IDAHO CLEANUP PROJECT

CITIZENS ADVISORY BOARD

Meeting Minutes

April 27, 2023

List of Acronyms

AFFF	Aqueous Film-Forming Foam
ARP	Accelerated Retrieval Project
CAB	Citizens Advisory Board
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFA	Central Facilities Area
D&D	Decontamination and Decommissioning
DDFO	Deputy Designated Federal Officer
DEQ	Department of Environmental Quality
DOE	U.S. Department of Energy
DOE-ID	U.S. Department of Energy Idaho Operations Office
EM	DOE Office of Environmental Management
EPA	Environmental Protection Agency
HEPA	High Efficiency Particulate Air
ICDF	Idaho CERCLA Disposal Facility
ICP	Idaho Cleanup Project
IEC	Idaho Environmental Coalition
INL	Idaho National Laboratory
INTEC	Idaho Nuclear Technology and Engineering Center
IWTU	Integrated Waste Treatment Unit
NE	DOE Office of Nuclear Energy
NR	DOE Office of Naval Reactors
NRF	Naval Reactors Facility
ORPS	Occurrence Reporting and Processing System
PFAS	Per- and Polyfluoroalkyl Substances
PM	Preventative Maintenance
PPE	Personal Protective Equipment
SDA	Subsurface Disposal Area
SSAB	Site Specific Advisory Board
WIPP	Waste Isolation Pilot Plant

The Idaho Cleanup Project (ICP) Citizens Advisory Board (CAB) held its quarterly meeting on Thursday, April 27, 2023. The public was invited to attend in-person at the Residence Inn in Idaho Falls, Idaho and 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
Teri Ehresman
Ladd Edmo
Debi Farber
Nate Francisco
Monica Hampton
Dick Meservey
Talia Martin
Mark Permann
John Sigler

Members Not Present

Roger Hernandez
Bob Skinner

Deputy Designated Federal Officer (DDFO), 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
Ty Blackford, Program Manager, Idaho Environmental Coalition, LLC (IEC)
Mark Clough, State of Idaho
Pete Johansen, Idaho Department of Environmental Quality (DEQ)
Ben Leake, Environmental Protection Agency (EPA)

Others Present

Alicia Wichman, DOE
Amber Fugal, ICP CAB Support Staff
Amin Almahie
Andrea Gumm, ICP CAB Support Staff
Beatrice Brailsford
Betsy Holmes
Bret Leslie, U.S. Nuclear Waste Technical Review Board
Carter Harrison - Rep. Simpson
Chris Henvit, DOE
Curtis Roth
Dave Einan, EPA
Doug Pruitt, DOE
Erik Simpson, IEC
Fred Hughes
Fuliciana Fullmer, Shoshone-Bannock Tribes
Gregory Balsmeier, DOE-ID
Hayley Price, ICP CAB Support Staff
Jessica Prather
Jonathan Zobell, DOE
Kathleen Peshek, EPA
Kathryn Hitch, Senator Crapo
Kelly Green, ICP CAB Support Staff
Kelsey Shank, The EDGE LLC
Laurie Hernandez, DOE
Maria Williams, DOE
Mariah Porter, ICP CAB Support Staff
Mark Brown, DOE
Mark Jones, DOE
Natalie Walker, Idaho DEQ
Nick Balsmeier
Nicole Badrov, DOE
Nicole Hernandez
Nicole K Hernann, DOE
Shane Lowry, NRF
Shelby Goodwin, DOE
Steven Wahnschaffe, DOE-ID
Talley Jenkins, DOE
Tami Thatcher
Tatiana Arellano
Ted Livieratos, IDEQ
Thomas Thompson, DOE-ID
Trent Neville, DOE-ID
Trilby McAffee
Ty Sanders, DOE-ID
Wayne Barber, Exchange Monitor, Weapons Complex Monitor

Welcome and Opening Remarks

Facilitator Andrea Gumm began the meeting at 9:00 a.m. She reviewed the agenda and noted the times of the break and public comment period. She reminded attendees of the process for public comments during the meeting, time permitting.

Teri Ehresman (CAB Chair) welcomed everyone to the meeting. She said it was wonderful to be meeting in person and getting to see the new members that she had previously only seen on Zoom. She welcomed all the new and returning CAB members. She thanked all who were involved with putting the site tour together and said it was very informative and top notch. She said she was looking forward to an outstanding meeting.

Connie Flohr (DOE-ID DDFO) thanked everyone in attendance for coming to the meeting. She thanked everyone who attended the tour yesterday and agreed that it had been a great day with lots of questions and engagement with the team. She said that it is a super exciting time with the cleanup project right now, and there has been lots of good stuff in the newsletter recently, although challenges remain that they will discuss during the overview. She recognized some of the former CAB members who were in attendance. She congratulated the CAB members on their membership renewals and welcomed those that are new. She thanked the support staff for their work in getting the meeting set up. She said they continue to make really good strides in this program and thanked Ty Blackford for being here because the CAB members had expressed interest in talking with him in person. She said she looked forward to the discussion and answering any questions that anybody has.

Mark Clough (Idaho National Laboratory [INL] Settlement Agreement Coordinator) welcomed the new CAB members. He said that he wished he was there in person but could not attend because of unforeseen circumstances. He said it was his honor and privilege to attend the wet-to-dry storage transfer of spent nuclear fuel milestone celebration with the Department of Energy (DOE). He said that was a great achievement due in part to great leadership and the outstanding efforts of all the people involved in making that happen. There were years and years of effort put into it and everyone should be proud of the work they put in. He said he looked forward to the discussion and was excited for the topics listed on the agenda and the public comments.

Pete Johansen (DEQ) thanked DOE and the Naval Reactors Facility (NRF) and the Idaho Environmental Coalition (IEC) for the assistance to getting access to see a lot of different Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) sites over the last couple of days. He asked everyone to let him know if they had any questions for him.

Ben Leake (EPA) said he also appreciated all the efforts that went into their tour yesterday. He said it was nice to see the site again and see all the progress that is going on. He said he is proud of everyone who is working hard to get that done. He said he was excited to be at the CAB meeting in person and was looking forward to a great meeting.

Ty Blackford (IEC) thanked everyone for coming and thanked all those who went on the tour yesterday for getting the chance to meet all the fine men and women who do this work on the site every day. He said they are the heroes with everything that happens on the cleanup project.

Recent Public Outreach

Danielle Miller (DOE-ID) reviewed recent public outreach activities. The document is available on the ICP CAB website: https://www.energy.gov/em/icpcab/articles/icp-cab-meeting-materials-april-2023.

ICP Overview

Connie Flohr, Jonnie Zobell, Mark Brown, and Doug Pruitt (DOE-ID) provided an overview of the Idaho Cleanup Project (ICP). The presentation is available on the ICP CAB website: https://www.energy.gov/em/icpcab/articles/icp-cab-meeting-materials-april-2023.

Teri Ehresman asked where the new facility to put the new packaged fuel in would be located. Flohr said it would be in the general vicinity of the 603 Dry Storage Facility. She said they would probably want to have it pretty close because they will be pulling storage out of 603, packaging it, and then they would want to stash it nearby.

Ehresman asked Zobell to summarize what the Occurrence Reporting and Processing System (ORPS) reportable events were. Zobell said that the key thing with the ORPS is that the reporting of these events is a good thing and is to promote a learning organization. He said that a lot of them were suspect counterfeit materials. He said that when they order a material it goes through a receipt inspection, and it may be missing markings on bolts and heads or other items, so they share that suspect counterfeit information and check the inventory to see if they have similar issues. That was one that came up twice. He said they also had a spread of contamination, one where a person got some contamination on their boot, which is an ORPS event. It was totally contained within an area where it is known that could happen. He said they followed procedures, and everything was fine, but they want to know that and track trends so that if they start to have a rise of those issues, they can tackle it and treat them appropriately. He said there was also a notice of violation from the state because they didn't complete a preventative maintenance (PM) test on a High Efficiency Particulate Air (HEPA) filter and that is also something they want to keep track of, so it doesn't get lost with all the other information that is tracked.

Talia Martin said she was very interested in the Idaho integrated spent nuclear fuel management plan and asked if this is an updated version of a previous management plan and if it was mandated from headquarters or something that was created locally as a solution for that long term storage. She said she didn't think the CAB had received an update on that yet and thought it might be of interest to people to hear more elaboration on that long term plan. Brown said the plan is still being reviewed and approved, but they have always had a spent fuel management program within the office of Environmental Management (EM) and they have been working according to that plan. He said the Battelle Energy Alliance and the Office of Nuclear Energy (NE) have always had a spent fuel management program, and the Office of Naval Reactors (NR) has a plan to manage their spent nuclear fuel. He said the problem was they didn't have an integrated plan that included NE, EM, and NR. NR has been packaging spent fuel for several years so they have some knowledge that EM can learn from in packaging their spent fuel, so they wanted to capitalize on that. Connie Flohr has a dialogue with the senior advisor for EM, Ike White, and they determined the best path forward was to develop an integrated spent nuclear fuel management plan. Brown said they got together with NE and NR and have had at least one big workshop where they could outline what that plan is going to look like, what the contents will be and the path forward. Flohr said that NR's plan was to package their own fuel and be done and NE's plan was for EM to build a facility and do everything. She said that as the manager, that's the part that she didn't really want to tackle, she can't come to terms with spending another billion or two billion dollars to build a big packaging facility if there are already 5 or 6 facilities at the site that could be modified and do the same thing. She said there was no benefit to spending 2 billion dollars of taxpayer money. She said she told Ike White a couple years ago that she would like to figure out a way to look at all the facilities that are on site, including the NRF that they are already using to package their own fuel. Since they are building a new facility after they get done processing fuel in the current facility, she thought the old one could then be taken over by EM. They discussed what they already had on the Idaho Site and the capabilities to modify slightly and get on

with it. The plan that they are putting together now, that hopefully will be signed in the next couple of weeks and become publicly available, basically says, "here's the universe of all the fuel we have, the different types and condition, and here's another list of all the facilities we have and what would have to be done to them in order for them to be used and retread for us to actually package fuel in them." The plan puts things in four big groupings and each one of those individual things is going to have its own working groups and implementation plan. Those working groups now are working together to figure out the schedule and will get back together at the end of June and try to integrate their schedules so that we can figure out what the whole big plan is. She said that probably another year from now they can come back and share with the CAB more of the details about what they are actually going to implement, how much they will spend, what the schedule is, but they don't have all the answers yet right now. She said they do have congressional requirement, the house appropriation staff asked them to come back within 180 days of enactment, which puts them somewhere at the end of June to go back and brief the house staff on their efforts related to this plan. She said they could put this on the agenda for the next CAB meeting.

Martin asked whether future fuel generated from the NE research reactors and the NRF will be included within that plan. Chris Henvit said that NRF fuel is not captured within what they are currently working on within the plan. He said this plan is probably 99% complete and is in final review and they are not waiting for the plan to continue working on this issue. They are currently doing a feasibility study to see what, at the NRF, would lend itself to packaging this inventory of 250+ tons of fuel that EM and NE have. He said they are focusing first on EM fuel because EM has 40+ metric tons of shipping port fuel in their inventory which was fuel from the first commercial nuclear power plant and designed by the naval nuclear propulsion program. That fuel came to Idaho, placed in the water pool at the NRF and then shipped to the Idaho Nuclear Technology and Engineering Center (INTEC), so they are very familiar with that fuel, they designed it, so it lends itself to packaging at the NRF. He said their short-term focus is finding out whether it is feasible to return that fuel to NRF and place it in dry storage, but they will also consider all the fuel in DOE's inventory including NE fuel as part of this integrated spent fuel management plan. Flohr asked if that included future fuel from any new reactors. Henvit said he would expect that to be a future revision to the plan, but there would be no reason to not continue, and future fuel may be even easier because they can design it to support the use of shared facilities.

Mark Clough asked for clarification when talking about the word "storage" and asked to make sure they were talking about interim storage. Brown said it is not even interim storage per the DOE definition of interim storage, it is just a place to put spent fuel onto a safe concrete pad until they can transport it out of the state. Flohr said she doesn't like to use the term storage and meant to say "staging."

Ehresman asked why they didn't complete all the shipments that were planned. Pruitt said that 257 was a planning number that they receive from Carlsbad at the beginning of every fiscal year. He said the one for this year is 390 and even though they're halfway through the year, they are not at 200 yet. He said these numbers are projections from Carlsbad of what they thought they could provide the Idaho Site, but they are reliant on Carlsbad to provide the trucks coming back and forth and they are having a driver shortage. He said Carlsbad also encountered some operational hiccups and had to suspend some shipments for a few weeks. The planned shipments are always what they aim for to try to get out, they have the waste on hand to be able to meet that obligation from Carlsbad, but they don't always get the resources to make those goals. Ehresman asked if it is conditions outside of Idaho's control. Pruitt said yes. Flohr said the weather also plays a role and they had many trucks stuck for a while due to weather.

Monica Hampton asked how many people were employed just on this project to do the demolition. Blackford said that 70 people total work exclusively on this project dedicated to the decontamination and decommissioning (D&D) efforts. Pruitt said that includes radiological controls, health and safety folks, the management team, and the demolition folks. Flohr said there is a separate D&D crew that is doing the Accelerated Retrieval Project (ARP) work.

Ladd Edmo asked if the work requires an abatement team to remove the asbestos. Pruitt said that the crews who are doing that removal have that training and they're using the correct personal protective equipment (PPE) and the correct abatement techniques to be able to collect that material and get it packaged for disposal in the correct manner.

Dick Meservey asked about the current status and future plans for the now empty fuel storage pool. Brown said they are working on a project with the Navy to take a reactor core, ship it from NRF into the spent fuel storage pools, disassemble that core, package it back into casks and ship it back to NR for eventual packaging and dry storage.

Hampton asked how the soft-sided bags get approved and what kind of measures are taken. Brown said there is a long process to approve the bags and the Carlsbad Field Office is responsible for that, they work with the Nuclear Regulatory Commission to ensure that shipping and certification requirements are being met. He said once Carlsbad Field Office certifies the packaging method, they must develop procedures and Idaho implements their procedures and it is quite a journey to do that.

Integrated Waste Treatment Unit (IWTU) Update

Mark Brown (DOE-ID) provided an update on the Integrated Waste Treatment Unit (IWTU). The presentation is available on the ICP CAB website: https://www.energy.gov/em/icpcab/articles/icp-cab-meeting-materials-april-2023.

Martin asked if there are projections of when this waste could be road ready and if it will be ready by 2035. Flohr said the 2035 deadline is for calcine and the goal for this waste is just to have it packaged. She said they just need to get it done and the only thing that is tied to them on compliance in the 2019 version of the settlement agreement is that the lab can bring in their limited amounts of research fuel once the IWTU hits 100 canisters. Brown clarified that the first can allows them to bring in the first small quantity of research spent fuel into the state, the hundred cans allow additional commercial spent fuel to be brought into the state for research purposes. Flohr said they don't have a road ready date for sodium bearing waste. Martin said she thought both calcine and sodium-bearing waste were high level waste and asked if that was recharacterized. Brown said today the sodium bearing waste is considered high level waste, but it is a separate milestone from the 2035 calcine high-level waste milestone. Flohr said that if they could get approval to do so, and Carlsbad could get their permit changed to allow tank waste, she believes they could send this waste to the Waste Isolation Pilot Plant (WIPP) as remote handled transuranic waste because it is second cycle and not like the calcine waste. She said that WIPP would need to be changed to allow that. She said they might have a disposition path for this that is completely separate from the disposition path that they have for the calcine. She said that in either case, if IWTU runs properly, they are looking at a 4 or 5 year campaign.

Meservey asked if any research fuel has been brought in yet, or if there is a waiting list for research fuel to come in. Brown said he knows that NE does have some fuel that they want to bring in this year and they are working with the state and Byron Generating Station to bring that spent fuel.

Idaho CERCLA Disposal Facility (ICDF) Update

Talley Jenkins (DOE-ID) provided an update on the ICDF. The presentation is available on the ICP CAB website: https://www.energy.gov/em/icpcab/articles/icp-cab-meeting-materials-april-2023.

Nate Francisco asked for an explanation of the final cover design. Jenkins said there is a series of layers. There is a clay layer to reduce the infiltration because the bottom of the cap has to keep water out of the cell. He said there is a series of layers in there to prevent the infiltration of water and layers to prevent bio-intrusion, and then the upper 10 feet is an evaporation cap similar to what would be done at the Subsurface Disposal Area (SDA). On the outside edge there is a rock armor area intended to prevent intrusion into the cell from the sides.

Francisco asked about how they forecasted the volume for the new cell, and whether they based it only on planned projects or if they considered future projects as well. Jenkins said they focused on facilities that exist today and he is unsure what will happen in the 2050 – 2060 timeframe. He said the D&D program has gotten fairly efficient in terms of how they tear things apart and what actually needs to come over to the cell, so they may be able to extend the timeframe out further. Flohr said that it is a CERCLA cell so future stuff wouldn't necessarily be appropriate for it anyway.

Debi Farber asked about the information that is gathered during the study period to determine the appropriateness of the next cell construction and what geotechnical parameters or other factors are considered. Jenkins said there were several borings done in the geotechnical study area when they built the first cell. He said they did do a new geotechnical study focused in the area they were looking at for the new cell. He said they were primarily looking for the kind of soil that they would need to excavate in and the depth of the bedrock.

Clough said that prior to placement of any of those reactor vessels in the ICDF they were all de-fueled, so there is no nuclear fuel in the ICDF.

Farber asked if that means emissions will decline over time. Jenkins said that the activation products will decay away so at some point way in the future it will be non-radioactive.

Hampton asked for clarification on the cap material and where it will be coming from. Jenkins said they will end up with a huge stockpile when they dig up the new cell, so a lot of the cap material will come from that. He said they will probably bring in a bunch of rye grass flats and there are some nearby borrow sources that they will get silt material and mix it with bentonite to meet the required specifications.

Per- and Polyfluoroalkyl Substances (PFAS) Presentation

Shelby Goodwin (DOE-ID) provided a presentation on Per and polyfluoroalkyl substances (PFAS). The presentation is available on the ICP CAB website: https://www.energy.gov/em/icpcab/articles/icp-cab-meeting-materials-april-2023.

Ehresman asked if they are just studying PFAS on EM sites or if it is lab or DOE wide. Goodwin said it is DOE complex wide.

Francisco asked for clarification on the concentration levels found in one of the wells. Goodwin said it is parts per trillion.

Farber asked if there has been any sampling done to check for PFAS in the soils. Goodwin said that they have not yet sampled soils for PFAS.

Ehresman asked why the PFAS has only been detected at the Central Facilities Area (CFA). Goodwin said they have some thoughts about why that is the case. She said the fire department is at CFA and they may have used aqueous film-forming foam (AFFF) in their fire training operations, but they need to go further into records research and sampling, and at this point it is just conjecture. Ehresman asked if there

are very many employees at CFA right now and if it is a larger facility. Goodwin said it is a larger facility, but she doesn't know the number of employees off the top of her head.

Francisco asked what the average concentration of PFAS is in the bloodstream. He said that 4 parts per trillion as a limit seems pretty hard to meet. Goodwin said that she does not know but would be happy to look into it and get back to the CAB with that information.

Meservey asked for data that would help clarify the relative risk of the PFAS, e.g. is the risk equivalent to drinking 2 diet cokes per day. Goodwin said that the 4 parts per trillion limit is considering that a person will be drinking 2 liters of water a day for 70 years, so over most of their lifetime.

Farber asked if the ICP PFAS implementation plan is available for the public. Goodwin said it is an internal document and not currently available and she does not know if there are any plans to release it.

Francisco asked if steps to eliminate procurement and use of PFAS containing materials is included in the plan. Goodwin said that it is in the works. She said the guidance is out there for the contractor to look at their procurement process and see which items need to be swapped. She said including that within the plan is going to take some time, at least 6 months for the evaluation period and then to start making those changes.

Martin asked what DEQ's role is. Goodwin said that there is currently no final regulation out, but they know there are going to be a lot of upcoming regulations, some have already been proposed and EPA is part of that rulemaking process. She said that DOEs response was the PFAS strategic roadmap which has all their requirements. She said that at INL specifically, they want to communicate and collaborate with their regulators and stakeholders, so they are already starting to engage DEQ and EPA about their process and to get their comments. She said the contractor is working on developing a scope of work for these assessments, and once that is fully developed, they will engage further with DEQ and EPA to make sure they agree on the process. She said they see this entering CERCLA as well as a handful of other regulations. Pete Johansen added that right now they are interacting with DEQ's drinking water program and at some point in the future there may be information shared with EPA and DEQ on the CERCLA side of things. Goodwin said they are making sure that Region 10 and DEQ agree with the process and on the drinking water side of the house, they are engaging with those partners and reporting results to them, so they are aware of what is happening. She said they have had discussions with them regarding CFA and concurred together that no drinking water alternative supply or treatment was necessary at this point in time. She said a lot of partners are involved in different aspects.

Public Comment Session

Tami Thatcher (Idaho Falls) said that she has been attending CAB meetings for many years and trying to follow the issues. She said regarding the ICDF presentation that she was disturbed when she saw the figure of the cap, by the change of what was to be clean soil to contaminated soil and that there were no dimensions on the soil cap. She said that soil caps require maintenance into perpetuity because of damage from burrowing animals, flooding events, and so forth and that the EPA has acknowledged that in the past. She said she is really interested in soil depths and is disturbed by the change from clean to contaminated soil. Regarding sodium bearing waste, she said it is quite a miracle that the IWTU is running hot waste because she has been attending many years of presentations where it was not running hot. She is interested in what the air emissions are going to be and hopes the state doesn't turn off the radiation air monitors when the IWTU comes up to full speed. She said that several decades ago DOE was hoping that the treated sodium bearing waste would be disposed of at WIPP and there has been zero progress on that for several decades. She said she is shocked at how big the canisters are for the sodium bearing waste. She said DOE does not want to talk about the number of canisters but there are a lot of them, and other branches of DOE keep finding more and more things to put into WIPP including surplus

plutonium that takes up a lot of space and is highly concentrated. She said that the fact that there really isn't a waste disposal site that is permitted or licensed still for the treated sodium bearing waste is something that people should keep in mind. She said when they were discussing the shipment of transuranic waste drums to WIPP and the reasons that the number of shipments last year was so low, she was surprised that no one remembered that some shipments were returned to Idaho because WIPP was not accepting certain waste streams from Idaho. She said those returned shipments were due to leaky and compromised drums and WIPP is now going to require overpacks that are very costly. She said she didn't feel like that was explained very well. She said the practice in Idaho has been to go away from aquifer well injection and percolation ponds that are unlined to lined ponds and radioactive waste in liquid form is put into these lined ponds at the INL. She said that the Idaho skies are now a great big toilet for radioactive waste, and she is always disturbed to see pictures of the ponds. She said they are not getting any information about the radionuclides going into the ponds or the concentrations and for years they did not have adequate air monitor near the pond. She said that the Resource Conservation and Recovery Act (RCRA) requires looking at flooding if it's a one in 100-year event or more likely and they have known since 2020 that the Mackay Dam failure is a one in 50-year event. She does not understand why the RCRA permit has not addressed that. She said that it would flood the Idaho Nuclear Technology and Engineering Center (INTEC) which involves spent nuclear fuel, calcine, etc. and they are not getting any information on that.

EM Site Specific Advisory Board (SSAB) meeting report and recommendation

Debi Farber gave a report of the March EM SSAB chairs meeting that took place in Washington DC. The CAB discussed a draft recommendation regarding the review and reporting on the implementation of EM SSAB recommendations, that had been presented at the chairs meeting and reached consensus to support the recommendation.

Conclusion

Andrea Gumm concluded the public portion of the meeting.

Teri Ehresman, Chair
Idaho Cleanup Project Citizens Advisory Board