



# IDAHO CLEANUP PROJECT

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

## **Meeting Minutes**

April 29, 2021

## List of Acronyms

AMWTP	Advanced Mixed Waste Treatment Plant	IDWR	Idaho Department of Water Resource
ATR	Advanced Test Reactor	INL	Idaho National Laboratory
BLM	Bureau of Land Management	INTEC	Idaho Nuclear Technology and Engineering Center
CAB	Citizens Advisory Board	ISA	Idaho Settlement Agreement
DDFO	Deputy Designated Federal Officer	IWTU	Integrated Waste Treatment Unit
D&D	Decontamination and Decommissioning	NRF	Naval Reactor Facility
DEQ	Department of Environmental Quality	RWMC	Radioactive Waste Management Complex
DOE	U.S Department of Energy	SEP	Supplemental Environmental Project
DOE-ID	U.S. Department of Energy Idaho Operations Office	SNF	spent nuclear fuel
EM SSAB	Environmental Management Site Specific Advisory Board	USGS	U.S. Geological Survey
EPA	Environmental Protection Agency	WIPP	Waste Isolation Pilot Plant
ICP	Idaho Cleanup Project		

The Idaho Cleanup Project (ICP) Citizens Advisory Board (CAB) held a meeting on Thursday, April 29, 2021 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  
Brandon Leatham  
Talia Martin  
Dick Meservey  
Mark Permann  
Larry Schoen  
Bob Skinner

**Member(s) Not Present**

Roger Hernandez

**Deputy Designated Federal Officer, Federal Coordinator, and Liaisons Present**

Connie Flohr, 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  
Pete Johansen, Idaho Department of Environmental Quality (DEQ)  
Lynne Hood, U.S. Environmental Protection Agency (EPA)

**Others Present**

Kelsey Shank  
Donovan Robinson  
John Chatburn  
Bill Badger  
Susan Stiger  
Bret Griebenow  
Mike Shepherd  
Mark Hutchison  
Ian Cotton  
Samantha Hendricks  
Gene VanPelt II  
Laurie Hernandez  
Dave Swale

Devon Boyer  
Curtis Roth  
Landry Austin  
Hannah Young  
Clark Jones  
Laurel Smith  
Corey Chun  
Beatrice Brailsford  
Tammy Hobbes  
Betsy McBride  
Jordan Davies, ICP CAB Support Staff  
Kelly Green, 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 outlined the "Rules of Zoom" for the CAB's virtual meeting. Kuechle also noted that there were public comment periods that had been identified in advance; however, since no one signed up by the deadline there will be no public comment period during the 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 CAB meeting. He said that it was nice to see everyone virtually, but he was sad the CAB did not meet in person in Boise. He had been advocating it for a number of years but it didn't happen because of COVID-19. With his membership term concluding in August, he said he would visit next year if the CAB meeting gets rescheduled in Boise. He reported that he had a good meeting with Teri Ehresman (CAB Vice-Chair) at the Environmental Management Site-Specific Advisory Board (EM SSAB) meeting, where they were able to interface and pass along information about what is happening in Idaho. Christensen said it was a great opportunity to interface with others in the same role. He commented that he was looking forward to the day's agenda, particularly the presentation on the Idaho Settlement Agreement (ISA).

Connie Flohr (DOE-ID) welcomed everyone and said she was sorry they could not meet in person in Boise. She said that it was a federal decision, and that they were just not at a place where they could travel freely yet. She acknowledged it was Larry Schoen's last meeting and thanked him for his service and his work on several recommendations during his time on the board. She said he had brought a unique perspective to the CAB as an elected official. She also announced that it was Jim Malmo's (DOE-ID) last meeting and wanted to wish him well in his retirement. Flohr let everyone know that Mark Brown had been selected as the Deputy Manager in the ICP Office as of last Monday and she encouraged everyone to welcome him. She said she would miss part of the meeting because she had to brief Acting Assistant Secretary for the Office of Environmental Management (EM), Ike White, on the Integrated Waste Treatment Unit (IWTU) schedule and the procurement process. She reminded everyone that DOE would not be answering questions about the contract transition or the procurement as it would be inappropriate to discuss. Finally, Flohr noted that DOE had extended Fluor Idaho's contract until the end of September.

Mark Clough (State of Idaho) introduced himself as the ISA Coordinator and said he was looking forward to the presentation on the Settlement Agreement and to meeting in person in the future when circumstances support it. He welcomed the public and the CAB members and said it was always good to hear their opinions. He commented that DOE and CAB leadership did a good job putting the agenda together. Clough said it is good that Flohr is meeting with White. The State of Idaho is always watching the IWTU project closely, is glad it has continued to make progress during this difficult time, and appreciates efforts of DOE and the contractor. He congratulated Brown on the position of Deputy and thanked Larry for his service on the board.

Pete Johansen (Idaho Department of Environmental Quality) said he was glad to participate in the meeting. He reported that the 5-year review was completed recently, which was a major effort on the part of DEQ, DOE, and EPA. He commented that he was looking forward to the CAB meeting.

Lynne Hood (EPA) thanked the board for having her. She said that while she had been looking forward to meeting in person in Boise, she was glad to be meeting everyone virtually. She commented that she looked forward to talks on the agenda and encouraged the CAB members to ask questions.

Fred Hughes (Fluor Idaho) said they are continuing to make progress on IWTU and processing waste at the Radioactive Waste Management Complex (RWMC) and Advanced Mixed Waste Treatment Project (AMWTP) despite the pandemic's best efforts. He congratulated Brown and told Schoen he was sorry to see him go – he asked some really tough questions during his time on the CAB.

Bryant said that they had a full CAB attending the meeting, other than Roger Hernandez who had a conflict. He said Danielle Miller (DOE-ID) was having technical difficulties, so she was going to provide the recent public outreach update later in the agenda.

## Idaho Cleanup Project Overview

Connie Flohr, 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>.

Flohr asked Hughes to add a few words about Fluor Idaho's safety efforts. Hughes said they did a two-day standdown about safety and protocols to refocus the employees along with a month's worth of deliberate operations where they took it slow and had to have supervision and management out in the field during all work. Rates have come down since that time. Hughes reported that they had not seen a recordable incident since then. With respect to the pandemic, he said that some of his employees were tired of COVID protocols. They had a couple step backs and employees were asking for ways to relax mask-wearing. Fluor Idaho held three or four virtual townhalls with employees and doctors to explain where things stand with the pandemic and vaccinations and how to manage stress and anxiety. Hughes said he handed out close to 1,000 books to employees on how to handle different types of situations. They are trying to minimize the impacts of the pandemic and to also get safety performance levels back up to where they should be.

Schoen asked if the number of shipments to the Waste Isolation Pilot Plant (WIPP) shown on the left-hand side of the chart (29) was from 2021 or total. Malmo responded that it was from this fiscal year, so the number is changing, but was correct as of the end of March.

Schoen asked how much waste had been shipped over how many years prior to the WIPP closure. Malmo said he would have to go back and look at the number at that date, but they were shipping 17 shipments a week, so there was a lot of volume before 2014.

Schoen asked Malmo to explain why there is so much variability and why it is accelerating on the chart showing FY 21 thru FY 28. Malmo said that in 2014, Idaho was making all 17 shipments a week that WIPP could receive from the complex. In that timeframe, Idaho should have been averaging 450 to 500 shipments per year. After the WIPP accident, the plant was only receiving three to eight shipments a week depending on operations for the complex. Even now, WIPP only receives five shipments a week from the whole complex, where it used to be 17. Malmo explained that the numbers in the chart reflect shipments at that rate.

Malmo continued on to say that as WIPP gets operations back online and completes the ventilation system to increase airflow in the mine, they will be able to do waste emplacement concurrently with salt removal and digging rooms to stay ahead of waste emplacement. They are doing two of three things they need to be doing at the same time. They need to dig new rooms to put waste in, continue to do maintenance on the mine for safety, and perform waste emplacement. In 2017, they could do all three at the same time. Since 2014 they have been doing them in a series rather than in parallel. So that drops shipments down. Starting in 2023 and beyond, they are ramping back up to perform all three operations in parallel which will allow more shipments, with the ultimate goal of reaching 17 shipments per week for the whole complex.

Clough asked Case to clarify that with the type one canisters, the water only affected the basket that holds the canister, not the canister itself. The fuel is in no risk of coming out. Case affirmed that the fuel is intact and is in no danger of coming out. He explained that the basket is what holds the canisters. There has been no leakage or release of fuel. Eventually, the canisters will need to be removed which could be more difficult if the baskets are corroded. However, DOE did a visual inspection of five high-risk baskets and sampled the off-gases to see if they indicated corrosion. All five are in good condition, but they still need to be retrieved because they are not in a good storage configuration.

Schoen referred to the chart regarding FY 21 plans that show transferred and planned. He commented that it appears DOE will move it all this year and asked if he is correctly interpreting the chart. Case responded

that every fiscal year they have a transfer plan. The plan is 12 for EBR II. They planned six so far this fiscal year, and so far they have done six. ICP does have Advanced Test Reactor (ATR) fuel that is stored in Chemical Processing Plant (CPP)-666. They also take transfers from the reactor. They planned 22 for ATR, but have only done four. That is increasing. Case commented that covid has affected their progress as they were down to just one crew in March. He added that while they do track the fiscal year, it is on a curve. Progress is monitored and reviewed monthly. Case concluded by saying they are about four to six months ahead of schedule for the FY 23 milestone.

Schoen asked if the numbers are units of canisters or baskets of canisters. Case responded that they refer to transfers in the transfer cask. He noted that he is not sure how many capsules are in each basket, but a number of fuel elements can be put in a transfer cask. It represents a number of fuel elements for EBR II for each transfer cask. Case offered to provide additional information at a future meeting.

Schoen commented on looking at the Analysis of Alternatives (AoA) for the newer members. The CAB recommended that DOE revisit the AoA and reconsider especially the vitrification process. He said that if CAB members ever wonder about the effectiveness of their recommendations, this is a shining example how much they matter. The CAB made a good recommendation and DOE has followed through.

Christensen asked if the leaking cask is new this quarter or old information. Case reiterated that there is no leakage, but that there has been some moisture collection and water ingress. He added that the cask vents now to prevent that and that the baskets have been stored for a long time. They don't want baskets to corrode because they will be more difficult to remove. Case said they had been talking about it for a while in the updates, but finally got the inspections done. Hopefully in the future DOE can share more about the transfers.

Malmo followed up on Schoen's earlier question. He commented that when the WIPP incident occurred in 2014, about 49,000 cubic meters had been shipped out of Idaho. Since then, it has increased up to 60,000.

## **Integrated Waste Treatment Unit Update**

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

Kuechle read a question that had been submitted via the chat function from U.S. Geological Survey (USGS): When you say you are using nitric acid wash, will the wastewater from the nitric wash be released into infiltration ponds southwest of the Idaho Nuclear Technology and Engineering Center (INTEC) or somewhere else? Case responded that it will get recycled back in for reprocessing. It will all be self-contained.

Hughes clarified that since the granulated activated carbon (GAC) beds weren't on a critical path, they replaced both GAC beds because they had enough material.

Ehresman asked if, with the 10-month delay, DOE could provide a rough new timeline. Case responded that they are still working the schedule, but hope to finish the outage this summer. He told the CAB members they could calculate what the assumptions are from there as they are at the tail end of Outage J.

## **Public Comment Session #1**

None. Kuechle reiterated that no one signed up for public comment. He reminded everyone they could submit public comment in writing by emailing Jordan Davies (CAB Support Staff).

## **History of the Idaho Settlement Agreement (ISA)**

Darrell Early (Idaho Deputy Attorney General) provided a presentation on the Idaho Settlement Agreement. The presentation is available on the ICP CAB website: <https://energy.gov/em/icpcab>.

Richard Meservey (CAB Member) commended Early on an interesting presentation.

Christensen said he especially liked hearing more about the recent history and thanked Early for the comprehensive overview. He noted that it seems better than it did at one time when he first joined the CAB.

Early said that back in the 1990s and 2000s the relationship with DOE was a little rocky. He said that at that time the trust element was not there. Today a lot of that trust has been built back and the relationships are better. The Attorney General is very confident with Fluor's work at the site these days and has said the communication is good with Fluor and he is happy with the transparency. Early said he hopes for a positive continued relationship with the future contractor and DOE so they don't find themselves in a bad place again.

## **Naval Reactor Facility Decontamination and Demolition Activities**

Nicole Badrov, Chris Henvit, and Dave Eaton (DOE-ID) provided a presentation on Naval Reactor Facility (NRF) decontamination and demolition (D&D) activities. The presentation is available on the ICP CAB website: <https://energy.gov/em/icpcab>.

Flohr said the new contract is structured so that work is performed in task orders. One of the task orders will be D&D work for NRF, giving DOE a good opportunity to reallocate resources. NRF D&D work will likely continue for a long time, so workers from the ICP side can be transitioned to NRF.

## **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>.

Schoen referred to the upcoming presentation to the Butte County Commissioners and asked if it is DOE's intention to provide similar types of meetings with other county commissioners in the region. Miller responded that these briefings are usually done by request and Butte County asked for a briefing. They are usually very interested in what is going on and request briefings a few times a year.

## **Supplemental Environmental Projects**

Nicole Hernandez (DOE-ID) provided a presentation on Supplemental Environmental Projects (SEPs). The presentation is available on the ICP CAB website: <https://energy.gov/em/icpcab>.

Martin said SEPs are a pretty exciting topic. She recognized they are based on penalites, but said a lot of good work comes out of this program. She asked how they request proposals from local organizations or local governemnts. Does DOE go directly to the people and pick them out or do they put out a funding announcement? How do they prioritize if they get a lot of proposals?

Hernandez said they don't advertise or put out a request for projects. Many SEPs come from suggestions from DEQ, Idaho Department of Water Resource (IDWR), or Bureau of Land Management (BLM) because they know of projects that need to be done. Hernandez said she knows that members of the CAB have heard of projects that might need to be completed, so some projects have come through the CAB. People can also call the department's public affairs office and get ahold of her with ideas. DOE can also get proposals from other entities, like nonprofits. While the amount (2.19 million dollars) sounds like a lot, it is not really that much money when it comes to doing projects.

Hernandez continued on to say that a key component of determining the prioritization of projects is whether they meet the guidance from the state and EPA, and if they have a connection to the reason for the penalty. This is usually groundwater protection. The covid projects apply to protection of human health, which is another of the criteria. Projects must have a schedule and succinct scope, so they can track progress.

Bob Skinner (CAB Member) said he's glad the money is being spent on a lot of great projects. He recommended that DOE work on getting this good news out to the media as it sounds like the money is helping people throughout the state. Hernandez said she would work with DOE-ID Public Affairs to see if there is a way to do a public article on what they have done. She said they would have to be sure to attribute it to the penalty and recognize it that way.

Flohr said she asked the same question several years ago. She was told DOE could not take credit for the projects because they were penalty driven. However, she offered to take another shot at seeing if they can weave a positive story out of it. She would rather see the money going to good things in the area than just writing a check and not knowing where it's going.

Betsy McBride, member of the public, asked if local governments can apply for this money. Hernandez said yes, they can provide a proposal. DOE has done work with the cities of Ammon and Idaho Falls and the Snake River School District.

Schoen said the penalty money remaining in Idaho is a positive story. He added that he would have thought DEQ would be coming up with projects, in particular regarding Snake River water quality. There are a lot of issues with the water quality below American Falls. Hernandez replied that DEQ has approached DOE and proposed a number of projects. One project involved giving money to the Western States Fund. She commented that DOE is certainly open to anything DEQ would recommend.

Christensen asked who ultimately makes the decision. Hernandez responded that DOE will make a proposal to DEQ and DEQ has final say. Christensen asked if a body or a single entity within DEQ makes the decision. Johansen took an action to obtain more information about the process and share it with the CAB.

## **Hydrology of the INL Site and geologic formations of the Snake River Plain Aquifer**

Roy Bartholomay and Mary Hodges (USGS) provided a presentation on the hydrology of the Idaho Site and geologic formations of the Snake River Plain Aquifer. The presentation is available on the ICP CAB website: <https://energy.gov/em/icpcab>.

Schoen said he was on the Snake River Plain Aquifer subcommittee. He commented that the CAB has heard a lot about injection wells at TAN, but this is the first time he recalls hearing about infiltration ponds. He said that he defines an infiltration pond as a settling pool where things can seep into the water. He asked for more information about them. Bartholomay responded that since the 1990s, with the Clean Water Act, infiltration ponds have been widely recognized as a bad idea. The cleanup process, rules, and regulations that USGS and DOE follow have changed greatly in 30 years. However, some old infiltration ponds do still exist at ATR. Bartholomay said they are working to prevent contaminants from moving underground and reaching the aquifer.

Schoen reiterated that he did not remember ever discussing infiltration ponds at the site. He asked if the CAB had heard briefings about monitoring of the ponds. He added that he always thought the depth of the injections wells was above the static water table, which has maybe been contradicted today. He said that Bartholomay, in his presentation, just gave the CAB two pieces of information with enormous significance in terms of groundwater monitoring.

Bartholomay commented that USGS and DOE have have been monitoring around the infiltration ponds for a long time. Even when new ponds were put in for wastewater at INTEC, perched wells below those ponds and aquifer wells upgradient and downgradient monitor the ponds to see if they are affecting water quality of the aquifer. The system around the ATR is comprised of perched water wells designed to monitor for the first arrival of stuff that might be leaking.



Schoen commented that Hodges's presentation was very technical, so he recapped his understanding of what they were discussing. He said he understood her presentation to mean that the paleo magnetic orientation of the samples indicate separate flows. Presumably if you have separate flows, there could be spaces and fractures, so you can identify what the transmissivity is of the whole subsurface profile. He asked Hodges if this was correct.

Hodges clarified that there really aren't any spaces. It's much too heavy so all the spaces are filled in. There are fractures that are open. The fracture zone in each basalt flow is the fast path transport zone for water. Normally transmission of water is from pore to pore. It is typically very tiny and very slow. Because sediment is so fine-grained it is practically a barrier. For the rest, though, it is in these fractures. In groundwater terms, transmission is quite fast. But compared to surface water, it is not. Hodges said they are interested in different flows because the exterior of each flow is where water and other things flow the fastest.

Bartholomay said he thought Schoen described it well. They are trying to understand how water moves for groundwater flow modeling. This geological structure of the systems will be used to better understand how water flows from the Idaho site and how waste moves. Bartholomay continued on to say that massive thick flows are like a massive basalt in that they have micropore space. Water does not move in these thick flows, which is a good thing because slowing down water means it will have time to disintegrate to daughter elements in terms of radioactivity before wastes can reach the public in the Magic Valley.

Larry asked if this type of information, like transmissivity, was considered when injection wells and infiltration ponds were sited. Bartholomay responded that injection wells were designed to be transmissive, in the hopes the wastewater would move away from the local area. Facilities were often sited based on the area's water productivity, which was necessary for nuclear reactor research.

Schoen asked Bartholomay if the underground tubes they had found were pretty transmissive, or mostly collapsed due to weight. Bartholomay responded that throughout all of their drilling experience, they have maybe found a 1 or 2 foot drop of the drill core, which indicates a possible fracture or remnant cave. Caves will be collapsed in the aquifer and filled with rubble. He noted that the rubble allows a little more movement than a thick part of the rock. Hodges added that they get filled with wind blown sediment, too, which is even less transmissible.

Skinner asked what the mechanism is for making them inflate. Hodges responded that basalt eruptions are gas driven. There is a lot of gas in magma. As it reaches toward the surface, it expands. Liquid and gas mix together inside the lava tube and become very hot. The gases are working against a solid or semi-solid exterior, so there is nowhere to go but up.

Schoen asked Bartholomay to explain why, in the slower flow areas they say two to 14 feet per day and in steeper areas they say 12 to 26 feet per day, the scale is less than 100 to over 100,000 per day. Bartholomay replied that he would need look into it and come back to the CAB with a comprehensive answer.

Christensen thanked the presenters for their thorough presentations. He asked where things stand with the flow coming out at Thousand Springs as he remembers historically low flow. Bartholomay responded that every three years, they prepare a snapshot of hydrologic conditions and that they look at the amount of flow coming out of Thousand Springs as part of that snapshot. In 2018, there was more water coming out than in 2015, due in part to the recent recharge. The next snapshot will look at all water quality and water level data from 2019 to 2021. They hope to publish the findings in 2022.

Christensen added that he hopes the flow is higher to help dilute contaminants.

Martin said she was on the Groundwater Subcommittee and commended Hodges and Bartholomay for their thorough presentation. She said they did a great job of walking the CAB through each facility and the contaminants and plumes. In 2019, the CAB members realized they were getting overwhelmed with data,

charts, and graphs. Martin congratulated the presenters on answering the CAB's call for a more basic level of education. While some of the presentation was still fairly technical, it helps to understand the movement of water. She thanked Hodges and Bartholomay for their hard work.

Bartholomay said he recognizes that the papers they prepare are directed toward a scientific audience, but that they do think about how to get the information across to the wider public.

Hodges thanked Martin for her kind words.

## **Conclusion**

Kuechle announced the end of the public meeting.

Brad Christensen, Chair  
Idaho Cleanup Project Citizens Advisory Board