



IDAHO CLEANUP PROJECT

CITIZENS ADVISORY BOARD

Meeting Minutes

August 27, 2020

List of Acronyms

BEA	Battelle Energy Alliance	HEPA	High-efficiency particulate air
CAB	Citizens Advisory Board	ICDF	Idaho CERCLA Disposal Facility
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act	ICP	Idaho Cleanup Project
CPP	Chemical Processing Plant	INL	Idaho National Laboratory
CRR	Carbon Reduction Reformer	INTEC	Idaho Nuclear Technology and Engineering Center
DDFO	Deputy Designated Federal Officer	ISA	Idaho Settlement Agreement
D&D	Decontamination and decommissioning	IWTU	Integrated Waste Treatment Unit
DEQ	Department of Environmental Quality	PGF	process gas filter
DMR	Denitration Mineralization Reformer	RWMC	Radioactive Waste Management Complex
DOE	U.S Department of Energy	SDA	Subsurface Disposal Area
DOE-ID	U.S. Department of Energy Idaho Operations Office	SNF	spent nuclear fuel
EPA	Environmental Protection Agency		

The Idaho Cleanup Project (ICP) Citizens Advisory Board (CAB) held a meeting on Thursday, August 27, 2020 virtually via Zoom. An audio recording of the meeting was created and may be reviewed by calling CAB Support Staff at 208-557-7886.

Members Present

Jackie Agenbroad
Josh Bartlome
Brad Christensen
Teri Ehresman
Monica Hampton
Roger Hernandez
Brandon Leatham
Talia Martin
Dick Meservey
Mark Permann
Larry Schoen
Bob Skinner

Member(s) Not Present

N/A

Deputy Designated Federal Officer, Federal Coordinator, and Liaisons Present

Mark Brown, Acting Deputy Designated Federal Officer (DDFO), U.S. Department of Energy Idaho Operations Office (DOE-ID)
Danielle Miller, Federal Coordinator, DOE-ID
Fred Hughes, Program Manager, Fluor Idaho
Mark Clough, State of Idaho
Lynne Hood, U.S. Environmental Protection Agency (EPA)

Others Present

Ann Riedesel, Fluor Idaho	Beatrice Brailsford
Bill Badger, Amentum	Jamie Eagle Speaker, Shoshone-Bannock Tribes
Christine Lee, Lemma Tech Services	Fran Blake
Trey Simmons	Kelsey Shank, the EDGE
Mike Shepherd, Energy Solutions	Lori Howell, Shoshone-Bannock Tribes
Marissa Warren, Idaho Governor's Office of Energy & Mineral Resources	John Chatburn, Idaho Governor's Office of Energy & Mineral Resources
Dana Kirkham, Fluor Idaho	Sara Schmieg, Tetra Tech, Inc.
Shelly Blackner, Butte County Clerk	Susan Stiger, Bechtel
Lauren McMurray	Landry Austin, DEQ
Natalie Creed, Idaho Department of Environmental Quality (DEQ)	Jim Malmo, DOE-ID
Keith Moore	Anna McGeehan, DEQ
Ted Livieratos, DEQ	Mark Jones, DOE-ID
Joel Case, DOE-ID	Trent Neville, DOE-ID
Kelly Green, ICP CAB Support Staff	Jordan Davies, ICP CAB Support Staff
	Bryant Kuechle, ICP CAB Facilitator

Opening Remarks

Facilitator Bryant Kuechle began the meeting at 8:00 a.m. He introduced himself, reviewed the day's agenda, and noted that the public comment period would be held at 11 a.m. Kuechle also outlined the "Rules of Zoom" for the CAB's first ever all-virtual meeting. He reminded attendees of the process for public comments during the meeting, time permitting, or via questions submitted in writing.

Brad Christensen (CAB Chair) welcomed everyone to the meeting and to cleanup in the time of coronavirus. He commented that a virtual meeting is an interesting way to approach the pandemic and said things have certainly changed since the board last met. He stated that the board was anxious to hear from the day's presenters. Christensen welcomed five new CAB members to the board and asked each of them to introduce themselves.

Dick Meservey (CAB Member) commented that he began working at the National Reactor Testing Station in 1963 and retired from the site 45 years later. During his time at the Idaho site, he worked on the development of transducers to monitor everything going on in the cores of the reactors being safety tested. He then organized and managed the decontamination and decommissioning (D&D) project under then contractor EG&G. Meservey commented that he is interested to learn, through his membership on the board, what is going on with cleanup now.

Monica Hampton (CAB Member) introduced herself as being from the Lost River Valley, currently residing in Darlington, Idaho. She commented that she works in Arco as the Economic Development Director for Butte County. She said it is good to be on the board.

Roger Hernandez (CAB Member) introduced himself as being from Chubbuck, Idaho. He commented that he retired from the Army seven years ago, now owns his own gym, and works as a substitute teacher. He said he serves on the Chubbuck City Council and that while he does not possess the technical background that some of the other members do, he looks forward to learning about cleanup at the Idaho site.

Mark Permann (CAB Member) introduced himself and said he resides in Ammon, Idaho. He commented that he has worked at the Idaho National Laboratory (INL) for current contractor Battelle Energy Alliance (BEA) for the past 14 years. Permann explained that while he works at the Lab, his background is not in nuclear but supply chain management.

Bob Skinner (CAB Member) commented that he has a background in health physics. He spent eight years in the navy and came to Idaho Falls in the early 1970s for Navy training and simply fell in love with the area. He retired from the site after 26 years. Skinner said he spent the bulk of his time at the Idaho Nuclear Technology and Engineering Center (INTEC). He commented that toward the end of his career, he was in charge of the Subsurface Disposal Area (SDA) at the Radioactive Waste Management Complex (RWMC) when it was still just a hole in the ground. Skinner said that, like Dick, he is looking forward to learning what is going on at ICP now. He said he looks forward to meeting the board members in person someday.

Christensen commented that the ICP CAB has a great line up of new board members to add to the mix and that it is good to have them on board. He said he was looking forward to a great meeting and that he hoped the Zoom platform provides an additional way for the board to interface with the public. He thanked everyone on the call for their participation.

Mark Brown (DOE-ID) introduced himself as Acting Deputy Manager for ICP. He commented that DOE would present a lot of information over the course of the day and welcomed everyone to the August meeting, especially the new members. He said that while an all-virtual meeting is not ideal, it is the safest and most prudent given the current COVID-19 conditions in Idaho and throughout the country. He added that he delivered a virtual orientation to the new members of the CAB the previous day and that he believed the

Zoom platform worked very well. Brown commented that he looked forward to updating everyone on the progress and forward planning at ICP and how the workers are dealing with this pandemic.

Mark Clough (State of Idaho Settlement Agreement [ISA] Coordinator) said he was looking forward to the day's discussions about cleanup at the Lab and added that the Integrated Waste Treatment Unit (IWTU) is always a topic of great interest. He extended his thanks to the CAB and to the public for trying this new platform. He welcomed the new CAB members and said he thinks they will enjoy this experience. Clough observed that over the last many months ICP has continued to progress the cleanup and move forward with deliberate caution consistent with the safety precautions associated with COVID-19.

Lynne Hood (EPA) introduced herself as being the Remedial Project Manager for EPA and commented that she is located in Boise, Idaho. She thanked everyone for having this virtual meeting and said she was glad it came together and that she was able to participate. Hood explained that while she has been with EPA for 20 years, she is new to the Superfund program and started as the Remedial Project Manager in November 2019. She expressed thanks to Clough, Pete Johansen (DEQ) and others at DOE for helping her get up to speed.

Fred Hughes (Fluor Idaho) introduced himself as President of Fluor Idaho. He commented that they have been very busy for the last five to six months of the pandemic and that the board would see their progress in the day's presentations. He commented that the ICP workers have continued to ship waste out of the state and make progress on IWTU. He added that he was looking forward to showing this progress and answering any questions throughout the meeting.

Recent Public Outreach

Danielle Miller (DOE-ID) reviewed recent public outreach activities. The document is available on the ICP CAB website: <https://energy.gov/em/icpcab>.

ICP Reconstitution Plan and Employee Safety

Mark Brown (DOE-ID) provided a presentation on the ICP reconstitution plan and employee safety. The presentation is available on the ICP CAB website: <https://energy.gov/em/icpcab>.

Idaho Cleanup Project Overview

Mark Brown, Jim Malmo, and Joel Case (DOE-ID) provided a presentation on the status of cleanup at the Idaho site. The presentation is available on the ICP CAB website: <https://energy.gov/em/icpcab>.

Talia Martin (CAB Member) referred to Slide 4 of the presentation and Malmo's allusion to the dimensions of the landfill cell. She asked for the size and location of the current Idaho Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Disposal Facility (ICDF) cells. Malmo promised a full presentation on the expansion at the next CAB meeting.

Martin asked if, when they are installing a new landfill, they normally put in groundwater well monitoring systems. Malmo responded yes and added that they would include more information on the groundwater monitoring systems during the presentation on the expansion at the next CAB meeting.

Larry Schoen (CAB Member) referred to Case's comment about water filtration in the spent nuclear fuel (SNF) vaults. He asked if the vaults in question are underwater. Case responded that the photo on Slide 7 of the presentation shows the SNF dry storage area at Chemical Processing Plant (CPP)-749. Here, there are two generations of vaults. While the second generation is holding up well, the first-generation vaults are prone to some water ingress in the spring from snowmelt. Because the fuel is very radioactive, hydrogen is created when it comes into contact with water. Case explained that the ingress was discovered a couple years ago and is being monitored very closely. Active ventilation dries out the water and addresses the immediate hydrogen issue. DOE is planning to move the fuel from the first-generation vaults out of that bad condition and place it in similar storage using second-generation vaults, which have a better design.

Schoen referred to the photo and asked for confirmation that each yellow piece signifies a cap to a vault. Case confirmed. Schoen then asked if radiation is escaping from the top of each vault. Case responded that from a radiation exposure standpoint, there is no undue radiation leaking from the vaults.

Schoen asked Case to describe the containers the fuel is stored in. Case responded that DOE has diagrams of the storage configurations and took an action to share those diagrams with the board.

Clough clarified that fuel is not sitting in water dissolving. Radiation and contamination are two very different things. Radiation that passes through steel shielding is mitigated by being underground, so the people standing near the vaults in the photo are not receiving a high dose of radiation.

Josh Bartlome (CAB Member) asked if there is enough condensate that it requires treatment. Case responded that they have been using fans to dry the condensate, which has been working very well, and they have not seen any contamination that requires treatment.

Bartlome asked if corrosion of the baskets within the vaults is a bigger concern than the condensate. Case responded yes, the corrosion of the baskets is a larger concern. While the fuel is fully encased in its own canister within the basket, the baskets are used to pull the fuel out of the vaults, so it is important that they remain intact for ultimate repackaging and disposition.

Schoen referred to Case's assertion that fans are used to dry the moisture from the vaults, and said that would imply evaporation. He commented that if the evaporated moisture is not removed from the vaults, then it is remaining, and asked where it is going and if it contains radioactive qualities. Case responded that the vaults are filtered and there is no contamination. They breathe and vent out the top.

Brown clarified that when DOE noticed the condensation in the vaults and perhaps water intrusion, one of the first things the contractor did was to install high-efficiency particulate air (HEPA) filters on the lid closure mechanism allowing the vaults to breathe naturally through a high-efficiency filter. Because of that, and the dry climate out at the site, the vaults do not retain the moisture but naturally dry through the HEPA filter.

Schoen asked if there is radioactivity in the gas. Brown said no.

Meservey asked if there is any concern that the canisters containing the fuel are corroding. Case responded that they have seen no indication of that.

Public Comment Session

No one signed up to provide public comment during this time.

IWTU Update

Joel Case and Trent Neville (DOE-ID) provided a presentation on IWTU. The presentation is available on the ICP CAB website: <https://energy.gov/em/icpcab>.

Schoen asked Neville if the term "pressure differential" is another way of saying "clogged filters". Neville confirmed.

Schoen asked Neville to explain the difference between filters and fuses at IWTU. Neville referred to the diagram on Slide 9 of his presentation. The ceramic filter element is on the outside and separates the dirty upstream side coming straight from the Denitration Mineralization Reformer (DMR). The ceramic filter creates the torturous path for the off-gas that mechanically filters any particulates that are carried over. Those particulates are filtered out and build up on the outside of the ceramic filter element. The process gas continues to make its way through the ceramic filter element, which is a cylinder. Inside the cylinder is the fail-safe fuse. If the ceramic filter broke without the fuse, the system would immediately bypass the filter and solids would carry over from the Process Gas Filter (PGF) downstream to the Carbon Reduction Reformer (CRR). In between the filter and the clean side are the fail-safe fuses. They are a very fine metal-

based mesh. If the filter failed, the fuse would perform the filtration function and prevent any solids from moving over.

Brown clarified that the fuses were not credited in the IWTU safety basis at all. The original design for the PGF did not include the fuses, but the metal filter vendor provided the fuses with the filters as part of an integrated unit. DOE has operated the facility in different configurations with and without the fuses, and based on that testing has determined it is not viable to use the fuses in their normal configuration anymore, which is why Neville explained that the fuses will be bypassed.

Neville showed the process flow map on Slide 3 of his presentation. He explained that the PGF is the first filter the process off-gas comes to. There is no treatment, just mechanical filtration. As far as mitigating activities, they are working to ensure the elements are not broken when installed. DOE and Fluor Idaho are also developing rigorous post-installation inspections, including video inspection and pressure testing, to ensure there are no broken elements.

Bartlome said he appreciated the presentation and hearing that simulant will be a mainstay in startup operations. He asked what percentage of the ceramic filters DOE is finding to be faulty or broken and if that is because the ceramic is so brittle, because they are damaged during installation, or if it is really a quality control and manufacturing issue. Neville responded that the brittle nature of the ceramic is to blame and that handling of these brittle elements is the issue, not quality control or manufacturing.

Bartlome asked how large the fractures typically are and if there is any leeway. Does even the slightest damage constitute a full replacement? Neville responded that the process would not notice a very small fracture, like a microcrack. A significant number of the ceramic elements, on the order of 20 percent, would need to crack around the entire circumference and create a gap to result in any major problems for the plant.

Meservey clarified that eliminating the fuse merely eliminates some extra protection on the high temperature end of things. He asked for confirmation that IWTU would be monitoring the off-gas anyway and could shut down if anything were to go wrong. Neville confirmed and said the things they do on the front end to ensure the filters are not broken prior to putting them into service is key. Testing has shown that once a filter is in service and running, it will not break in service. It is the physical movement and shock that damages them.

Clough reiterated that the initial safety basis for IWTU emissions testing did not include the effects of the fuse at all. Removing the fuse does not reduce what the plant was going to depend on in the first place. Neville agreed and restated that the fuses were never credited with preventing any carryover that might cause adverse impacts to the worker, environment, or personnel.

Schoen referred to Slide 14 and asked Neville to explain what a vault is in the terms of this process line. He noted what appeared to be a manway for human access inside the vault and asked why workers would be sent in rather than robots. Neville referred to the IWTU process flow chart on Slide 3. He said that after cannisters are loaded in the can fill cell, they are lifted and moved with a remote-controlled robot and lowered into large concrete vaults that are about 16 feet by 16 feet. The cannisters will remain in these interim storage vaults until they are sent to a repository.

Neville, addressing Schoen's question about a manway for human access, explained that the concrete storage vaults themselves are designed to reduce radiation levels down to acceptable levels. Humans use the manway to verify there is not any contamination, after following standard radiation practices prior to entry.

Meservey commented that at some point in the past, DOE was placing a lot of emphasis on the design of nuclear facilities to facilitate decommissioning. He asked if there was an effort to assist with that when DOE designed and constructed the IWTU facility. Brown responded that all process cells are coated with paint and epoxy and added that one of the things they did during this outage is paint a lot of the surfaces surrounding the cannister loading cells so they could more easily be decontaminated if necessary. Meservey asked about disassembly when IWTU finishes its mission. Brown said that disassembly will still be problematic because reach tools will be needed. He commented that they have a mock-up facility at

Diversified in Idaho Falls where workers have been practicing these contaminated-type activities in a clean environment.

Hernandez asked how long the vaults could be used for storage. Brown responded that the vaults themselves are designed to last in excess of 50 years. There is no concern about long-term storage. However, DOE's goal is to have the cannisters in interim storage in the vaults only until they can be shipped offsite to a permanent repository. Neville added that the stainless steel cannisters containing the product will last several hundred if not a thousand years.

Closing Remarks

Christensen thanked Kuechle and all the presenters. He commented that while not preferable, an all-virtual meeting proved successful. He said it was encouraging to see that not everything had been at a complete standstill. Christensen congratulated Neville on a great presentation on IWTU, saying it was the best he's received on the topic during his time on the CAB. He again stated his excitement about the new members.

Teri Ehresman (CAB Vice-Chair) echoed Christensen's comments. She welcomed the new members and thanked DOE for the opportunity to learn what has been going on the past six months.

Conclusion

Brown concluded the meeting.

Brad Christensen, Chair
Idaho Cleanup Project Citizens Advisory Board