



INL Site Environmental Management

C I T I Z E N S A D V I S O R Y B O A R D

Meeting Minutes

October 27, 2016

List of Acronyms

AMWTP	Advanced Mixed Waste Treatment Project	INTEC	Idaho Nuclear Technology and Engineering Center
ARP	Accelerated Retrieval Project	ITG	Idaho Treatment Group
ATR	Advanced Test Reactor Complex	IWTU	Integrated Waste Treatment Unit
CAB	Citizens Advisory Board	MCL	Maximum Contaminant Level
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act, also referred to as superfund	MOU	Memorandum of Understanding
CWI	CH2M-WG, Idaho	NE	Office of Nuclear Energy
DDFO	Deputy Designated Federal Officer	NEPA	National Environmental Policy Act
DEQ	Department of Environmental Quality	NRC	Nuclear Regulatory Commission
DFO	Designated Federal Officer	NRF	Naval Reactors Facility
DMR	Denitration Mineralization Reformer	RCRA	Resource Conservation and Recovery Act
DNFSB	Defense Nuclear Facility Safety Board	RH-TRU	Remote-handled transuranic waste
DOE	Department of Energy	ROD	Record of Decision
EIS	Environmental Impact Statement	RSWF	Radioactive Scarp and Waste Facility
EM	Office of Environmental Management	RWMC	Radioactive Waste Management Complex
EM SSAB	Environmental Management Site Specific Advisory Board	SNA	Snake River Alliance
EPA	Environmental Protection Agency	TCE	Trichloroethylene
ET	Evapotranspiration	TMI	Three Mile Island
FACA	Federal Advisory Committee Act	TRA	Test Reactor Area
ICDF	Idaho CERCLA Disposal Facility	TRU	Transuranic waste
ICP Core	Idaho Cleanup Project Core	USGS	United States Geological Survey
IDWR	Idaho Department of Water Resources	VOC	Volatile Organic Compound
INL	Idaho National Laboratory	WAC	Waste Acceptance Criteri
INTEC	Idaho Nuclear Technology and Engineering Center	WIPP	Waste Isolation Pilot Plant

The Idaho National Laboratory (INL) Site Environmental Management (EM) Citizens Advisory Board (CAB) held its quarterly meeting on Wednesday, February 17, 2016, 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 208-557-7886.

Members Present

Bob Bodell
Herb Bohrer
Keith Branter
Brad Christiansen
Marvin Fielding
Jim Huston
Kristen Jensen
Talia Martin
Trilby McAfee
Betsy McBride
Bill Roberts
Cathy Roemer

Members Not Present

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

Jack Zimmerman, DDFO, U.S. Department of Energy Idaho Operations Office (DOE-ID)
Bob Pence, Federal Coordinator, DOE-ID
Fred Hughes, Program Manager, Fluor Idaho
Susan Burke, State of Idaho
Daryl Koch, Idaho Department of Environmental Quality (DEQ)
David Borak, DFO, U.S. Department of Energy Environmental Management (DOE-EM)

Others Present

David Borak, DOE-EM	Brad Bugger, DOE-ID
Chris Henvit, Navy	Jou Wiese
Dale Lundblade, SN3	Peggy Hinman, DOE
Tim Runyon, DOE	Patty Huston
Preston Abbott, Canberra Industries	Ann Riedesel, Fluor Idaho
Pat Ethridge	Beatrice Brailsford, Snake River Alliance
Ethan Huffman	Marc Jewett, Fluor Idaho
Mark Hutchison, NRF	Lawrence Schoen, Blaine County
Harry Griffith	Amy Taylor, U.S. Senator Risch
Margaret Stewart	Luke Ramseth, Post Register
Christina Cernansky	Lawrence Wasden, Idaho Attorney General
Darrell Early, Office of Idaho Attorney General	Roy Bartholomay, U.S. Geological Survey
Nolan Jensen, DOE	Nina Jonas, Ketchum Mayor's Office
Madelyn Beck, Idaho Mountain Express	Kiki Tidwell
Amery Maitghorn	Jordan Davies, Staff
Andrea Gumm, Facilitator	Kelly Green, Staff

Opening Remarks

Facilitator Andrea Gumm started the meeting at 8:00 a.m. She reviewed the agenda and noted that the public comment period would be held at 3 p.m. She reminded attendees of the process for public comments during the meeting, time permitting, or via question cards.

Herb Bohrer (CAB Chair) welcomed the public and commented that the Board is glad to be in Sun Valley. He noted that the CAB met for its annual Administrative & Preparatory Session on October 26. During that time, the members worked on agenda topics for 2017. He said next year's schedule would be posted on the CAB website shortly. The next meeting will be held in Idaho Falls on February 23.

Jack Zimmerman (DOE-ID) commented that the Board is in Sun Valley for the second year in a row and said he expects there will be good participation. The day's agenda covers very interesting topics including a detailed update on the path forward at the Waste Isolation Pilot Plant (WIPP) from Tim Runyon, who works at the Carlsbad Field Office, and a special presentation regarding the Idaho Settlement Agreement from Idaho Attorney General Lawrence Wasden.

Susan Burke (State of Idaho) stated that she, too, is looking forward to a good, productive meeting.

Daryl Koch (State of Idaho) noted that the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) work is often considered boring at INL, but it is successful. He commented that at the end of September DOE reached one milestone of the minimum required volume to be exhumed from the buried waste area: 7,485 cubic meters of retrieved and packaged waste. The other minimum agreement is 5.69 acres, 76 percent of which is complete. They will continue working until they reach that acreage. As of October 17, 27,000 of 36,500 55-gallon drums had been shipped to WIPP and other facilities that accept low-level waste. Accelerated Retrieval Project (ARP) VIII is now underway with about 61 percent of waste retrieved. Construction has begun on ARP IX, the last of the ARPs, and DOE expects completion sometime in 2020.

Fred Hughes (Fluor Idaho) commented that he is happy to be in Sun Valley and looks forward to a good meeting. He provided the following highlights since the Board's June session: Phase I at the Integrated Waste Treatment Unit (IWTU) is now complete, and Phase II began the week of October 17; EBR shipments (spent fuel) out of the basin have been doubled; .2 acre of buried waste was exhumed in October alone at the ARPs; 250 drums and 140 boxes are left to retrieve at Advanced Mixed Waste Treatment Project (AMWTP). Hughes concluded that Fluor Idaho employees have made significant progress in recent months.

Recent Public Outreach Activities

Zimmerman reviewed recent public involvement activities. The presentation is available on the INL Site EM CAB website: inlcab.energy.gov.

Idaho Cleanup Project Overview

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

Bohrer asked, hypothetically, how DOE Idaho would prioritize an added \$20 million to its budget. Zimmerman responded that there is little DOE could do that it is not already doing, but with additional funds they would look at stored waste and see how they could ramp up additional or accelerated treatment capabilities; it is the next milestone and the one that is currently at risk. The stored and buried wastes are

both in fairly safe states. Most stored waste has been retrieved. At this point, acceleration would come on the treatment side.

Borher asked what would happen if 10 to 15 percent of DOE-ID's funding was taken away. Zimmerman responded that it would be very difficult and have significant impacts on the progress of stored waste. Stopping IWTU or buried waste retrieval would be unacceptable.

Betsy McBride (CAB Member) asked if DOE-ID has the resources they need for the boxline and asked for an update on maintenance and infrastructure improvements. Zimmerman responded that much progress has been made on that project. In order to reduce the amount of maintenance, one Brokk has been replaced and installation of the second is underway. The new Brokk was transitioned to operations on October 1 and is performing better than expected; it has made significant improvements to productivity. This updated equipment will positively impact needed maintenance and down time. The second Brokk should be in by December. The Board can expect to see substantial improvements going into next year.

Bohrer commented that replacing the Brokks in the boxline is not a trivial operation; it is very difficult radiological work. He commended DOE-ID and Fluor Idaho for this achievement, and particularly for performing this work safely. DOE and its contractors have done a lot of good work at the Site, but protection of the workers is the best work they've done. He added that he appreciates the attention to detail it takes to make that happen.

Zimmerman thanked Borher and responded it is on the order of hundreds of thousands of entries that have been made and there have only five contamination incidents, none of which have posed significant risk to the worker. These workers go into an environment that most people working in the radiological industry never see. He added that these successes should be celebrated more than they are.

Marvin Fielding (CAB Member) asked Zimmerman to elaborate on the pictures on Slide 15 of his presentation. Zimmerman directed the discussion to Slide 16. Test Reactor Area (TRA)-75, is a new site with a small amount of contamination from a leach bed pipe that was exhumed and disposed of at the Idaho CERCLA Disposal Facility (ICDF). The pictures show those activities.

Koch clarified that it was not a leach pit, but an air handling system. Large filter banks inside the building contaminated the soil with lead which needed to be excavated. The excavation was successful and levels are now below the lead standard. Even though it is at Waste Area Group (WAG)-2, it went under WAG-10 and was cleaned up under the new site ID process. It was put under the 1008 Record of Decision (ROD) along with other new sites. Zimmerman asked if it was buried material used to collect whatever was in the gas or waste stream. Koch said no, the filters were meant to collect air from the Advanced Test Reactor (ATR), but lead was found in the materials beneath the filters, so they excavated the area and buried the soil at ICDF.

Cathy Roemer (CAB member) asked Zimmerman to break down Slide 15. Zimmerman responded that when they sample the monitoring well, they must purge the water out of that well. They collect it, sample it, and then assuming it meets all the criteria, put it back into the ground water. However, they didn't have the results back before they did that. When they did get the results back there were 29 picocuries per liter, which would not have met the criteria to go back into the well. It was an individual error as the technician did not follow the procedure for this process. Zimmerman added that he believes this is the first time this has happened.

Fielding asked what the purpose and target of ARP IX is. Zimmerman responded that it is the last ARP and will be constructed over the remaining area of the 5.69 acre milestone. It is a containment structure that, once built, will cover the exhumation process so the material is not released to the environment.

Borher commented that the work-off chart on Slide 22 is a good representation of cost avoidance. He added that he does not believe the Department has taken due credit for the cost savings as a result of this retrieval process. The idea to use fabric structures was developed in Idaho. A cost comparison analysis between how this kind of work was performed 25 years ago and how it is being done today would likely be revealing. It is a case where the Department and the regulators worked together and did an excellent job for the taxpayers.

Zimmerman thanked Bohrer. He commented that DOE does not have a good cost comparison, but pointed out that Idaho is the only site that has taken this approach. He stated that with the Idaho winters, there are huge gains in taking this approach, and said it offers better protection to the environment and to the workers.

Bohrer asked if the cap on the Radioactive Waste Management Complex (RWMC) is part of the WAG-10 ROD that has already been approved. Zimmerman responded that the decision to cap is approved but that the cap itself has not yet been designed. Bohrer asked if there will be public input opportunities before the cap is built or if all the decisions have been made. Koch responded that the ROD is complete and a conceptual design is on the table. The conceptual design, which has been used in many western states, includes an evapotranspiration (ET) barrier. All planned public input took place at the ROD stage and there will be no future public comment periods on this topic. They are, however, open to hearing ideas at CAB meetings moving forward. Bohrer clarified that the decision to cap or not cap was made a long time ago. Koch confirmed.

Fielding asked if a liner is proposed underneath the cap. Koch responded no; ET cap systems do not require a man-made liner as the combination can create what is called a “bathtub effect.” The system relies on a cyclical process of rain and snowfall being absorbed into enough depth and gradation of the soils, and then being transpired back out of the cap in the spring by plants above it. If something does happen to the cap (a very heavy rainstorm, erosion, etc.), some maintenance will be required. Solvent gases are still being pumped out of the buried waste as it continues to emit carbon tetrachloride after all these years. Whether or not the cap will have an active pump and treat system is a decision that must still be made. There will also be a passive system, where the diurnal change in the day changes the pressure, so gases will want to escape passively as the weather changes. A rebound study will be conducted in the future to see what happens to the concentration when the volatile organic compound (VOC) extraction system is turned off.

Zimmerman provided his concurrence with Koch’s statements, and reaffirmed that there will be stages when this information is provided to the CAB. The first presentation will likely pertain to potential sources for the cap construction materials as it will require upwards of 70,000 truckloads.

McBride commented that she would like to return to the strontium incident and asked if the water that was mistakenly put back in the well despite being above standard was pumped back out. She also asked where the water that does not meet standard goes and if DOE is clear about the source. Zimmerman responded that it was a surprise, but not a big surprise. Usually purge water from those sample wells goes to ICDF where there is an evaporation pond capable of dealing with it.

Marc Jewett (Fluor Idaho) added that it is water collected inside the Trichloroethylene (TCE) ground water plume. There are strontium 90 concentrations within that plume. The remedy decision for strontium is to allow it dissipate and attenuate naturally. There is no treatment obligation to do anything with that strontium as it comes out of the aquifer to be treated for the TCE. There is a treatment plant that handles the TCE and the water that goes through the plant is then reinjected into the aquifer, and any strontium 90 concentrations that are along for the ride, came from the aquifer and go right back in. The same principle applies to the wells that are sampled. There are some criteria for how the well water that is collected needs to go into the plant and then be reinjected into the aquifer. Some blending ratios must be achieved as that water is removed and

then brought back to the plant. The error was in the blending ratio for bringing this water into the plant. It always goes back into the aquifer, the same mass that came out goes back in.

Koch further clarified that the Idaho Department of Environmental Quality (I-DEQ) has an agreement with the Idaho Department of Water Resources (IDWR) and they control groundwater injection in the state of Idaho. IDWR does not advocate putting something back into the Snake River Aquifer that is over the EPA drinking water limit. An agreement was reached, however, that it is the only way to clean up the TCE. Cesium and strontium are along for the ride as Jewett said. There is a treatment system for the radionuclides, so they must be diluted back to their maximum contaminant level (MCL). This dilution process did not properly occur with the strontium incident. DOE presented a corrective action plan to the State and EPA. The State approved of that plan.

During the transition break between the ICP Overview presentation and the IWTU Update, Bob Pence (DOE-ID) introduced David Borak (DOE-EM) to the audience. Borak is the Designated Federal Officer for the Environmental Management Site-Specific Advisory Boards (EM SSAB) around the complex. Zimmerman is the Deputy Designated Federal Officer and operates under delegated authority from Borak to administer the Idaho CAB. Borak periodically goes into the field to observe the various CABs and their performance. He was with the CAB during the annual Administrative & Preparatory Session and provided a Federal Advisory Committee Act (FACA) training which was well received. DOE-ID and the Board are glad to have him in Idaho.

Integrated Waste Treatment Unit (IWTU) Update

Zimmerman provided an update on the IWTU project. The presentation is available on the INL Site EM CAB website: inlcab.energy.gov.

Roemer asked what areas of expertise the new team of scientists has that will elevate the level of hope for a successful outcome at IWTU. Zimmerman responded that many of the problems being dealt with now were identified by the previous contractor as low-risk possibilities. Fluor has taken a different approach: They are testing the solutions outside the facility. Chemical process operations are really at the core of Fluor's capabilities. Hughes added that Fluor Idaho reaches back to Fluor Corporate for expertise. Leading chemists, system experts, engineers, and even mining experts are being consulted on various aspects of IWTU. Roemer asked if the project is so unique the issues aren't solvable. Hughes replied that he fully anticipates being able to solve the problems.

Bohrer commented that he understands the reluctance to discuss the start-up date, but asked for a loose projection of schedule, in terms of months or years. Zimmerman responded that he will not talk dates until they fully understand the issues and their solutions, which will be developed over a period of months. A more realistic start-up date will depend on upcoming simulant runs.

Bohrer noted that IWTU was obviously not ready for prime time when the previous contractor proposed it, and DOE accepted it as the method of treating this waste. This is not the first time DOE has had an issue with inadequate technology development. What is DOE doing to determine the root cause of the failure of this process, its contractors and DOE, and to develop a plan to prevent its reoccurrence? Zimmerman responded that a lot of that work has already been done. Over the past decade, there have been many project management improvements and technology development requirements issued that will prevent this from reoccurring. This was sold as a mature, commercial technology, but it quickly turned into one-of-a-kind, off the shelf technology. In this scenario, it is wise to invest up front as it is less expensive in the long run. Bohrer asked if a lessons learned report will be issued. Zimmerman responded that a lessons learned was

developed in response to the 2012 event, and DOE is looking at an independent review associated with what has happened to date with IWTU.

Talia Martin (CAB member) commented that she is curious about the technical aspects of testing at the Hazen Pilot Plant. She asked if the pilot plant testing that occurs during Phase II will be of the entire operation. There are clearly issues with the Denitration Mineralization Reformer (DRM), but the Board has not heard much regarding off gas problems. Zimmerman responded that some problems were found and corrected in off gas. As part of its due diligence, Fluor Idaho went through with an expert team and looked at the key systems like the off gas system and blowers to see if those problems were isolated and corrected. They concluded that those systems are now functioning as intended and the problems had been corrected. The simulant testing to date has identified the unsolved issues, which are isolated to the DMR vessel.

Bill Roberts (CAB Member) asked Zimmerman to talk about sodium-bearing waste. What is it, where is it, what is so bad about it? Zimmerman responded that it is primarily a product from recycling spent nuclear fuel, but in this case it is the dregs of that process. Much of it is second or third cycle process material that contains complicating chemicals. The sodium component came from decontamination solutions. As systems, piping and vessels were decontaminated, the radioactive materials and the sodium hydroxide material wound up in these tanks. The sodium is what makes this work so complicated.

Jim Huston (CAB Member) asked how long IWTU is expected to run once the date is met for proven capability. Zimmerman responded that it will depend on the sustainable flow rate, which relies on how inhibitive the bark is. Experts do not believe they can eliminate it entirely, but the goal is at least 90 days of run time, with 30 days of down time. It would end up being 18 months to 2 years total. Optimum design was supposed to be 9 months, but at this point 18 months to 2 years is perhaps achievable.

McBride asked if there is a plan to treat waste from other sites. Zimmerman responded no, there was never a design for that.

Waste Isolation Pilot Plant (WIPP) Update

Tim Runyon (DOE) provided an update about the WIPP Facility. The presentation is available on the INL Site EM CAB website: inlcab.energy.gov.

Brad Christensen (CAB Member) asked what an acceptable timeline for restart would have been before the incident at WIPP occurred. Runyon responded that it is a difficult question to answer as he does not believe there was a set period previously determined.

Roemer commented that she is interested in the human factor and asked if new staff has been brought in, if that was necessary, and if there is now more of a focus on the workforce and the training over and above the equipment. Has that been recognized as the cause of error to a large degree? Runyon responded that the waste handlers did not make any mistakes. The problem was caused by the packaging of a particular drum of material. The waste handlers did an excellent job. That said, there are new challenges for those workers. Initially, eight weeks of cold operations training were planned and the workers wound up doing it for 12. They wanted to ensure everyone was comfortable with those operations.

Bohrer commented that the meeting was running behind schedule, and the CAB would soon need to take a break. He asked Runyon to elaborate on the remaining steps for WIPP to once again accept shipments so Idaho can resume shipping.

McBride asked how many containers there are per shipment. Runyon responded there will be 14 drums per cask and three casks per trailer, so 42 drums per shipment.

Roberts asked what is happening to the ventilation shafts while the Plant is under maintenance; with the ceiling caving in and the floor heaving, surely they will move or break at some point. Runyon responded that the current ventilation shafts are partially lined, and the new ventilation shaft will be lined which helps prevent wear and breaks. The ventilation shafts are also hoisted and bolted and inspected on a weekly basis.

Nuclear Waste Dispute

Attorney General Lawrence Wasden provided a presentation about the new Nuclear Regulatory Commission (NRC) contract. The presentation is available on the INL Site EM CAB website: inlcab.energy.gov.

Zimmerman introduced Attorney General Lawrence Wasden, Idaho's longest standing attorney general, and said this presentation is an opportunity for him to enforce an open and transparent government. Zimmerman also noted that he and Wasden do not see eye to eye on everything, but have many common beliefs. He concluded by saying that he respects the integrity Wasden brings to the position.

McBride asked if the legislature was successful in also cutting the Attorney General's budget. Wasden responded the legislature held his budget until the last day, but ultimately approved it without cuts.

Bohrer asked how Wasden interfaces with Burke's work. Wasden responded that their offices interact and they do have conversations. Burke clarified that her role is simply to ensure that DOE meets the requirements of the Settlement Agreement, she is not a signatory. Whatever the Settlement Agreement says is what she'll act on, but she does not make the decisions as to its content.

Huston asked if the door is still open for negotiation of remedies that might be satisfactory to both Wasden and DOE in allowing additional shipments. Wasden confirmed that is correct. The proper place for those spent nuclear shipments to have come is INL. Bringing in this small amount for purposes of testing would help tremendously with resolving waste issues in general. He noted that he has never cut off the opportunity for negotiations and some conversations are in process.

Christensen thanked Wasden and commented that this agreement dates back 20 years, a major provision of which was calcination of the waste. If they were to calcinate the waste, it would effectively be in compliance with the Settlement Agreement. Christensen asked if that would be satisfactory to Wasden and if it should be satisfactory to the public. Wasden responded that the Constitution of the United States is a contract that has been in existence for about 200 years. In the case of the Constitution, it is amended. It is possible to amend the Settlement Agreement as well, but it is important to recognize that the changes made in 2004 and 2011 were amendments.

Christensen referenced Wasden's analogy of the teenager's messy room and said there are many more factors at play than the child being prohibited from going to the dance because they did not clean their room. The child is trying to get it done, and it is not that he wants to go to the dance, but that he wants to make dinner for the family and the family is hungry. He urged Attorney General Wasden to continue promoting those discussions and said he hopes a solution can be found. If the sole remedy is simply that shipments of spent fuel can no longer be allowed, it may have been wrong lever in the first place. Wasden responded that he did not negotiate the 1995 Agreement. He added that he cares about the well-being of those who live in Idaho Falls, too. Christensen commented that rushing to turn on IWTU may not be the best approach.

McAfee thanked Attorney General Wasden for presenting to the CAB. She commented that the Agreement was made in 1995, 21 years ago. She asked when DOE began trying to clean up this particular waste. Wasden compared IWTU to the progress at the NASA Space Center in Florida. Advertised as the most complicated machine ever built, the space shuttle went from conception to completion in seven years. Zimmerman added that the calciner was in operation in 1995 and that was the treatment plan for all liquid waste, but a few issues developed following signature of the Agreement. IWTU was then developed in 2002 and was included in the 2004 contract with CH2M-WG Idaho (CWI).

McBride commented that Wasden has been careful to discuss the weight of the spent fuel rod shipments. There have been suggestions that besides the research spent nuclear fuel, there is other spent fuel that is connected to this dispute. Is one of the items in the original agreement, not to have Idaho be a long-term storage space for spent fuel with the exception of Navy fuel, in negotiation? Wasden reiterated the two shipments would equal 200 pounds total. He added that he is not aware of “other stuff.” What this dispute is about is nuclear waste (transuranic and 900,000 gallons of sodium-bearing high-level liquid waste) vs. 200 pounds of spent nuclear fuel.

Ground Water Update

Roy Bartholomay (USGS) provided a presentation about ground water. The presentation is available on the INL Site EM CAB website: inlcab.energy.gov.

Bartholomay commented that Nolan Jensen’s presentation continues this discussion and recommended questions be held through his presentation. The Board had no immediate questions, so Jensen began his presentation.

DOE Updated Path Forward

Nolan Jensen (DOE-ID) provided a presentation about DOE updated path forward. The presentation is available on the INL Site EM CAB website: inlcab.energy.gov.

Martin questioned the accuracy of the wording on Slide 9. She asked if it is possible that DOE and USGS will have to go back to the aquifer, or are they certain it is not there. Jensen responded they will verify by performing aquifer and tubing sampling. He added that DOE does not want to lose these wells as they are expensive to drill, so there will be periodic checks going into the future.

Martin asked if there were other commonalities between the two wells aside from them being drilled at the same time. Bartholomay noted the two wells were drilled by the same contractor and used the same fire station water for their drilling, so those wells are very comparable. They are different than the other nine in that USGS drilled those with ionized water. Jensen added that they have not always been sampled at the same time by the same people.

Bartholomay commented that they sample all wells annually, but have been to these wells every quarter since 2005. He noted that one out of the 158 ports has “gone bad.” There is no indication that these wells have that issue.

ECF Recapitalization Environmental Impact Statement

Christopher Henvit (Navy) provided a presentation about ECF Recapitalization Environmental Impact Statement (EIS). The presentation is available on the INL Site EM CAB website: inlcab.energy.gov.

Huston referenced Henvit's statement that there will be 350 construction workers and noted that the Naval Reactors Facility (NRF) is a classified facility. He asked if those workers will be segregated; those performing classified and non-classified work. Henvit responded that during the construction period, all work will be performed outside the security perimeter so those workers will not require security clearances.

McBride commented that the EIS looks great so far. She asked if anyone, at the front end, asked if it might be best to move this facility further from Yellowstone and the Caldera. Henvit responded that they analyzed performing this work at other locations on the INL in the EIS, but not other locations in the country. Location was analyzed in the EIS conducted in the 1990s prior to the Settlement Agreement and that ROD was not revisited.

Bohrer asked if this EIS covers the decommissioning and demolition of the old water pools. Henvit responded no, that will be covered in a follow on National Environmental Policy Act (NEPA) or CERCLA document. Those facilities will be operated in parallel for a number of years.

Henvit added that this project will not change the work the Navy performs at NRF. The amount of fuel being brought into the state does not change because of this project. Those shipments are driven by the nuclear fleets refueling and inactivation schedule, which can be predicted very accurately over the next 50 years. This project is essentially recognizing that the work the Navy will perform from now until 2060 needs to be done in a refurbished or new facility. Henvit said he expects that the ROD will be published by the end of the year.

Bob Bodell (CAB Member) asked how old the hot cells are. Henvit responded that they are pretty old, but were overhauled in the mid-1980s. He pointed out the difference between operating a water pool and a hot cell. Some of the important things with hot cells are the systems, like ventilation, that are easier to take care of or modernize than is refurbishing the structure that is holding back the water. The need to recapitalize the water pools ahead of the hot cells was prioritized. Bodell asked if there will be a connection between the new ECF and the old. Henvit responded that the Navy still has the ongoing examinations program. Scientists select certain pieces of fuel and that fuel is dissected at NRF. When it is cut up small enough, it is moved into a hot cell to be studied. A new facility will ensure the ability to move those pieces of fuel from that new water pool to the existing hot cells at least until the hot cell capabilities have been recapitalized.

EM SSAB Chairs Meeting Report / Transition White Paper

Bohrer provided a summary of the EM SSAB Chairs meeting held at the end of August in Las Vegas. He commented that it was a good meeting. The chairs participated in a tour of the Nevada Test Site, including a look at some of the old Ground Zero locations and the current disposal facility for low-level waste.

Bohrer recounted Assistant Secretary for Environmental Management, Dr. Monica Regalbuto's, briefing at the meeting. She commented that the communities near the EM sites provide continuity for the cleanup process; contractors come and go but workers continue to do the job they were hired to do. Regalbuto also discussed a focus on technology development and the science of safety. It is not just the workers doing a good job but a matter of performing engineering and planning ahead of time so workers are not set up to work in hazardous environments. It is worker driven. She also commented on the aging workforce and said it is crucial that young people are educated and trained to work in these environments. They must have the tools to succeed.

Boher stated that Assistant Secretary Regalbuto has a good perspective, a lot of experience in the high-level waste sphere and knows what the challenges are.

Moving on from Monica's comments, Bohrer noted that there has been a reorganization of headquarters. The EM SSAB used to be under Communications and is now back under waste programs. He noted that it does

not really make a difference to the Board, but said he'd rather be closer to the waste operation than to the public affairs operation.

Bohrer conveyed the Associate Principal Deputy Secretary for Regulatory and Policy Affairs, Frank Marcinowski's, statement that 16,000 waste shipments were made in 2015 with no reportable incidents. That is an excellent performance record of transportation of radioactive materials.

Finally, Bohrer commented that the chairs have been working on the transition paper for the next administration. He encouraged the Board to look through that transition paper, but reminded them it is not one they will vote on.

Bohrer said the August meeting of the EM SSAB was his last and that he enjoyed them; there is always good dialogue and the chairs and vice-chairs come away feeling pretty decent about it.

Public Comment

Robert Leyse, Sun Valley, commented that in the June 2016 meeting minutes McBride asked if DOE regrets having waited to begin pilot testing at Hazen Laboratories until the Inspector General suggested it. Leyse noted that he addressed the CAB a year ago, and provided a series of links that are available in the October 2015 meeting minutes. Those links show the following:

In a report dated September 11, 2006, a review commissioned by DOE-ID and chaired by David S. Cosin, PhD, reported several findings including Finding One of their report: "Documentation, data reduction and analysis are incomplete for the pilot scale testing carried out to date at Hazen Laboratories. Consequently, thorough analysis of these data has not been completed; insufficient attention to these aspects of pilot testing has been the cause of other DOE program failures." Leyse commented that IWTU can be added to those failures. Ten years ago, Hazen reporting was deficient. Leyse asked why DOE is resuming work at Hazen today. The third link reveals that on January 24, 2007, the Defense Nuclear Facility Safety Board (DNFSB) had no objections to proceeding with construction of IWTU. The first link shows that during 2014, DNFSB did not authorize operation of IWTU with radioactive feed, "A lack of assurance that the facility can safely proceed with nuclear operations..." Leyse commented that it is surprising that DNFSB did not approve nuclear operations as they should never have approved construction of the facility to begin with.

Kiki Tidwell, Blaine County, commented that she would like to share her perspective as an energy investor. She recently heard from a Saudi Arabian venture capitalist Saudi Aramco. She noted that there is no aquifer beneath the Saudi Arabian desert, while the Snake River Plain Aquifer is huge. Saudi Aramco has to construct a desalination plant and a 3000 megawatt generation plant to run it in order to desalinate their water. Tidwell stated that Idahoans are fortunate to have a large aquifer the size of Lake Erie as a state resource. It contributes greatly to job creation and the livelihoods of many. Why put any of part of it at risk to more nuclear waste degradation? She wondered if the public will look back at putting another new Naval facility atop the aquifer and regret it. Tidwell stated her appreciation that Idaho Attorney General Wasden is supporting the Idaho Settlement Agreement and encouraged the Board to prioritize the health of the Snake River Plain Aquifer and not subject it to the risk of accepting more waste or building more facilities above it.

Beatrice Brailsford, Snake River Alliance (SNA), Pocatello, commented that the SNA is perhaps the earliest, and has remained the steadiest, supporter of the cleanup program at INL. DOE is doing a good job in some areas of the transuranic program, but it would likely be completely different if 50 miles upstream from San Francisco rather than Rupert. Brailsford noted that \$9 billion has been spent cleaning up the INL, and that by the time cleanup is completed in 2042-2050, \$19-23 billion will have been spent on that effort. She stated that this is no time to relax and certainly no time to import more risk. There is still much left to be done. A lot of waste will be left at RWMC, and while it has been a terrific project, much risk remains. Brailsford

encouraged a broader outreach to the public in coming years, as they close out that cleanup project and build the cap. It is important the public knows what is there in the decades and centuries to come.

Larry Schoen, Blaine County Commissioner, thanked the Board on behalf of Blaine County for meeting in Sun Valley once a year. He said the local public appreciates the opportunity to attend the meetings, and learn along with the CAB. He commented that he believes it is most important for DOE to be transparent in all it does. There was some discussion today about whether or not the 1995 Settlement Agreement should be amended. Schoen said that is a serious step and advised against revisions. There has been a real political convulsion over what the right thing is to do. No one denies the mission of the INL, but it is important to remember the priorities. If DOE cannot live up to the terms of its agreement and then tries to do an end run around, it does not engender much trust from the public. If DOE cannot live up to the terms of its agreement, Schoen thinks it important to say so very candidly. Many people don't understand why it is taking so long to turn the liquid waste into a solid. Transparency, good communication and trust with the public should be paramount. Finally, Schoen requested that the presenters keep in mind that not all members of the public are familiar with the acronyms.

Conclusion

Zimmerman concluded the meeting.

Herb Bohrer, Chair

Idaho National Laboratory Site Environmental Management Citizens Advisory Board

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