

FINAL MEETING SUMMARY

**HANFORD ADVISORY BOARD
RIVER AND PLATEAU COMMITTEE**

*June 10, 2014
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.

Opening

Pam Larsen, River and Plateau Committee (RAP) chair, welcomed the committee and introductions were made. The committee adopted the May 2014 meeting summary.

Briefing on Interim Storage of Transuranic and Mixed Waste at the Central Waste Complex*

Agency Perspectives

Mike Collins, U.S. Department of Energy- Richland Operations (DOE-RL), provided a briefing on the interim storage of transuranic (TRU) waste at the Central Waste Complex (CWC) with regards to recent events at New Mexico’s Waste Isolation Pilot Plant (WIPP) and constraints related to waste removal and treatment at the Hanford Site. Mike noted the following points:

- In February 2014, there was an incident at WIPP involving a breached container of radioactive waste. DOE has been closely following WIPP’s analysis of the event to ensure that interim storage at the Hanford Site is not at risk for a similar event. DOE has not recognized any potential problems at this time.

* Attachment 1: Transcribed Flipcharts

- One possible explanation for the WIPP breach implicated organic cat litter, which is used as an absorbent and a stabilizer. It is believed that the litter served as a source of fuel inside of the container. Research has demonstrated that the organic cat litter in question contains two chemicals that worked together to cause problems. There are 37 drums of waste at the Hanford Site that contain one of the chemicals or the other, but no drums that contain both. Therefore, the risk of a similar event occurring at the Hanford Site is considered to be low.
- The Hanford Site is the final site scheduled to ship waste to WIPP, and TRU waste was not expected to begin shipment for three to four years. WIPP is currently shut down, however, and this will further delay shipment for an unknown length of time.
- Available funding is a constraint for removal and treatment. Perma-Fix Northwest (Perma-Fix) is a good option for the Hanford Site, and it could potentially treat approximately 80% of the stored waste.
- Time is an additional constraint. As waste removal has been halted for the past two years, it will take a while to restart retrieval efforts. DOE anticipates that it will take approximately one year to begin; this ramp-up time includes staff training and equipment procurement and placement.

Regulator Perspectives

Dennis Faulk, Environmental Protection Agency (EPA), commented that 2016 is the current best case scenario estimate for the reopening of WIPP. In practice, delays may extend far beyond this expected reopening. Dennis stated that the containers used to ship waste to WIPP are a limiting factor, and they will likely prove to be a bottleneck in the transfer process. He recognized that this delay in waste shipment could have major programmatic implications at the Hanford Site.

Committee Questions and Responses

Note: This section reflects individual questions, comments, and agency responses, as well as a synthesis where there were similar questions or comments.

Q. Is there any organic cat litter going into waste at the Hanford Site?

R. [DOE-RL] No, we would only use cat litter to clean up spills. We would not add it into the waste itself.

Q. If there were more available shipping containers, does WIPP have the personnel, infrastructure, and space to handle an increase in incoming shipments?

R. [EPA] It is likely that WIPP has the capacity to manage a greater amount of incoming waste; however, the shipping containers are expensive. It would require a substantial financial investment increase their number.

Q. Is DOE planning on taking care of all the above-ground TRU waste before beginning retrieval?

R. [DOE-RL] The limited funding that is available for managing TRU waste is being spent on preparing waste for shipment to WIPP. There are currently no retrieval efforts that are ongoing, and, if funding became available, it would take about one year of preparations before removal could re-commence. Every year, DOE requests funding to manage both removal and treatment; however there is often a discrepancy between what we need and what we get. For example, in Fiscal Year (FY) 2016, DOE needed \$441 million to be compliant. We received \$130 million. Most of the funds are needed for landlord costs (e.g. site upkeep, utilities, etc.)

Q. Could you expand upon the one year of preparation work needed before retrieval can begin?

R. [DOE-RL] The year of work prior to the retrieval of additional waste involves training workers and getting rental equipment back on site. As a general rule, if retrieval is halted for over a year, we do not consider ourselves to be proficient. Therefore, if retrieval efforts are stopped for over a year, preparations for retrieval need to start from scratch.

Q. What equipment needs to be brought back for waste retrieval to begin again?

R. [DOE-RL] Past retrieval work that has been done involved pulling drums from trenches, putting it in an assay machine, and making the mixed/TRU waste split on-site. The mixed level waste would go into a box for shipment to a Perma-Fix facility.

Q. Is there any way that DOE could maintain its removal proficiency as a method of saving time and money in the future?

R. [DOE-RL] When DOE looked at this topic in the past, maintaining retrieval proficiency did not have enough priority. Therefore, no funds were allocated for this endeavor.

Q. It was said that Perma-Fix could potentially handle approximately 80% of the stored waste currently at the Hanford Site. What treatment options are available for the remaining 20%? Would any new technologies need to be developed?

R. [DOE-RL] The remaining 20% would require an expansion to Perma-Fix's licensing. New technologies do not need to be developed. Much of the work that needs to occur involves size-reduction, and that technology already exists.

Q. What happens to waste after it is treated at Perma-Fix?

R. [DOE-RL] If it is TRU waste, it will return to the Hanford Site for storage until shipment to WIPP. If it is mixed waste, it will then be disposed of on site. Low-level mixed waste will be disposed of in trenches; the CWC only takes stored, packaged waste.

Q. This issue illustrates an obvious budgeting problem. Should the Board look into issuing advice on the matter of funding?

R. [EPA] Now that WIPP is down, the retrieval of TRU and mixed waste is a lower priority. As the waste currently has no final destination for an undetermined amount of time, bringing it above ground would create additional concerns such as weathering.

Q. Is this waste able to be vitrified?

R. [DOE-RL] No, this waste is solid. It is not amenable to the vitrification process.

Q. The Washington State Department of Ecology (Ecology) became concerned earlier this year that there was waste at the CWC that was not being properly stored. This generated a fine for DOE from both Ecology and EPA. What happened and what is moving forward on this matter?

R. [Ecology] There are 15,000 m³ of waste that are stored at Hanford that may be TRU. In the Tri-Party Agreement (TPA), there is a milestone calling for the removal of this waste. If it is TRU, then it should be shipped to WIPP. If it is mixed waste to remain at the Hanford Site, it must meet certain restrictions for disposal. The waste that elicited the fine was stored outside, on a gravel area, at the CWC. Contamination was discovered outside of the box, which likely stemmed from a leak or from snowmelt passing through it several years ago. This discovery prompted an investigation by Ecology. There was no secondary containment to catch any leakage from the box, which led to action.

Q. What are Ecology's plans moving forward with stored waste on the Hanford Site, especially regarding the waste which generated the fine?

R. [Ecology] It could take until 2030 to get the boxes treated and disposed of. The box which had the leak did not have a cover, but it is covered now. In the future, covers will be examined more closely. DOE is working to procure funding to get the boxes moved for treatment and disposal. In the meantime, it is a goal for the boxes to be as protected as possible.

Q. What did the box that leaked look like? What was it constructed of?

R. [DOE-RL] The box was large (70,000 lbs.), composed of concrete with a metal frame. There are metal protrusions on the top of the box that serve as guides for a metal lid. Inside of the box is a glove box from the Plutonium Finishing Plant (PFP). There is no evidence of cracks, and there is no evidence of water inside. A structural engineer inspected the box; no concerns were raised about its structural integrity or its ability to be moved.

Q. Could the contents inside of the box be sampled?

R. [DOE-RL] No, that is not possible. We would like to get the box to Perma-Fix so that we can see exactly what the contents are.

C. August may be a good time to follow up on this issue and hear more about waste permitting. Ecology is in the middle of a Class III Modification process to close the units that EPA identified as a problem. Part of EPA's concern was getting stored waste permitted correctly.

C. The HAB intended to put out some advice to weigh in on how the Class III Modifications are being written. Could RAP bring forth a draft response to the Class III Modification document and bring it to the Board at the September meeting? If the Board waits until December, that may be too late. RAP can keep track of developments, but the Board should weigh-in on the Class III Modification document, as it has been out for quite a while.

Q. Will advice be helpful to Ecology at this point, since the public comment period concerning the Class III Modifications has closed?

R. [Ecology] The public has seen the application for the Class III Modifications, but not the permit itself.

The committee recognized that in order to move forward appropriately on this topic, issue managers needed to meet with one another and review the existing draft Class III Modification advice prior to the August RAP meeting. The committee intends to review potential draft Class III Modification advice at the August RAP meeting. The committee also requested that Ecology provide the committee chair with a response noting how they intend to manage the storage and permission of TRU containers at CWC.

Update on the Plutonium Finishing Plant**

Agency Presentation

Bryan Foley, DOE-RL, provided a presentation updating the committee on the demolition efforts at the PFP. There is a TPA milestone to have the PFP complex decontaminated, demolished, and reduced to its concrete flooring (referred to as slab on grade) by September 2016. Bryan's presentation covered demolition progress as it relates to this milestone and noted the following points:

- Overall, 55 of 81 PFP facilities have been demolished, 210 of 238 glove boxes have been removed, and 136 out of 196 Pencil Tank Units (PTUs) have been removed. Many challenging areas (e.g. the McClusky Room) still need to be addressed.
- The safety of workers is a primary concern as demolition efforts continue. There have been over 50,000 entries into contaminated areas throughout the facility, and much of that work has focused on glove box dismantlement. The work is extremely hazardous, and there were zero skin contaminations last year. The team is constantly looking at remaining work and planning ahead with regards to milestones and safety.
- In March 2014, crews completed removing 16 PTUs at the Plutonium Reclamation Facility (PRF). There are 60 PTUs remaining, but work is temporarily stopped due to a contamination event in April.

* Attachment 1: Transcribed Flipcharts

* Attachment 2: Plutonium Finishing Plant (PFP) Closure Update (presentation)

- Two TPA milestones are in jeopardy: the September 2015 milestone to complete the transition of 234-5Z & -ZA, 243-Z, 291-Z, and 291-Z-1 buildings to support decommission, deactivation, and dismantlement of the above grade portions of the PFP and the September 2016 milestone to be slab on grade. DOE's current field execution schedule demonstrates that PFP is likely to be slab on grade around February 2017.
- The estimated schedule does not incorporate new contract provisions (for example, workers are now able to spend more time on masks and more time on tools) implemented in November of 2013; therefore, future demolition may occur at a faster than projected rate.
- There has been a stop work order in place at the PFP since April 17, 2014. This was precipitated by a flash event that occurred when workers were cutting into a 1" diameter pipe inside of a negative-pressure, ventilated glove bag. As workers cut into the pipe, they noted a small orange-red flame that briefly ignited. There were no signs of damage or pressurization to the glove bag, and surveys did not demonstrate any contamination. Contractors have been taking samples and working with experts to discover what precipitated the flash and what can be done to stop this from happening again in the future.
- PFP demolition is a top priority for DOE-RL. The complex presents one of the largest hazards at the Hanford Site, and getting the complex to slab on grade will save \$30-40 million per year. In December 2014, the final glove boxes will be taken off ventilation, cleaned out, and stabilized. In January 2015, demolition preparations begin, and by January 2016, demolition begins.
- DOE is committed to the timeline stipulated by the TPA milestones and is working with contractors to move forward as quickly as possible.

Regulator Perspectives

Rick Bond, Ecology, expressed disappointment that TPA milestones relating to PFP closure were in jeopardy. He encouraged DOE to do everything possible to get back on track for a September 2016 completion of the slab on grade milestone. Rick recognized that the PFP has been an important success story for Hanford Site cleanup. He also noted that worker safety is a top priority for Ecology, as well.

Dennis Faulk, EPA, shared Ecology's disappointment relating to future milestones being in jeopardy; however, he recognized that the work done and the current goals represent progress. EPA encouraged DOE to look beyond PFP demolition and have additional demolition work ready for the crews following PFP completion, so as to effectively utilize their training and expertise on other projects.

Committee Questions and Responses

Note: This section reflects individual questions, comments, and agency responses, as well as a synthesis where there were similar questions or comments.

C. There has been a lot of work done so far at the PFP, and it has been managed well.

C. Following demolition and decommission of the PFP, funds currently spent on complex upkeep (\$30-40 million per year) will not be freed for other uses; they will likely just go away. Generally, DOE does not allocate or redistribute funds for projects that are completed.

Q. Could DOE expand upon April's flash event? What instrument was being used to cut the pipe?

R. [DOE-RL] The instrument was a small electric saw. The friction heat generated by the saw likely ignited a gas and set off the flash. DOE is waiting on final results from its expert review.

Q. Is there enough money in the budget to finalize demolition work at the PFP?

R. [DOE-RL] Sequestration and the government shutdown last fall provided funding challenges to PFP demolition. However, PFP is a priority for DOE-RL, and this priority is reflected in the budget.

Q. Could DOE expand upon worker contract negotiations?

R. [DOE-RL] Workers have a limited amount of time that they can spend on-mask. Previously, this limit was two hours. These two hours were not fully dedicated work time, however; they also incorporated movement into place and preparation work. The time allowed on-mask has now increased to a maximum of four hours, which allows workers to capitalize more on their preparations.

Q. Are there any basements or tunnels at the PFP complex? How does this related to the concept of slab on grade?

R. [DOE-RL] The buildings are on concrete slabs. Below these slabs are tunnels, basements, etc. Those will be addressed following surface demolition efforts.

C. There may be surprises in the below grade portion of the PFP which may lead to unplanned complications with future work beyond 2016. RAP should follow up on this matter.

R. [EPA] There are not many environmental concerns that EPA has relating to below grade structures at the PFP. However, the Board may want to keep the idea on its radar.

Q. Where do contaminated materials removed from PFP go?

R. [DOE-RL] They are packaged as they are removed. They are then transported to Perma-Fix for size reduction.

Pam thanked Bryan for his time and for the information. She recommended that a briefing on the topic of PFP demolition be explored for an upcoming Board meeting. The committee also recommended that they further explore the below grade structures present at the PFP complex to learn more about their potential impact on demolition and maintenance efforts beyond the 2016 milestone.

Update on Long-Term Stewardship*

Agency Presentation

Rick Moren, Mission Support Alliance (MSA) Long Term Stewardship (LTS) Program, presented a briefing on the current state of the LTS program as well as lessons learned from the 100-F Area's transition into LTS. Rick's presentation, using the LTS website

(<http://www.hanford.gov/page.cfm/LongTermStewardship>) covered the following points:

- The LTS program began in 2010. In 2011, MSA developed its own procedures for stewardship.
- The program works to support Washington's post-closure strategies and manage post-closure requirements.
- 2014 is looking towards the 100-K Area. Segment 4 has been divided into two sections to provide administrative closure support.
- As of May 30, 2014, the reactors along the Columbia River Corridor (with the exception of B reactor, which maintains its historical status, and the two K reactors) have been transitioned to LTS. All other reactors have been transitioned to LTS, but not to Legacy Management. Legacy Management is set to come to the Hanford Site in 2060.
- Six of the nine cocooned reactors are transitioning to LTS.
- The reactors themselves are on a 5 year entry/inspection program. LTS revised the inspection schedule—all of the reactors are scheduled to be entered in FY 2015. F Reactor will be entered in February of 2015, and all of those remaining will be entered in the spring 2015.
- DOE has started a data transition process for surveillance and maintenance activities (e.g. radioactive monitoring, excavation permits).
- A DOE pilot project in data storage has moved some LTS data to a facility based out of Morgantown, WV.
- There are 7 transitions to complete over the next 18 months. To date, the transitions have hit every set deadline and milestone. The contractors have all been working together well.

* Attachment 1: Transcribed Flipcharts

Committee Questions and Responses

Note: This section reflects individual questions, comments, and agency responses, as well as a synthesis where there were similar questions or comments.

Q. Is the LTS program addressing the facilities that are pre-Hanford, such as the high school, the bank, and the pump house?

R. [MSA] Those buildings are in the area that is being transitioned, but they are not in LTS. They are being handled within another organization inside of DOE. LTS is not managing roads, either. LTS is solely concerned with management and maintenance of areas where active cleanup has been completed.

Q. Why is data management and storage being moved so far off site? Will this make it difficult to access needed information?

R. [MSA] Pam Thurman, DOE-RL, would be a good contact if you would like more information on this topic. Most of the data that has been transitioned to Morgantown, WV concerns employee data. Potentially important, decision-making data is being kept at the Hanford Site.

Q. Does 100-F still have active waste sites?

R. [MSA] The LTS program allows for the transitioning of a piece of land that still has active waste sites on it. Even following the transition, a new waste site may be discovered on LTS lands. There is a stop work process in our contract, and we cannot do any remediation work. If we were to discover something new, we would notify DOE and they would assign a contractor to conduct remediation work.

C. There appears to be a rush to move lands into LTS. How can we ensure that records of decision (RODs) are working? This verification process may take a long time. The Board released advice asking this question in the past. How can you transition to LTS when there is no final ROD?

C. It is shocking that the reactors are being moved into LTS. There are problems with them have not been addressed yet. For example, there is still a lot of work that needs to be done at K Reactor.

R. [MSA] K Area is a good example of LTS lands where work is ongoing. Any area where remediation is still occurring is excluded from the LTS contract.

Q. Will Legacy Management begin working at the Hanford Site before 2060?

R. [MSA] Last year, two Legacy Management staff were at the Hanford to observe work. The idea behind the visit was that the LTS program should work to fit the requirements of Legacy Management if the program is eventually going to take over stewardship. DOE-RL and Legacy Management remain in periodic contact.

Q. Has there been any consideration given to the idea of Legacy Management taking over portions of the Hanford Site before 2060?

R. [MSA] The Lifecycle Scope, Schedule, and Cost Report stipulates that the transition to Legacy Management occurs all at once.

Q. Why does there appear to be such a rush to switch lands from one contractor to another?

R. [MSA] The idea behind the transfer is that Washington Closure is a cleanup contractor that is not set-up or geared towards long-term S&M activities. Looking at the reactors, for example, there are still post-closure requirements that need to be met; however, those requirements are in our contract, not in Washington Closure's. The transition process in place is an efficient way of ensuring that institutional knowledge is not lost as personnel change.

Q. The Board requested an example of a transition checklist. Was this document ever released?

R. [MSA] There is a transition checklist available on the Hanford.gov website at http://www.hanford.gov/files.cfm/DOE_RL-2010-35_Rev1_LTS_Program_Plan_Apr_2012.pdf, Appendix A.

C. It is concerning that the RODs do not address any agreements recognizing or guaranteeing treaty rights. There appears to be nothing in this process that shows how treaty rights will work alongside LTS.

Q. Was there any public engagement process that DOE incorporated into the reactor transitioning?

R. [MSA] No, the transfer was a DOE management decision under existing programs.

Q. Why did LTS exempt K Reactor but not F Reactor?

R. [MSA] The exemption is administrative. At K Reactor, there is an operational fence line that surrounds the buildings; that area is operated by CH2M Hill Plateau Remediation Company. Those lands are to be left with a contractor that will be working at the Hanford Site longer than Washington Closure. F Area differed in that the reactor, as well as the surrounding areas, were wholly owned by Washington Closure.

Q. Are all six LTS reactors similar?

R. [MSA] Yes. They are all in their cocooned state (a 75 year design life), the waste sites around the reactors and their ancillary buildings have been removed, and the soil underneath the ancillary buildings has been remediated.

C. The transition to LTS is contractual; the legal requirements remain the same. If something were to happen on LTS lands, DOE is still required to take action. If new cleanup needs were to be discovered on LTS lands, it would be up to DOE to come up with more money for remediation.

C. [EPA] The EPA just completed the five year review of the Martin Marietta site in Oregon, along the Columbia. This cleanup was done in the late 1980s, and there was waste left in place. The report that was released may give RAP members a good idea of how things could progress at Hanford.

The committee agreed that the topic of LTS (especially in regard to the Comprehensive Environmental Response, Compensation, and Liability Act [CERCLA] Five Year Review) should be revisited at the August RAP meeting. This would allow advice to be brought forth at the September HAB meeting, if necessary. They committee also recognized the need for yearly updates on LTS lands and transitions. The committee agreed that it was important to ensure that no knowledge is lost or forgotten as the Hanford Site makes the transition into LTS and Legacy Management.

Committee Business

*Update 3-Month Work Plan ***

The committee updated its 3-Month Work Plan and requested a meeting in August that will include the following topics:

- Update on LTS and the CERCLA Five Year Review (and potential advice development)
- An update on RCRA Class III Modifications (and review of potential draft advice)
- Update on the Environmental Restoration Disposal Facility (ERDF) ROD Amendment (and potential advice development)
- Update on 618-10 Vertical Pipe Unit Methods Testing Results
- Committee business, including an update of the 3-Month Work Plan, a review of the EIC-proposed HAB Work Plan, and developing the following meeting's Potential Meeting Topics Table.

EPA agreed that a conversation updating the committee on waste encapsulation as it relates to the ERDF ROD amendment was timely. The committee also agreed that they would like to hear Ecology present an update on the RCRA Class III Modifications, with attention paid to the upcoming public comment period. The committee will review past advice (#269) to prepare for the discussion on LTS and the CERCLA five-year review.

Potential topics for the September meeting include a briefing on caisson remediation (SW-2, 618-10), a site visit of K-Basin and N Area, a briefing on principles for Central Plateau Cleanup, and an update on the Fiscal Year 2014 budget as it relates to the RAP scope.

* Attachment 1: Transcribed Flipcharts

* Attachment 3: RAP Committee 3-Month Work Plan

Attachments

Attachment 1: Transcribed flipcharts

Attachment 2: Plutonium Finishing Plant (PFP) Closure Update (presentation)

Attachment 3: RAP Committee 3-Month Work Plan

Attendees

Board members and alternates:

Dale Engstrom	Susan Leckband	Dan Serres
Gary Garnant	Jonathan Matthews	Art Tackett
John Howieson (phone)	Maynard Plahuta	Eugene Van Liew
Steve Hudson	Ed Revell	Jean Vanni
Pam Larsen		

Others:

Kim Ballinger, DOE-RL	Rick Bond, Ecology	Rick Moren, MSA
Michael Collins, DOE-RL	Madeleine Brown, Ecology	Rodney Skeen, CTUIR
Bryan Foley, DOE-RL	Heather John, Ecology	David Brown, Demand Management
Al Farabee, DOE-RL	Ron Skinnarland, Ecology (phone)	Karen Gaydosh, Demand Management
Kris Skopek, DOE-RL	Dennis Faulk, EPA	Mark Freshley, PNNL
Jamie Zeisloft, DOE-RL	Tom Rogers, WA-DOH	Pedro de la Torre III, RPI
		Annette Cary, Tri-City Herald
		Jeff Lerch, WCH
		Hillary Johnson, EnviroIssues
		Ryan Orth, EnviroIssues
		Brett Watson, EnviroIssues