INL Site Environmental Management

CITIZENS ADVISORY BOARD

Meeting Minutes

April 9, 2014

The Idaho National Laboratory (INL) Site Environmental Management (EM) Citizens Advisory Board (CAB) held its quarterly meeting on Wednesday, April 9, 2014, at the Hilton Garden Inn in Idaho Falls, Idaho. An audio recording of the meeting was created and may be reviewed by calling CAB Support Staff at 208-557-0843.

Members Present

Herb Bohrer, Chair
Harry Griffith, Vice Chair
Bob Bodell
Harrison Gerstlauer
Tami Henvit
Kristen Jensen
Nicki Karst
Betsy McBride
Willie Preacher
Bill Roberts
Teri Tyler

Members Not Present

Deputy Designated Federal Officer (DDFO), Federal Coordinator, and Liaisons Present

Jim Cooper, DDFO, U.S. Department of Energy Idaho Operations Office (DOE-ID)
Bob Pence, Federal Coordinator, DOE-ID
Hoss Brown, Idaho Cleanup Project (ICP)
Dennis Faulk, U.S. Environmental Protection Agency

Others Present

Bill Barker, AREVA
Susie Barna, Moxie Endeavors
Roy Bartholomay, USGS
Phil Birks
Beatrice Brailsford, Snake River Alliance
Shannon Brennan, DOE-ID
Mark Brown, DOE-ID
Brad Bugger, DOE-ID
Lori Cahn, ICP
Tim Carlson, BEA
Vallica Dugger, DOE-ID
Christ Henvit, NR
Leslie Huddleston, Office of Senator Crapo
Julie Huntsman
Mark Hutchisen, NRF
Mark Jeffers, DEQ
Nolan Jensen, DOE-ID
Bruce LaRue, DEQ
Jim Malmo, DOE-ID
Scott McMullen, DOE-ID
Danielle Miller, DOE-ID
Natalie Packer, ICP
Brian Parker, Snake River Alliance
Teresa Perkins, DOE-ID
Doug Pruitt, DOE-ID
Niki Richards, North Wind
Ben Roberts, DOE-ID
Curtis Roth, DOE-ID
Melissa Roth
Erik Simpson, ICP
Tami Thatcher
Frank Webber, ICP
Liz Woodruff
Bryant Kuechle, Support Services Facilitator
Lori McNamara, Support Services
Ann Riedesel, Support Services

Action Items

Assigned to: Jim Malmo

Harry Griffith asked DOE to put together a flow chart that shows the waste process. (WIPP Update, pg. 5)

Opening Remarks

Facilitator Bryant Kuechle opened the meeting. He reviewed the agenda and the CAB policy for public comments. Any member of the public that would like to comment is asked to sign up at the registration table prior to the published time on the agenda. Prior to making comments, commenters should state their name and city of residence. Questions may be accepted from the public following the conclusion of the presentations at the discretion of the CAB Chair. If there is not enough time for questions at that time, question cards are available for members of the public to complete. The cards are available at the registration table. The CAB support staff and DOE will do their best to obtain answers to the questions. All questions must pertain to agenda topics discussed during the CAB meeting.

CAB Chair Herb Bohrer welcomed everyone to the meeting and thanked them for attending. He discussed the new CAB newsletter and encouraged feedback about the newsletter. There is a signup sheet for the newsletter distribution list at the registration table. Bohrer recognized CAB member Betsy McBride as the head of the Public Involvement Committee and her efforts for developing and launching the newsletter.

Jim Cooper (DOE-ID) noted the progress at the INL site. He recognized the significant progress at the Sodium Bearing Waste Treatment Plant and noted that the next step is to introduce steam and then surrogate. Cooper reviewed the impacts from the WIPP outage. That situation has resulted in some changes in direction for our performance at the site, including developing some alternative paths to mitigate any impacts to the workforce and progress.

Hoss Brown (ICP) reported that ICP has completed their Voluntary Protection Program (VPP) reassessment to confirm they still comply with all the VPP requirements. They passed with flying colors and were recommended to receive STAR status, which is the highest level for safety performance. Brown reported that ICP had six first aid cases in February; they have stepped up efforts for first aid case safety. The workforce has been doing a great job. The Integrated Waste Treatment Unit (IWTU) is at normal operating temperature after cooling it and bringing it back up to temp three times. We are planning to introduce steam followed by the introduction of surrogate materials. Willie Preacher asked about the surrogate. Brown responded that it is a liquid that is “fake” waste. Brown reported that work at the Radioactive Waste Management Complex (RWMC) going well; they are continuing to dig in Accelerated Retrieval Project (ARP) buildings 7 and 8. ICP is continuing to D&D at the Materials Fuels Complex (MFC), processing sodium from the EBR-II reactor. The distillation process for remote-handled transuranic waste (RH-TRU) is going well. Betsy McBride asked if the WIPP situation has interrupted the distillation process. Brown responded that this waste was not slated for WIPP so there was no impact.

Dennis Faulk, U.S. Environmental Protection Agency (EPA) noted that EPA had a voluntary early retirement and several people took advantage of that. They are leveraging their resources to cover the additional work as they are not backfilling the positions. He noted the upcoming Environmental Management Site Specific Advisory Board (EM SSAB) meeting at Hanford and welcomed the people who will be attending. He noted his appreciation that the land use topic is one of the CAB agenda items and he appreciates the input on the topic.

Recent Public Involvement Activities

Jim Cooper reviewed recent Public Involvement activities. The presentation is available on the INL Site EM CAB website: http://inlcab.energy.gov/.

ICP Progress

Cooper provided a presentation on the status of cleanup at the INL site. The presentation is available on the INL Site EM CAB website: http://inlcab.energy.gov/.

Bohrer asked if the distillation equipment is located in the hot cell. Cooper responded that it is not; it is located below the hot cell. Ben Roberts (DOE-ID) noted that they have additional shielding around the equipment to ensure it meets the safety requirements.

Tami Henvit asked if not getting the waste out of the state within a year will impact future activities. Cooper confirmed that it would have an impact, but noted that they are developing disposition paths and are confident they will ship it out in time to meet the one-year requirement.

Betsy McBride asked if there are alternate disposition paths for the Los Alamos National Laboratory (LANL) waste, can the Idaho waste be sent to the same alternate location. Cooper responded that there are differences between the Texas Waste Consolidated Services facility and WIPP, and there are different waste acceptance criteria for both. In addition, the LANL waste will be shipped to WCS for temporary storage until it can be sent to WIPP. WCS has limited space for temporary storage. He noted that LANL has a high priority for getting the waste shipped offsite due to the risk of another wildfire in the area. Malmo noted that the LANL waste going to WCS is above-ground stored TRU waste, which puts it at higher risk if there is another wildfire on the plateau. He noted that shipping to an interim storage location adds costs so they don't want to add the extra storage step unless absolutely necessary as it redirects funds from shipping to final disposition rather than an interim step.

Bohrer asked if other sites have adopted ICP's ARP approach. Cooper responded that other sites are knowledgeable about what is being done in Idaho and the success we are experiencing. They are applying that methodology to different projects, not just in the U.S. but other countries as well. Harrison Gerstlauer asked if the Japanese were interested in our approach. Cooper responded that he didn't believe they toured RWMC and ARP when they were here. He also noted that their focus is more on storage of spent fuel than on buried waste.

Bohrer asked about the blending of waste. Brown noted that the WIPP requirement is at least 100 nanocuries/gram in a drum. Cooper noted that we don't pay a disposal fee at WIPP but we do at other sites, so there is an incentive to send the waste to WIPP if possible.

Gerstlauer asked if there were any plans for the IWTU facility once the current inventory of waste is taken care of. Cooper responded that it is something they are looking at. Hanford does have waste that could be treated in the facility, however there are transportation issues related to transporting HLW. It would likely require an environmental impact statement (EIS) for the transportation piece. But it is something that is being considered. He also noted that they are also looking at putting the hot isostatic pressing (HIP) process in this facility (per the Record of Decision). HIP will be used to treat the calcine product stored on site. So that process would also provide another mission for the facility. Harrison asked if dilution could be used to allow shipping of the waste. Cooper noted that one of the keys for promoting this plant is a high throughput rate which would allow processing the waste quickly.

McBride asked if the SNF (slide 16) activities were outside of the Settlement Agreement. Cooper responded that no, they are part of the Settlement Agreement milestones.

Bohrer noted that calcine treatment is scheduled to be complete in 2023. He asked if it is reasonable to assume that it can realistically be completed by then. Cooper responded that DOE is in the process of issuing a Request for Interest (RFI) for this unique project. Their current schedule allows 4 years for construction of a facility with processing then scheduled to be completed by the deadline.

Gerstlauer asked how much calcine there is that needs to be treated. Cooper responded that there are 4,400 cubic meters.

Cooper reviewed the distinction between the IWTU process and the HIP process. IWTU will treat the liquid sodium-bearing waste. The HIP process will treat the calcine and convert it into a ceramic form.

Gerstlauer asked if Savannah River already has this process. Cooper noted that Hanford has a facility in progress, not Savannah River. He also noted that the glassification process does not reduce the volume of the waste. The HIP process actually reduces the waste volume. There is significant cost savings if you can send less volume.

Bohrer asked if retrieval operations were going okay at AMWTP. Cooper responded that they are still retrieving but it is a slow process. They are into the old containers, which are extremely deteriorated. It is a slow process, but they are doing it safely and it is progressing. McBride asked what the impact is to the schedule. Cooper noted that they have until 2018 to remove the waste. He doesn't believe that the current WIPP shutdown is impacting the schedule at this time. He noted that AMWTP is building a huge backlog. They will need additional shipments dedicated for Idaho in order to get the waste out on schedule. They are working with headquarters so that once WIPP reopens, they can increase from 8 shipments per week to at least an average of 12 shipments per week. Cooper noted that retrieval and processing are not a problem; shipping is the challenge. McBride asked for clarification on the shipping process. Cooper explained that currently WIPP doesn't have enough funding to support enough shipments to allow Idaho to plan for 14 shipments. The shipments are coordinated through EM-Headquarters and WIPP. McBride asked how soon the change to 12 shipments per week would have to happen to ensure the deadline is met. Cooper noted that if WIPP was open today we would need to average 10 shipments peer week. However, knowing that WIPP will be down for a bit, they will now need to plan for 12 shipments per week to make the deadline. The longer WIPP doesn't open the more shipments per week that we will need. WIPP operationally can take a maximum of 26 shipments per week. Sending the waste somewhere else increases the costs. Cooper also noted that there are a lot of questions resulting from the WIPP outage.

Bill Roberts asked about the cost difference for shipping elsewhere. Cooper responded that "it's a lot." To ship to Nevada it is about $2200/shipment and Energy Solutions is $4500/shipment. At WIPP we don't pay a disposal fee–it's just their operational costs. Dennis noted that low level waste (LLW) could go for disposal on site at the approved LLW disposal facility (INL CERCLA Disposal Facility), however, ICDF cannot currently take TRU waste. They would need to lift that ban in order to send the waste there, which would require public meetings and comment. Dennis also noted that waste sent to ICDF would be *disposed* of there permanently. Jim Malmo (DOE-ID) clarified that ICDF is a CERCLA repository; the TRU waste is RCRA waste. In addition, the Settlement Agreement requires the waste be shipped *out of* Idaho, not just disposed of.

Bohrer asked if DOE has talked about what the "drop dead date" is before milestones are in jeopardy. Cooper responded that they have been focused on mitigating the current shutdown but the date is June 2016. Cooper believes they are making good progress and they won't reach that "drop dead date."

McBride asked, in terms of the waste going to WIPP, if we didn't have the Settlement Agreement, is there an onsite facility that could accept the waste, or could be permitted to accept the waste, and at what point do we start that discussion. Cooper noted that routine discussions are held with the State, however, he believes they will make the deadlines. He sees no current basis for not making their deadlines. Dennis noted that this is much more of an impact to sites like Hanford because they are already past the date that their deadlines are achievable.

WIPP Update: Impacts to INL

Brad Buggar (DOE-ID) provided a status of the recovery effort at WIPP. He reviewed the Recovery Information on the WIPP website: www.wipp.energy.gov.

Karst asked what the impact has been to workers and if any workers had been laid off. The workers are all still working and on the payroll. Many of them are completing training (annual training as well as some new training).

McBride asked about community support. She asked if it is being monitored and if there is a change in support for the facility. She also noted that there was some discussion that spent fuel could go to WIPP and wondered if this situation has changed the support for that idea? Bugger responded that there has been no formal measure of support, but his perception is that community support is still very strong. He believes there may be some frustration based on the length of time it will take to recover. He also believes the topic of spent fuel going to WIPP is an ongoing discussion among the community there.

Bill Roberts asked about the equipment failure that caused the fire and why it wasn't in good working order. Bugger responded that the vehicle had not been maintained correctly. It is one of the cultural aspects that the contractor is going to have to fix before (change the mentality that maintenance was not a priority). The equipment used with the waste was maintained, but the equipment tied to mining was not maintained at the same level. There was also a failure on DOE's part regarding oversight.

Jim Malmo provided an update on WIPP and its impacts to INL. The presentation is available on the INL Site EM CAB website: http://inlcab.energy.gov/.

McBride asked if more storage space is necessary, will that require new permitting processes. She also asked about the possibility of Idaho being impacted (or bumped) by the other states for shipping our RH-TRU backlog. Malmo responded that yes, additional storage space would require going through a RCRA permitting process. Regarding the backlog, he noted that it takes a long time to develop a backlog of RH-TRU so he doesn't believe there will be an impact.

Griffith asked DOE to put together a flow chart that shows the process as well as inventory at the various locations, the capacity at each location, alternatives, etc. Malmo agreed to put that together for the CAB.

IWTU Status

Curtis Roth provided an update on the IWTU. The presentation is available on the INL Site EM CAB website: http://inlcab.energy.gov/.

Bohrer asked for further clarification about the TI-102 Pre-Start Findings – the IWTU response to Safety Instrumented Function-3, CO analyzer on-line validation check failure alarm bullet (Slide #4). Roth noted that during a testing phase (readiness assessment), anticipated versus unanticipated alarms are identified and response to anticipated alarms is not required. In this case, the workers incorrectly identified the alarm as an anticipated alarm and did not react to it, when in fact, it should have been identified as an unanticipated alarm and reacted to.

Preacher asked if the system automatically shuts down if something alarms. Roth responded that yes, those safety provisions are built into the system if the situations goes out of established parameters without operator intervention.

Draft Recommendation Regarding Land Use Changes

Tami Henvit reviewed the CAB proposed recommendation and the background regarding proposed land use changes at ICP. When the Settlement Agreement was signed, the default standard was to cleanup to the unrestricted or residential use standard (i.e., safe for a family to live on the site within 100 years). However, in 2007 an area around the Idaho Nuclear Technology and Engineering Center (INTEC) tank farm was designated as restricted use, and in 2008 the Subsurface Disposal Area at the RWMC was also designated as restricted use, which means the site must be cleaned up to meet industrial standards rather than residential standards. The CAB is being asked to consider changing the areas within the entire fence lines for Waste Area Group (WAG) 2 (ATR) and WAG 3 (INTEC) to restricted use. Cleanup to residential standards in some of these areas is unrealistic with finite

financial resources. The CAB land use committee has reviewed the proposal and obtained additional information from DOE. The committee specifically asked DOE if the proposed change would still ensure protection of human health and the environment, specifically the groundwater. DOE assured the committee that it would be.

Faulk noted that from his perspective, cleanup should always strive for the highest level of protection. There would have to be a really compelling reason not to. He believes that all the sites could be cleaned up to unrestricted requirements. However, he recognizes there is validity in the proposed change and that if the community is comfortable with this change, he is comfortable with it. This decision would affect only a handful of sites. Faulk had some recommended wording changes for the CAB's draft recommendation.

McBride would like to more fully understand the pros and cons and the implications of this change. Faulk believes this change will still be protective of human health and the environment while saving money, which can then be used elsewhere on other cleanup projects.

Bohrer clarified that the recommendation is specific to two identified locations and only those two sites. Any future sites will be evaluated at that time.

Henvit read a comment from Darryl Koch (DEQ). The DEQ CERCLA program supports the land use recommendation from the CAB. McBride asked about contamination migrating in the soil. Henvit noted that she had asked that question and DOE responded that there is very little concern of migration within the soil. Migration is primarily a concern in the perched water. Faulk noted that the waste we are talking about is not a groundwater risk factor. The fundamental question is whether we cleanup to 10 feet or to 4 feet.

Karst asked to have something added in the recommendation about ongoing groundwater monitoring. She also recommended several wording changes on the recommendation.

Preacher asked about tribal access in the restricted areas. Pence reviewed tribal access at the INL. The proposed land use change would not impact the tribes' current access to the site.

There were still several questions and the CAB had not yet reached consensus on the recommendation. They will obtain more information and revisit at their next meeting.

Public Comment

Tami Thatcher asked several questions about WIPP. The 2nd release event cause is unknown, but there has been speculation that it has been a roof collapse. What likelihood did DOE give that scenario in the safety basis? Given the fire accident investigation report that pointed out that numerous audits had been prepared that documented many of the problems that contributed to the event – will this training address the high level management problems that lead to these problems. Is that culture problem limited to WIPP?

Cooper responded that her questions are WIPP questions and it would be more appropriate for WIPP to respond. He noted that we do take their lessons learned and apply them as appropriate here in Idaho. Malmo referred Thatcher and the public to the WIPP website. There is a spot on the website where questions can be submitted.

Beatrice Brailsford (Snake River Alliance) commented on the land use decision. She disagrees with the recommendation. She was on the board that established the final land use decision. Those involved were very committed to defining cleanup. The process to reach that definition was extensive and intense. Money saved on these two sites will not necessarily be redirected to other cleanup in Idaho. So much has been accomplished based on the target that was set 20 years ago. She would hate to see that change. Regarding WIPP, some salt is being sent to Idaho for research on potential decontamination processes. She would like to hear more about that. Finally, she gave a commendation: At the last meeting she asked a question that DOE didn't have the answer. It has now

been answered and posted on the website and she appreciated that new process. Cooper responded that the salt coming in for research is part of the laboratory/Nuclear Energy side of the INL mission so he only has limited information. They are in the very early stages. Jim will provide updates as available. Pence specified that the salt that has been sent to Idaho is not contaminated.

Groundwater Sampling Program

Roy Bartholomay (USGS) presented an overview of the groundwater sampling program. The presentation is available on the INL Site EM CAB website: http://inlcab.energy.gov/.

McBride asked who funded the monitoring wells. Bartholomay noted that DOE funds all the projects tied to the INL.

McBride asked what the carbon tetrachloride increases are attributed to. Bartholomay responded that the engineering practices implemented in the mid-90s are likely influencing the levels.

McBride asked what the falling water table is due to. She also asked what he meant by "early warning" and what the response is for those early warnings. Bartholomay noted that the falling water table is due partially to the timeframe/data set you're looking at (e.g. increased since the 1990s, but decreased from the 1960s). Also he noted that irrigation practices have changed which has decreased the amount of water recharge. Regarding the early warnings, he noted that when they see some of the early warning indicators, they communicate that information to DOE. They also communicate information to the public and post it on their website.

Henvit asked what the biggest risk is to the aquifer. Bartholomay responded that more monitoring regarding radionuclides and their half-life would be useful.

RH-TRU/Sodium Treatment System Status

Doug Pruit (DOE-ID) provided an update on the RH-TRU/Sodium Treatment System. The presentation is available on the INL Site EM CAB website: http://inlcab.energy.gov/.

McBride asked for clarification about the waste under consideration. Pruitt clarified that it is the RH-TRU waste. McBride asked about volume reduction. Pruitt clarified that there isn't really any volume reduction in this process. She asked why we are doing it if it doesn't reduce the volume. Pruitt responded that we are processing it this way to remove the sodium because WIPP won't accept the waste unless the sodium has been removed.

Griffith asked what the largest piece of material is that can be introduced into the system. Pruitt responded that the material can be no larger than about the size of a paint can so that it can fit in the distillation bucket.

Bohrer asked if they tested the system on the chemical form of sodium that is expected. Pruitt responded yes, it was the same form.

Gerstlauer asked how the can is lifted in and out of the bucket. Pruitt responded that they have a crane that will be used to load the bucket.

Henvit asked if the liquid sodium from this system can be treated in IWTU. Pruitt responded that no, this is a different form and it won't be able to be processed at IWTU. They are looking an alternate disposal pathway.

Griffith asked if this technology was deployed elsewhere. Pruitt noted that Battelle Energy Alliance is implementing a similar system. They are sharing information back and forth. Griffith also asked about the cost for

something like this. Cooper responded that for this campaign (design, construction, vessel) the total cost is about $18M.

Bohrer asked if it was a RCRA permitted process. Pruitt confirmed it is and they have received the necessary permits. He noted that there is still one more approval required from DEQ before startup.

McBride asked how the waste became sodium contaminated. Pruitt responded that the sodium became attached to the waste as a byproduct of experiments (sodium used as a coolant in reactors pushed to failure).

Gerstlauer asked about the radiation levels related to this facility. Pruitt responded that there is a range but it is all above 200 mrem. Gerstlauer asked where it will go. Pruitt responded that the sodium will likely go to Perma-Fix for processing and disposal or a facility in Texas. Cooper clarified that this waste is considered "orphan" waste – there is currently no disposition path for it. Once it's treated, it will separate it into two forms – RH-TRU that will go to WIPP and the sodium.

Bohrer reminded the public that the question cards are available at the registration table if anyone has additional questions. He then closed the public meeting.