

FINAL MEETING SUMMARY

**HANFORD ADVISORY BOARD
RIVER AND PLATEAU COMMITTEE MEETING
October 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

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

Reverse Wells Briefing

Dale Engstrom, Issue Manager, said reverse wells have been an interest to the RAP committee for a long time. He said there was a Uranium plume mentioned in the Tank Closure and Waste Management Environmental Impact Statement (TC&WM EIS) that raised concerns as to where this contamination was coming from. It was discovered that reverse wells were contributing to the plume. He said there are 11 reverse wells scattered across the Central Plateau. Mike Thompson, Department of Energy – Richland Operations Office (DOE-RL), said the TC&WM EIS identified Plutonium (Pu) sources within the groundwater analysis. He said there is also Pu in the groundwater from the 216-B-5 reverse well. He said reverse wells were used for waste disposal and introduced waste directly into the groundwater. He said the use of reverse wells occurred at the beginning of Hanford operations.

Mike said the Uranium plume in UP-1 became an issue as a result of an improperly structured monitoring well. He said the three primary contamination sources for this particular plume are two stack drains, four laboratories, and two settling tanks. He said the settling tanks are the most innocuous to the environment. He then showed a map of

the reverse well locations in the 200 West Area and stated that the 216-T-3 reverse well is of high importance.

Mike described the waste streams for each of the eight reverse wells. He said two of the reverse wells received drainage from stacks and four reverse wells received waste from laboratories. Furthermore, the remaining two reverse wells received overflow from settling tanks with waste that contained Pu and fission products, leaving these two highly contaminated.

Mike discussed the characterization status and said that five of the reverse wells either have been or are scheduled to be characterized. He said that 216-B-4 is a geophysical logged reverse well and that no additional characterization is planned. He said 216-B-5 has enough existing data to support decision making. He said 216-B-6 has some uncertainty for groundwater contamination so a groundwater and vadose zone well will be implemented to gain more data for the feasibility study. He said the existing data for 216-C-2 is sufficient to support decision making. He said the analogous relationship for 216-T-2 is sufficient for decision making, and there is characterization planned for 216-T-3 in the spring of 2011. He said the existing characterization data is sufficient for both 216-U-4 and 216-Z-10 reverse wells. Additionally, he said these decisions were approved by the regulating agencies.

Mike said 216-T-3 received many constituents and radionuclides. The cesium and strontium are still there. He said the pump and treat system will capture the mobile constituents, but if the contaminants bind with the soil it will be hard to retrieve. He added that these types of contaminants have about a 30-year half life.

Agency Perspective

- Dib Goswami, Washington State Department of Ecology (Ecology), said the 216-T-3 reverse well will be characterized as a part of the deep vadose zone Operable Unit (OU). He said any contamination coming from these reverse wells will be addressed by the pump and treat systems in this area. He said the treatability test will inform the actions that are taken and said Ecology thinks the cleanup of the reverse wells is going in the right direction.
- Craig Cameron, Environmental Protection Agency (EPA), said the 216-Z-10 reverse well was characterized in the 1950s, and he said he is not comfortable with this data due to the characterization technology limitations and the difference in contaminant types. He would like DOE to utilize vadoze zone sampling and analysis information from the K-Area well drilled for the 200-BP-5 groundwater operable unit to support a decision on the two reverse wells originally in the 200-MW-1 operable unit. He said many things need to be considered during the supplemental characterization efforts. He then reminded the RAP committee that the work on many of the reverse wells is still in the scoping process, and EPA would like to receive feedback on the characterization and planning efforts. He said EPA is comfortable with decisions being made, but confirmation sampling will be required post-ROD for reverse wells where there is no field characterization information.

Committee Discussion

- Dick Smith asked what comprises characterization of a reverse well. Mike said integral soil samples are taken, and if there is contamination found that was not known to be there, sampling is continued.
- Maynard Plahuta asked if the boreholes are installed down gradient. Mike said the placement of boreholes is dependent on the particular circumstances.
- Jean Vanni asked if there are any reverse wells in the 300 Area. Mike said he is not aware of any reverse wells in the 300 Area. Jean thought she understood from Wade Riggsbee that there were some in this area, and said she would follow up with Wade.
- Shelley Cimon asked if the regulating agencies are comfortable with the analogous approach. Craig said if there is not enough information for decision making now there will need to be more data collected, of which DOE is aware.
- Pam Larsen asked how much information there is on the materials disposed of in the reverse wells. Mike said process knowledge provides quite a bit of information on the types of materials, but the mass of materials is hard to determine. He added that another consideration is that these reverse wells could potentially be a good candidate for studies on how constituents behave over time.
- Maynard asked if Uranium is the primary contaminant in the 216-U-4 reverse well. Craig said this reverse well received laboratory waste. Maynard asked how much waste would remain if U-plant was capped. Craig there is a fairly small amount of contamination and feels comfortable that it is not a threat to groundwater. Mike said there was a Limited Field Investigation done and a characterization well found maximum cesium-137 readings of 1460 picocuries per gram (pCi/g) at a depth of 61.5 feet, cobalt 60 readings of 2.5 pCi/g at a depth of 54 feet, and maximum europium readings of 5 pCi/g at a depth of 51.5 feet. He said values of 200 to 300 pCi/g cesium were found in the 3 to 15 foot depth range and a little contamination was noted until 38 to 68 feet.
- Steve White asked about the information collected for the 216-B-5 reverse well. Craig said there is information on the 216-B-5 reverse well in the annual groundwater monitoring report.
- Steve asked why the cesium from the 216-B-5 reverse well moved laterally. Mike said if the soil is overwhelmed in a fine silt layer of soil, the contamination will wick laterally when there is thicker material above and below it.
- Pam said she had only heard of there being one reverse well and was not aware that there were so many in the 200 Area. Mike assured her that 216-B-5 is the only reverse well where contamination has reached groundwater.
- Dirk Dunning said there have been discussions regarding how different material is mobilized. Mike said if material is acidified, it has a better chance of mobilizing.

- Shelley asked how many process records there are for the reverse wells. Mike said the process information is good but the inventory is more uncertain. He said there is always some uncertainty for mass and volume.
- Jean asked what will eventually happen to the reverse wells. Mike said this decision will be made in the proposed plan, and he assumes that the reverse wells will be perforated and grout will be injected into them. He added that the contaminants around the reverse wells will be addressed in the final record of decision (ROD). He said the reverse wells will be properly abandoned and decommissioned.
- Pam asked the RAP committee if follow up is needed on the topic of reverse wells. Dale said there should be HAB concern over using analogous sites without proper characterization. He said the amount of knowledge should be considered before decisions are made. Pam asked if the November committee meeting is too soon for this topic. Dale suggested the February Board meeting.
- Jean reminded the RAP committee that EPA asked for input on proper characterization. Mike said there are documents that will be open for public comment, and he could bring this information to the committee for follow-up.
- Dick asked if the constituents in the 216-B-5 reverse well were detected in the groundwater. Mike said cesium, strontium, and Pu were found in the groundwater. Dale asked if Pu is detected in groundwater sampling. Mike said yes.
- The committee decided to add this topic to the work plan for December, and determine if there is a need to develop advice for the February Board meeting.

Water and Sewer Infrastructure and Export Water Option Study

Maynard Plahuta, Issue Manager, introduced this topic. Karen Flynn, DOE-RL, presented on the Water Master Plan and said there is an Electrical Master Plan, Sewer Master Plan, and Infrastructure Strategic Alignment Plan (ISAP). She said there will also be discussion on the performance incentives in the Mission Support Alliance (MSA) contract. She said there is a meeting scheduled regarding funding for water infrastructure, and the Water Master Plan is in the review process until November 12.

Randy Adkins, MSA, presented on the history, present actions, and future actions related to water infrastructure. He said approximately 10 miles of mortar lining have been completed, realizing a 70% cost savings over pipe replacement. Another mile of pipe is planned to be mortar lined in Fiscal Year (FY) 2011, with 36 additional pipe segments identified for lining over the next 15 to 30 years. He said refurbishment of the 200 East 3 million gallon raw water reservoir is also planned within the master plan in which the important problems have already been addressed. He added that groundwater plumes are driving this work.

Randy showed pictures illustrating the poor condition of the pipe infrastructure on the Hanford Site. He further discussed the mortar lining process and said there are video

inspections done to verify the quality of the lining. He also mentioned that a new liner was placed on the reservoir this year and the leak testing has gone well.

Randy discussed past actions and said energy efficient pumping and backup diesel pump systems were installed at 182-B pump house in 2006, and this system is still optimized when effective. He said there are numerous pipe laterals disconnected and capped from main lines. He said flyovers and thermography are used to determine significant leaks. He added that there were some laterals found, of which MSA was not aware, that are being eliminated in the lining process.

Randy said the mortar lining actions are based on CH2M HILL Plateau Remediation Company (CHPRC) groundwater recommendations. He said MSA will relocate the 42 inch export water line in the 100 B Area to facilitate contaminated soil removal by Washington Closure Hanford (WCH). He said identifying and eliminating charged, inactive water lines is an incentive. Karen said the Deactivation and Decommissioning (D&D) activities are incorporated into the schedules and contracts.

Randy said there are a few iterations for the ISAP before it is ready to help inform decisions. He said the ISAP is a tool to make sure the site's infrastructure needs are considered. He said there is a master plan, a prioritized list of infrastructure projects, interface control documents and high level weekly contractor interface meetings to help manage site utilities.

Scott Boynton, MSA, said MSA was asked to look at the contracts and existing facilities, and the ISAP is a roadmap that highlights the areas that need service. He said the focus for the near and long term is on utilities, and the master plan shows how this will be executed.

Karen said the ISAP is a strategic and tactical document, and it lays out how actions will happen.

Randy showed a diagram of the ISAP roadmap to the future. He said there are many reliability projects within the master plan and part of this process is a performance measurement baseline to show effectiveness. He said master plans are developed to manage utility systems over time. The ISAP is a living document with updates every two years.

Randy said the water strategy consists of managing repairs, life extension, replacements, deactivations, and configuration. The goal of the master plan is to determine water requirements through planning and information with other site contractors. He said another goal of the water master plan is optimizing water systems to mitigate additional water contamination movement in the vadose zone, stop movement of contaminants to the Columbia River, operate systems cost effectively and efficiently, and meet the DOE-RL 2015 Vision.

Randy said the intent of the master plan is to provide safe, secure, environmentally sound and cost effective systems and service tailored to support the efficient cleanup of the Hanford site. He said MSA will evaluate placement of a new raw water tank on the plateau to reduce energy costs and system stress. He added that MSA is doing evaluations on vacating the 100 Area reservoirs and adding new reservoirs near the coal pits on the plateau. He said there is mitigation of additional water and contamination to the vadose

zone. He said MSA will continue to line pipes to eliminate leaks, disconnect unused laterals, and line reservoirs. He said the cooling tower for the 242-A evaporator campaign is beginning and the replacement of asbestos cement piping is being evaluated. He added that MSA will implement the phases necessary to decommission the water system.

Randy said as a part of mitigating contaminants reaching the Columbia River, the 100 D reservoir will be decommissioned to remove potential leak sources from the chromium plume. He then showed the action strategy plan and said there will be some strategic metering to get better data for managing the systems. He said MSA will be evaluating the construction of the high tank for potable water, the replacement of riverside reservoirs with central plateau reservoirs, and the utilization of the 242-A evaporator cooling tower. He said MSA will also apply system database information and customer interface requirements to make sure the overall system is optimized.

Scott said there are two main goals for the master plan: reliability of the system with eliminating leaks and bad piping, and to do D&D work to shrink the sight. He referenced a poster of the Hanford water system and highlighted what will be eliminated. He said potential leakage pathways are being eliminated, and there are some incentives incorporated to support this idea. He said the missions have to be met while making the system reliable for consumers.

Karen said there has been concern regarding inactive water lines. One of the incentives is to identify and take out these water lines. She said the 200 W Area reservoir is incentivized, along with the lagoon.

Scott added that some of the deactivated lines identified are incorporated with areas already being deactivated.

Randy discussed the feasible options study and said there was an analysis done to identify feasible options. He said these options include expanding the 300 Area pump station, building a new 100 and 100 B Area pump, and modifying the 100 K East pump station. He said these options will let the sediment settle using a low area in the existing plateau as a reservoir. He said the cost and risk of piping to the 300 Area would be very expensive; however, much of the infrastructure is already in place.

Committee Discussion

- Pam asked what an export water line is. Randy said water that is taken out of the river is known as the export water system. He then showed a map of the water mainline that carries water from the river to the Plateau. Dale said water was pumped from the river to the reactors and the Plateau. Pam asked if the water from the river is treated. Karen said there is a treatment plant.
- Larry Gadbois, EPA, reminded the RAP committee that the 300 Area uses city water and sewer services.
- Pam asked if MSA is supplying water and electric to the Waste Treatment Plant (WTP). Scott said yes.

- Pam asked if MSA was able to use American Recovery and Reinvestment Act (ARRA) money to improve infrastructure. Karen said MSA was not able to use ARRA funding, but some of the contractors were able to use this money for improvements such as road upgrades. She said MSA was able to save some money through efficiencies in the contract and providing internal funding for these projects, but additional funding has not been set aside.
- Shelley asked what percentage of the water system's capacity is being used. Randy said the system right now is set up to use one system to export water with a backup system for emergencies. He estimated that 60-70% of the system is being used. Scott clarified that 95% of the water system is actively being used due to consumer need.
- Shelley asked who decides how much water is allocated and if there is someone keeping track of the amount of water going into the Hanford site. Scott said MSA supports the customers and uses the design basis to see how much water is needed.
- Maynard asked about the condition of the export line pipes from the B Area. Randy said there have been cameras used to assess the condition, and stated that the pipes are in good condition.
- Maynard asked if fire protection is considered and if the 300 Area fire station is needed. Karen said there is integration. All these things are considered in the master plan.
- Maynard asked where preventative maintenance fits into the master plan. Scott said there is not a robust preventative maintenance plan. He said system engineering is being modified to make sure things do not fail unexpectedly.
- Maynard said finding money for infrastructure is hard, but there needs to be a commitment to preventative maintenance. Randy said it was important in the master plan to identify the best solutions for what needs to be done without being constrained by the budget.
- Jerry Peltier asked if there is any redundancy in the system. Scott said there are cross-ties and some issues with redundancy in the 300 Area.
- Jean asked about the 300-D water leak and what actions are being taken to ensure water leaks like this do not happen in the future. Scott said as a part of demolition and disposal process (D&D), contractors will cut and cap the utility lines. He said preventing leaks is the goal.
- Shelley asked if MSA is incentivized to find lines on site that might still have water in them. Scott said yes, but it is hard to say how many there are. Dirk added that all energized systems should be considered, not just water systems.
- Maynard suggested that the RAP committee follow up on the topic of infrastructure. He invited RAP members to get their questions and concerns to him. He will consolidate them and work with Karen to address them in a subsequent session.

618-10 Update

Prior to the update on 618-10, Peter Bengston, WCH, introduced a video of the implosion of buildings in the 300 Area. These buildings were viewed on the October 6 HAB site tour, and demolished the following weekend. Maynard asked how high the dust from the building went into the air. Peter said the dust went about 100 feet high and dissipated in about 20 minutes. He said the demolition went very well and the material will be used as backfill.

Shelley Cimon, Issue Manager, introduced the 618-10 update topic. She said the 618-10 burial ground operated from 1954 to 1963, receiving Low-Level Waste (LLW) and High-Level Waste (HLW) from 300 Area laboratories and fuel development facilities. Low-activity wastes were primarily disposed of in 23 trenches, while the moderate and high-activity wastes were disposed of in 94 Vertical Pipe Units (VPUs). The VPUs were constructed by welding five bottomless drums together and burying them vertically about 10 feet apart.

Shelley said that records also indicate that the burial ground was used to dispose of cardboard boxes of LLW and miscellaneous laboratory debris, including bottles, box filters and aluminum cuttings, spent fuel fragments in small juice cans, radiologically contaminated equipment and lab instruments, and high-level liquid waste sealed drums.

Shelley said non-intrusive characterization efforts were completed in late May and included geophysical delineation, in-situ characterization using a multi-detector probe, and soil sampling from below a selection of ten VPUs.

Shelley said during in-situ characterization measurements were collected for 10 cone penetrometers in the trench and 375 cone penetrometers in the VPU area.

Shelley said intrusive characterization began in late June. Cross-trenches were dug through the main trenches with test pits through a subset of disposal trenches unearthing a limited number of drums to verify the condition and types of wastes disposed. Several drums contained radioactive waste, a shipping cask and miscellaneous material. Where waste was discovered, the drums are believed to contain depleted Uranium and Uranium oxide. In addition, concreted 55 gallon drums believed to contain liquid radioactive waste were also discovered.

Shelley said initial indications were that the burial ground may contain up to 700 drums of waste. However, based on the findings during intrusive characterization, the estimate of the number of drums the burial ground may contain has risen to 4,000. This includes an estimated 800 concreted drums, which were used to dispose of highly radioactive waste nested inside a pipe surrounded by concrete. The pipe provides containment for the waste and the concrete provides radiation shielding for its contents. Workers also found casks with unknown contents, bollards, bottles, metal pieces and other debris.

Shelley said because the burial grounds might contain potentially flammable material, unearthed drums were opened in an onsite penetration facility with negative air pressure

and remotely operated equipment. A sand hopper was also deployed to quench chemical reactions.

Shelley said before being removed from the trench, the drums were observed for any reactions and were radiologically surveyed. The temperature of the drums was checked using an infrared thermometer. Once removed from the excavation face, the drums were placed in 85 gallon drums and move to an inspection area.

Shelley said solid waste will be disposed of in the Environmental Restoration Disposal Facility (ERDF). Drums containing oil and depleted uranium will likely be shipped to an offsite treatment facility where the oil, which may contain heavy metals and Polychlorinated biphenyls, will be drained and incinerated. Shavings will be stabilized and shipped to ERDF.

Shelley said decisions will need to be made on the safest and most efficient way to clean up the burial ground, including how to safely dispose of the high-dose-rate waste in the concreted drums. Full-scale remediation is scheduled to start in April of 2011.

Jamie Zeisloft, DOE-RL, said some characterization work has been completed to prepare for remediation, and the non-intrusive and intrusive characterization has been completed. He said radiological information was retrieved with penetrometers and then intrusive characterization was done. He said a report on these findings will be released around October 25th. He said the 12 waste disposal trenches were excavated. He said soil samples were pulled and a couple of drums were retrieved. One of the drums was left in place because it was unsafe to move due to corrosion. The information gathered during intrusive characterization found the types of waste that was expected to be found. However, the volume of waste seems to be less than what was forecasted.

Jamie said trench remediation is starting in the spring and additional facilities are being mobilized with proper documentation. He added that the overburden is thicker than anticipated and will be removed as soon as possible.

Agency Perspective

- Larry said 618-10 received waste from the labs so there is going to be a lot of different waste present. He said the trenches are not as full and the VPUs are not as hot as anticipated, but there will be many constituents.
- Dib asked why the number of drums is uncertain. Jamie said the records vary.

Committee Discussion

- Shelley said she went through the weekly reports and after intrusive characterization the amount of drums was raised to 4,000. Jamie said it is estimated that it was between 2,000 and 4,000 drums.
- Jerry asked how the trenches were built, and asked if they contain liquid waste. Jamie said the burial grounds are unlined trenches and there is no record of liquid waste.

- Shelley said she has seen records of liquid waste in the drums. James said there is potential liquid waste in drums, but there is no documentation of anything reaching groundwater.
- Pam asked if there are any aerial photos from when the trenches were open. She has heard stories of liquid waste disposal. Chris Smith, DOE-RL, said liquid waste cannot be ruled out due to the spotty records.
- Pam asked if some of the cleanup processes from 618-7 will be used for 618-10. Chris said the two processes will be similar.
- Dale said he is surprised that there is so much uncertainty with ground penetrating radar. There is no well testing for 618-10. Larry said he will check and get back to Dale on groundwater testing.
- Shelley asked if the trenches or caissons will be addressed first. Chris said trenches only.
- Shelley asked where the material will go once removed. Chris said there will be a disposal plan path after analysis with a Non-Destructive Assay.
- Maynard asked if the vadose zone has been checked. James said there were cone penetrometers used. Chris said DOE did do analysis through the trenches and into the vadose zone with no indication of high contamination. He said this does not mean the contamination is not there, and he is not aware of any boreholes to see if there is contamination in the vadose zone. The operations will be typical of other burial grounds. James added that groundwater regulations will be met.
- Dick asked what the distance is between the trenches and the groundwater. Larry said 30-40 feet. Chris said the depths will vary.
- Jerry asked if there will be a process for dealing with the different types of containers. Chris said there has to be a waste disposition pathway for each contractor, and these waste regulations change as the project progresses, but there are rules within the nuclear safety basis. He added that materials will not be removed until there is a plan for disposal. Larry said the excavator has radiation sensors and that information is gathered right away, allowing the materials to be placed into a sorting trench, and then decisions are made.
- Dirk said 618-10 was a surprise due to the amount of hydrogen and tritium. He said there were some filters from German waste operations that are in lead boxes, but he is not sure where these ended up getting disposed. James said there are readings being taken at different steps with a graded approach; and a procedure for anomalies, such as shielding, and potential risks are being taken into account.
- Dale said a lot of the cleanup effort is based on 618-7, and that a Uranium plume was made worse by water sprayed for dust suppression. He said this should be seen as a lesson learned to not mobilize elements. Chris said this is an iterative process, and DOE is aware that there have been groundwater spikes from dust suppression. He said there will be dust suppression, but there is a balance with chemical fixatives and water.

- Shelley asked if any thermal temperatures were taken. Chris said he is only aware of radiation monitoring.
- Jerry asked how much knowledge there is when reviewing historical records. Chris said DOE knows where the waste came from and the processes in those facilities; however, there is not any detailed manifest. Shelley said DOE does not know volumes, only types of materials.
- Pam suggested bringing the 618-10 topic to the Board. Shelley said she thinks it should be at the November Board meeting. Larry said not many people will have had a chance to look at the report by November. The RAP committee thought the February Board meeting might be better timing. Jamie said there will be much more information to share by February. Chris said intrusive characterization of 618-11 will be completed, and it will be good to digest the report and see if there should be modifications to the 618-11 plans.
- Pam said RAP should discuss this topic again in December. Harold Heacock said impacts to groundwater should be part of this discussion, and this data should be significant.

Unrestricted Surface Use/Unrestricted Use Advice

Dale said the topic of unrestricted surface use versus unrestricted use came from a discussion of this topic at the December 2009 Base Assumptions Committee of the Whole Workshop. He said there is discomfort among many HAB members that the public perceives that unrestricted surface use means that anything can be done on the land. He said if there are limits in use, the language should communicate that message. He said this advice was previously discussed several times in committee and brought to the Board in April; however, the advice was sent back to committee after concerns were expressed by Ecology, EPA and other Board members. He said something needs to be done by either going forward with the advice or giving it up. He said he read the comments from the last Board meeting and it seemed people did not think the advice was necessary. The HAB thought it should be recognized, but not be advice. He said the topic needs to be addressed but he is not sure how to proceed. He said he would like to know the Tri-Party Agencies (TPA) concerns on this advice.

Agency Perspective

- Nick Ceto, DOE-RL, said he does not think the advice is helpful. He said DOE is trying to do what is right and there will be some restriction. He said DOE will try to make the surface use as unrestricted as possible. He said the term unrestricted use is used in many industrial areas and is not an uncommon concept.

Regulator Perspective

- Dennis Faulk, EPA, said he objects to the advice. He said setting cleanup levels on the river was not easy and the TPA did not agree, causing a lot of argument. He said the definition by the State for unrestricted surface use is a depth of 15 feet for cleanup. He said using a different term such as “limited use” gives a very different context. He said if a new term is on the table, there is a potential to erode 20 years of work that has been done, which is why he is objecting to the advice. He wants to make sure there are not any unintended effects with this advice. He said using “limited use” should really be considered thoroughly.
- John Price, Ecology, said HAB Advice #23 defined what unrestricted surface use means. This definition is consistent with what has been done. He said the biggest restrictions will be for orchards where there will need to be land use restrictions. He said for the most part the TPA has achieved what HAB Advice #23 states and he prefers that the advice does not go forward.

Committee Discussion

- Maynard said there might be some common ground that can be found. He does not think the general public realizes that 15 feet is what is meant by saying unrestricted surface use. He said maybe the advice should not go forward, but there should be more description when “unrestricted surface use” is used. He said he has had experiences where people think unrestricted means the individual can do anything and maybe more information can be provided to prevent this.
- Harold said he does not see a fundamental problem that warrants advice. He said there is a system that is working and complies with past advice, so he is not sure what will be gained from adding another term. He agrees that more explanation would help, but more terminology may make things more confusing.
- Dick said he concurs and that the explanation of these terms could be expanded in the glossary of relevant documents.
- Jerry said the 300 Area may be available to build on or for other uses and assumes that DOE has regulations for the developers to give them restrictions so that wells are not drilled, for example. He asked if it will be known that there are restrictions below 15 feet. Larry said these restrictions are in the site-wide institutional control document. Dennis said General Services Administration’s recommendations were that government would retain the mining rights. Nick said there are also local ordinances and permitting.
- Jerry said the issue is that the average person will think they can do whatever they want. John said there have to be permits to do something, such as drill a well. Dale said in Washington a permit is not needed for many kinds of personal use wells. Dennis said a license is needed to drill.
- Jean said if this advice does go forward, the Model Toxic Control Act should be referenced.

- Dale said if nobody objects, he suggests the advice be dropped. He said when unrestricted surface use is used there could be additional parameters. Dennis said in concept it sounds easy, but there have to be generalizations made. Shelley said this information could be spelled out in the deed for homes, for example. Dennis said this will be the case, but the issue is with communications to the public. He said it might not apply to every situation accurately if more specified language is widely used.
- The committee agreed to drop the advice, with the recommendation to the agencies when using this term to be as clear as possible regarding what it specifically means.

RCRA Permit Update

Gerry Pollet said he worked with Ron Skinnerland, Ecology, in preparation for today's presentation. He said based on discussions it was decided that the RAP committee should walk through the content of specific permitting requirements for a set of specific OUs at the November committee meeting. He said the RAP committee will discuss the elements of generic sections that cover all units with specific examples based on concerns. He said this will help lay the foundation for an eventual day long workshop on the Hanford Facility Site-wide Permit (permit).

Ron said DOE has received feedback from the Public Involvement and Communications (PIC) committee and is getting the permit ready for release after the first of the year.

Ron presented on what the permit includes. He said there are approximately 40 units in the permit, and he displayed a map to identify where the units are located. He said he will discuss the State Environmental Policy Act (SEPA) requirements and the anticipated public involvement approach for the permit.

Ron said the goal of the permit is to protect human health and the environment. He said the permit is formally called the Hanford Facility Dangerous Waste Permit, Revision 9, and is required under Washington State's Hazardous Waste Management Act. He said the permit covers the entire site. Some areas are in monument status, but are still covered. He said the permit regulates how dangerous waste is handled, and the permit is enforceable. He said the permit had a 10-year term that ended in 2004. The existing permit is still in effect under Ecology's determination, and there have been some modifications. He said part one of the permit has general conditions for all Treatment, Storage, and Disposal (TSD) units in the state. He said part two of the permit contains general facility conditions for the Hanford site, such as roles of the TPA. He said part three through six have the specific conditions for Hanford facility waste sites and TSD units. He added that reporting requirements depend on the actions taken.

Ron provided the list of OUs and said there are 35, but some may be divided, so there could be as many as 40 OUs. He said these facilities have had waste for some period of time and will have a sketch plan for each permit for types of waste, and there are requirements for each OU regarding training. Moreover, he said there are rules for training the staff that are dependent on the types of waste.

Ron said part four of the permit is subject to corrective action authority, and one of the changes was adding a Corrective Action Decision (CAD) combined with ROD decisions, known as a CAD/ROD decision.

Ron said part five of the permit is on closure units and many of these facilities require meeting dangerous waste regulations. He said the permit is being modified for these closure units and many of them will use the RCRA/ Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) process.

Ron said the permit will set up the closure framework. He said the process trenches still have some uncertainties on possible contamination and doing groundwater monitoring is why they are integrated into the permit. He said Ecology is required to have SEPA checklists and National Environmental Policy Act (NEPA) documentation. Ecology will also provide a fact sheet for the permit.

Ron said there is a 90 day comment period and Ecology has talked with PIC regarding hearings and workshops. He said the permit includes maps and information on how emergencies will be handled and added that while this will not be included in the document for public involvement, it will still be publicly available. He said the permit is a large document so Ecology is looking for how to condense it for public consumption. He said Ecology is looking to make the permit available online, on disk, at Hanford information repositories, at Nuclear Waste Program Office, Ecology's Yakima Office, and at White Salmon public library.

Committee Discussion

- Maynard asked what steps have to be taken in order to put something in dry storage. Tony McKarns, DOE-RL, said there has to be a dry storage area for the cask and the permit would have to be modified. Ron said treating and handling the capsules would be another modification, which will be part of the process.
- Shelley asked about the volumes in the effluent facility. Tony said the volumes vary depending on the particular waste stream. He estimated that it is about 14-16 million gallons of effluent per basin.
- Maynard asked about the membrane used to put over the containers in the effluent treatment facility. Tony said it is for evaporation and keeps radionuclides from getting out and does not let solids in. He said it is part of the permit, but not required by the permit.
- Pam asked about the incident in the K-East basin. Tony said K-East was a part of a lab so it was decided to use solidification to treat waste. He said the building is in ERDF. Pam asked why the building is in the permit. Tony said this is a closure unit. Ron said the reason the closure units are in the permit is to confirm that the cleanup is complete and recognize that the OUs were closed. It also gives a chance for public comment.
- Pam asked if the cold vacuum drying facility is in the permit. Ron said it is in the permit and is covered under CERCLA.

- Gerry asked if there will be a new policy for the concept of “official use only” and the records will be available under the public records act. Ron said that is correct.
- Ron said the main aspects of the permit are the tanks, the evaporator, WTP and asked if the RAP committee would like a separate briefing on these topics. Gerry said it would be good to discuss these topics as a primer for the workshop.
- Pam asked if the Tank Waste Committee (TWC) would cover some of these topics. Madeleine Brown, Ecology, said that either committee could cover these topics. Gerry said this discussion would be setting up the workshop and providing some feedback.
- Shelley asked why the amount of mercury is higher than what was thought and if the percolation ponds are being considered. Tony said there were ion exchange columns that contributed to the contamination.
- Jean said that Ecology has said it is interested in receiving comments on the draft documents and asked if Ecology has dates by when they would like comments submitted. Ron said if there are comments Ecology would love to see them. Susan Hayman, EnviroIssues, asked if there is a mechanism for other HAB members to see documents early. Ron said no, but other HAB members can always ask about the permit and talk with someone from Ecology.
- Madeleine asked if the RAP committee had a process for choosing what units they want to learn about. Jean said the corrective action section would be useful. Pam suggested reviewing the 300 Area trenches. Gerry suggested the burial grounds, and clarified that these are just examples of possible topics for the public workshops.
- The committee agreed to review these three general areas at the November committee meeting.

Action Items / Commitments

- Identify any additional interest in characterization of reverse wells outside of DVZ wells
- “Analogous sites” approach to reverse wells characterization – HAB weigh in > Discussion of potential advice in February. [DOE could come in December to discuss with reverse wells]
- Wade R. > will be asked to provide additional information regarding 300 Area reverse wells (Mike Thompson unaware of any)
- Consider potential advice on properly funding infrastructure, especially preventative maintenance (HQ issue?)
- What process will verify that “inactive lines” are really inactive? (all energized systems – not just water)
- Follow up with Maynard on additional infrastructure questions – Maynard will synthesize for subsequent committee discussion (include Sewer)

- Larry Gadbois to follow up on whether there are any wells by 618-10 that would ascertain potential GW contamination from 618-10. In the afternoon Larry provided a well location map for 618-10 which showed 6 down gradient wells near the burial ground, which completes this action item.
- RAP review 618-10 report – Queue it up for:
 - February Board meeting (Issue Manager work)
 - NI characterization (complete)
 - Include (Lab data)
 - Trench remediation (better prepare for Nuclear safety issue)
 - Could also debrief on 618-10 status –schedule, lessons learned
 - Bring back to committee in December to prepare for potential advice in February
 - Look for impacts to groundwater for Board consideration
- Walk through contents of what is required per unit – RCRA (November meeting)
 - Corrective actions
 - 300 Area process trenches
 - Burial grounds
 - Use these examples to help frame up full day COTW workshop
- Preservation of Hanford Artifacts

Handouts

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

- 300-FF-5 Operable Unit, DOE-RL.
- 618-10 Burial Grounds: River Corridor Closure Project handout, WCH, September 2010.
- 618-10 Burial Grounds: River Corridor Closure Project handout, WCH, August 2010.
- Characterization of Reverse Wells on the Hanford Central Plateau, Mike Thompson, October 12, 2010.
- Hanford Advisory Board Draft Advice: unrestricted surface use vs unrestricted use cleanup levels, Dale Engstrom.
- HAB River and Plateau Committee Briefing: MSA Water Master Plan, MSA, October 13, 2010.
- Hanford Facility Dangerous Waste Permit Units.
- Update on Hanford Facility Permit, Ron Skinnarland, October 13, 2010.
- Water System Strategic Vision 2015 and beyond, MSA.

Attendees

HAB Members and Alternates

| | | |
|---------------|-----------------|-------------|
| Shelley Cimon | Pam Larsen | Dick Smith |
| Dirk Dunning | Jerry Peltier | Jean Vanni |
| Dale Engstrom | Maynard Plahuta | Steve White |

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| Harold Heacock | Gerry Pollet (on phone) | |
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Others

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|------------------------|--------------------------|----------------------------|
| Paula Call, DOE-RL | Madeleine Brown, Ecology | Bruce Ford, CHPRC |
| Nick Ceto, DOE-RL | Dib Goswami, Ecology | Janice Williams, CHPRC |
| Karen Flynn, DOE-RL | John Price, Ecology | Susan Hayman, EnviroIssues |
| Tony McKarns, DOE-RL | Ron Skinnarland, Ecology | Blair Scott, EnviroIssues |
| Chris Smith, DOE-RL | Ginger Wiremen, Ecology | Scott Boynton, MSA |
| Mike Thompson, DOE-RL | Craig Cameron, EPA | Sharon Braswell, MSA |
| Jamie Zeisloft, DOE-RL | Dennis Falk, EPA | Michele Gerber, URS |
| | Larry Gadbois, EPA | Peter Bengston, WCH |

DRAFT