hope to have the engineering and design done by June 2006 and in that process the DFNSB issues will be addressed. In June, after the design and engineering are complete, they plan to have a cost and schedule estimate. He noted typically a baseline can be created at 30% design, but they are going above and beyond the requirements of Order 413.3 by waiting until it is fully designed. He invited Board members to visit the simulations at Horn Rapids to see what is happening with the bulk vitrification project.

DOE-RL

Mike Weis, DOE-RL stated the workforce has made a lot of progress. Cocooning of the H reactor has been completed, the 5th reactor to be cocooned. Workers have also made progress with the sludge, and have started putting it into grout. DOE-RL continues to cleanup and put spent fuel into Fast Flux Test Facility (FFTF) casks. He noted that, regarding improvements to project management at DOE-RL, the department has gone through a great evolution. They used to operate on a generic statement of work very different from what they are trying to do now. For the operating facilities, they want to be more involved and

projectize the work. Going forward, the procurements for the Fluor and CH2MHill contracts are being worked together. To move forward as a project, cost, scope and schedule must be defined. They have not been set up like this in the past. They also need to include more status reporting. DOE-RL is trying to learn from other sites and is now independently reviewing costs and developing a project portfolio. People now know what their roles and responsibilities are for a project. They are trying to implement the directives of Order 413.3 to all work scopes, managing the project by managing risks and uncertainties. They found people with experience with project controls and are training others. There is a system in place to ensure that DOE-HQ can make informed decisions on time. They have also set up a resource room to give managers everything they need to manage effectively. It is in room 540 at the Federal Building and Mike invited Board members to take a tour.

Washington State Department of Ecology

Nolan Curtis, Ecology, congratulated everyone who was involved in the State of the Site meeting. The public turnout was great. Ecology's biggest concern is funding. They will work very hard with the local delegation and beyond to ensure Hanford cleanup is funded and not constrained. Ecology considers the WTP key to overall site cleanup. They are not willing to trade out one site cleanup for another. They are pleased the retrieval of another tank is underway. This year's 15 new groundwater wells are complete, as well as six more from the list for 2006. Ecology is also concerned about well decommissioning, as open wells provide transportation for contaminants. They are working with PIC to make sure they are producing products that are useful to the public and all who are involved. Nolan reiterated that Ecology is committed to the people of Washington, the Board and the Tri-Party process. He acknowledged that sometimes these commitments agree and sometimes they do not.

EPA

Nick Ceto noted that the Canyon Disposal Initiative (CDI) ROD was signed yesterday and the 300-Area groundwater workshop was well-attended. He thanked Roy for getting EPA involved with groundwater and tank closure. There was a meeting of EPA project managers in Richland; they were surprised by what they saw, especially the FFTF procurement. There was a problem with a box being shipped off-site by rail: it was supposed to be empty, but it contained asbestos containment material, so it was shipped back. EPA received a letter from DOE that they will miss M-34 milestone due at the end of January. EPA is concerned this will push out other milestones which will make a difference in when the river corridor is completed.

Committee Reports and Issue Manager Updates

Tank Waste (TWC): Rick Jansons stated the committee has had presentations on the Tank Closure Environmental Impact Statement. The committee has asked for Tri-Part Agreement-compliant alternatives. There are also concerns about WTP funding and what happens if the WTP isn't ready by 2011. Issue managers have brought up the topic of iron phosphate glass and there may be advice coming on that.

River and Plateau Committee (RAP): Maynard Plahuta stated there would be a tour of K-basins the following week and a RAP meeting the day after the tour. Greg deBruler announced a CERCLA 5-Year Review workshop on December 7th. There will be more information coming soon.

Health Safety and Environmental Protection Committee (HSEP): Keith Smith stated HSEP would need a meeting in December to get ready for a Board tutorial on worker and environmental monitoring.

Budget and Contracts Committee (BCC): Gerry stated the 2006 appropriate should be available soon. It is going to be less than the contract funding level, so the committee will be looking at priorities for cleanup and what will be delayed. They will be looking at WTP costs and will be working with TWC on possible delays to the schedule and the effects this will have on the budget and cleanup.

Public Involvement Committee (PIC): Norma Jean Germond, Public-at-Large, thanked everyone for their participation in the previous night's State of the Site meeting. At the PIC meeting on Wednesday, the agencies had time on the agenda and gave a look back / look ahead. They prioritized their list of public involvement areas where they would like to see the Board involved. The draft HAB Display Board was on hand for review. The Display Board will be posted outside each Board meeting and will also be available to Board members when speaking to the public.

Board Business

Todd got back on Thursday from the NEPA 35-year celebration. He spoke at the celebration and felt his presentation was well received. There was a lot of information available including a compliance guide with a CD and a history of NEPA.

Announcements

Todd noted Margery suggested changing the format of the advice to place the advice bullets first with background after. Rob suggested adding a section for keywords and applicable previous advice.

Rick asked if the agencies could start presenting their responses to advice at Board meetings. Todd responded that the Board used to do that, but it failed miserably. In light of recent events, it is possible it could work now. Others agreed they would like to see responses reported by the agencies.

February Board Topics

Todd noted the following as possible topics for the February Board meeting:

- HSEP tutorial on worker monitoring
- RAP advice
- Board Priorities discussion

Jerry Peltier suggested a report from the agencies about the differences between and constituents contained in tanks, cribs and trenches. Dirk suggested including reverse wells in that discussion.

Public Comment

No public comment was offered during this meeting.

Attendees

HAB MEMBERS AND ALTERNATES

Madeleine Brown, Member	Margery Swint, Member	Gary Petersen, Alternate
Rob Davis, Member	Jim Trombold, Member	Wade Riggsbee, Alternate
Greg deBruler, Member	Jerry Peltier, Member	John Stanfill, Alternate
Norma Jean Germond, Member	Maynard Plahuta, Member	Charles Weems, Alternate
Harold Heacock, Member	Jane Twaddle, Member	Jeanie Sedgely, Alternate
Mike Keizer, Member	Gene Van Liew, Member	Dick Smith, Alternate
Pam Larsen, Member	Al Boldt, Alternate	Helen Wheatley, Alternate
Susan Leckband, Member	Gabe Bohnee, Alternate	Steve White, Alternate
Jeff Luke, Member	Shelley Cimon, Alternate	
Gwen Luper, Member	Dirk Dunning, Alternate	Allen Conklin, Ex-Officio
Todd Martin, Member	Maxine Hines, Alternate	Debra McBaugh, Ex-Officio
Gerald Pollet, Member	Rick Jansons, Alternate	Earl Fordham, Ex-Officio

Keith Smith, Member	Nancy Murray, Alternate	
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AGENCY, CONTRACTOR, AND SUPPORT STAFF

Steve Chalk DOE-RL	Laura Cusack, Ecology	Barbara Wise, Fluor Hanford
Kenneth Allison, DOE-RL	Nolan Cutis, Ecology	Sharon Braswell, Nuvotec-ORP
Joe Voice DOE-RL	Jane Hedges, Ecology	Kelly Brazil, Innovations-ORP
Mike Weis, DOE-RL	Tim Hill, Ecology	
	Mike Wilson, Ecology	
Howard Gnann DOE-ORP		
Eric Olds DOE-ORP	Tammie Holm, EnviroIssues	Joy Turner, CH2 M Hill
Roy Schepens DOE-ORP	Stacey Howery, EnviroIssues	Janice Williams, Fluor
	Lynn Lefkoff, EnviroIssues	
Nick Ceto, EPA	Cathy McCague, EnviroIssues	
Dennis Faulk, EPA	Jason Mulvihill-Kuntz, EnviroIssues	

MEMBERS OF THE PUBLIC

Annette Cary, Tri-City Herald	Kristin Eby, Senator Cantwell's Office	Angela Newell, YAHS GS LLC
		Blanca Torres, YAHS GS LLC