



# 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**

June 12, 2024

### List of Acronyms

CAB	Citizens Advisory Board	MEC	Munitions of Explosive Concern
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act	NEPA	National Environmental Policy Act
DDFO	Deputy Designated Federal Officer	NE	Office of Nuclear Energy
DOE	U.S. Department of Energy	NRC	Nuclear Regulatory Commission
DOE-ID	U.S. Department of Energy Idaho Operations Office	NR	Naval Reactors
EM	DOE Office of Environmental Management	ORPS	Occurrence Reporting and Processing System
EPA	Environmental Protection Agency	PFAS	Per- and Polyfluoroalkyl Substances
ICP	Idaho Cleanup Project	RCRA	Resource Conservation and Recovery Act
IDEQ	Idaho Department of Environmental Quality	SEP	Supplemental Environmental Project
IEC	Idaho Environmental Coalition	TAN	Test Area North
INL	Idaho National Laboratory	TCE	Trichloroethylene
INTEC	Idaho Nuclear Technical and Engineering Center	T-DOE	Tribal Department of Energy
IWTU	Integrated Waste Treatment Unit	US	United States
LIDAR	Light Detection and Ranging	USGS	United States Geological Survey
		WAG	Waste Area Group
		WIPP	Waste Isolation Pilot Plant

The Idaho Cleanup Project (ICP) Citizens Advisory Board (CAB) held its triannual meeting on Wednesday, June 12, 2024. The public was invited to attend in-person at the Shoshone-Bannock Hotel and Events Center in Fort Hall, 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

Roger Hernandez  
(Virtually)  
Dick Meservey  
Mark Permann  
John Sigler  
Bob Skinner

**Members Not Present**

Talia Martin  
Jessica Prather

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

Mark Brown, Deputy Designated Federal Officer (DDFO), U.S. Department of Energy Idaho Operations Office (DOE-ID)  
Ty Blackford, Program Manager, Idaho Environmental Coalition, LLC (IEC)  
Mark Clough, Idaho National Laboratory (INL) Settlement Agreement Coordinator, Idaho Department of Environmental Quality (IDEQ)  
Pete Johansen, IDEQ  
Ben Leake, Environmental Protection Agency (EPA)

**Others Present**

Laurie Ard  
Nick Balsmeier (DOE-ID)  
Wayne Barber  
Thomas Berger (ANDX)  
Larae Bill (Shoshone-Bannock Tribes)  
Catherine Blanton (DOE-ID)  
Anna Bowers (T-DOE)  
Nicole Brooks (DOE-ID)  
Alan Carvo (INL)  
Jennifer Cate (DOE-ID)  
Kelly Green (ICP CAB Support Staff)  
Shelby Goodwin (DOE-ID)  
Andrea Gumm (Facilitator)  
Chris Henvit  
Nicole Hernandez (DOE-ID)  
Doug Herzog (DOE-ID)  
Sharyl Hill  
Betsy Holmes (DOE-ID)  
Mark Jones (DOE-ID)  
Dana Kirkham (IEC)  
Daryl Koch (DOE-ID)  
Ileana Larkin

Daphne Larsen (DOE-ID)  
Eric Larsen (DOE-ID)  
Ted Livieratos (IDEQ)  
Leamarie Mitchell (IEC)  
Michael Mitchell (IDEQ)  
Nancy Murillo (Shoshone-Bannock Tribes)  
Trent Neville (DOE-ID)  
Mariah Porter (ICP CAB Support Staff)  
Hayley Price (ANDX)  
Doug Pruitt (DOE-ID)  
Craig Richins (DOE-ID)  
Ty Sanders (DOE-ID)  
Daryl Sawyer (IDEQ)  
Kelsey Shank (theEDGE)  
Catherine Smith (City of Idaho Falls)  
Tami Thatcher  
Eric Traub (IEC)  
Aubrey Tremelling (DOE-ID)  
Jessica Vasseur (IEC)  
Natalie Walker (IDEQ)  
Schyler Walker (DOE-ID)  
Maria Williams (DOE-ID)

## **Welcome and Opening Remarks**

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

Ladd Edmo (ICP CAB) a member of the Shoshone-Bannock Tribes offered an opening prayer.

Teri Ehresman (ICP CAB Chair) introduced herself and welcomed everyone to the meeting. She said it was her last meeting as the CAB Chair and that Bob Skinner would be taking over beginning with the October meeting. She thanked everyone for their support and help over the last few years and said she has enjoyed getting to know everyone and seeing their different talents. She thanked Ladd Edmo for welcoming them to his home and said the CAB has enjoyed visits in the past as well. She also thanked everyone involved with planning yesterday's tour, including IEC and DOE staff. She said there was a great meeting planned and thanked everyone for their hard work.

Mark Brown (DDFO) welcomed everyone to the meeting. He said it was great to see everyone there and he was looking forward to the meeting. He said he really enjoyed yesterday's cultural resources tour and learned a lot. He said he appreciated the perspectives provided by Larae Bill and Anna Bowers on the tour, as well as the archaeologists who had some amazing information. He said it was neat to see parts of the site that he hadn't seen before. Brown pointed out that there is an acronym list in the CAB member presentation packets. He said the government speaks in acronyms because it saves a lot of time, but he has emphasized to his staff to try not to use acronyms during their briefings to the CAB today.

Mark Clough (IDEQ) introduced himself and welcomed CAB members and the public to the meeting. He thanked Ehresman for her leadership and wished Bob Skinner luck in filling the role of CAB Chair. He said he was looking forward to several items on the agenda and that it was well put together as always. He said he was looking forward to DOE's discussions.

Pete Johansen (IDEQ) introduced himself and thanked DOE and IEC for taking him around some of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) sites and showing the progress on these sites. He said he hopes the momentum continues with funding and personnel to continue the good work that is being done. He said he was looking forward to today's meeting.

Ben Leake (EPA) introduced himself and apologized for not being able to attend in person. He thanked Ehresman for her service. He said he was looking forward to hearing some good project updates and that a lot of really good work at the CERCLA sites is being done. He said he was looking forward to a great meeting.

Ty Blackford (IEC) introduced himself and said he was looking forward to sharing the progress that continues on the Idaho Cleanup Project with their partnership with DOE.

## **Recent Public Outreach**

Mark Jones (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-june-2024>

## ICP Overview

Mark Brown, Trent Neville, and Doug Pruitt (DOE-ID) provided an overview presentation highlighting Idaho Cleanup Project activities and performance. The presentation is available on the ICP CAB website: <https://www.energy.gov/em/icpcab/articles/icp-cab-meeting-materials-june-2024>

Ehresman asked for more details on the Occurrence Reporting and Processing System (ORPS) 1 events and if they were more serious than other types of incidents. Brown said that while not all ORPS 1 events are serious, they are noteworthy and often reported to share lessons learned across the complex. Brown said that the January reportable events included missed Resource Conservation and Recovery Act (RCRA) inspections, which are required by their permit, and some source accountability issues. He said that in February there was an inadvertent weapon discharge by a guard at the Fort St. Vrain facility in Colorado while adjusting his belt; corrective action was taken immediately, and no one was hurt. Brown said there was also a fall on ice that resulted in broken ribs in February. He said that in March, incidents included another fall on ice causing a concussion, an untrained individual conducting work under lockout/tagout procedures, and a near miss involving equipment falling onto a man lift during the dismantling of part of the Accelerated Retrieval Project 8 structure. Brown said that there were no reportable events in April.

Ehresman asked about the distinctions between first aid incidents, recordable injuries, and ORPS events. Brown explained that a first aid incident covers any work-related injury or illness, regardless of severity. He noted that ORPS reportable injuries are more serious and may involve a hospital stay. Brown provided an example of an individual who used a pocketknife instead of a safety knife and cut their hand. He added that most first aid cases are sprains and strains.

Bob Skinner asked if they prioritize the shipment of older drums. Pruitt said they propose which drums to ship in a certified list, from that population, the engineering team at the Carlsbad field office sends them a shipping list. He said they do try to propose the older drums first. Skinner sought confirmation that specific drums are located within a stack rather than working sequentially, which Pruitt confirmed.

Debi Farber asked if they have been able to streamline the process by incorporating lessons learned from the previously completed demolitions. Pruitt said they have already applied lessons learned into the engineering evaluation and cost analysis. He explained that collaboration with Naval Reactors (NR) ensures that Environmental Management (EM) proposals meet NR requirements. Brown added that this is in addition to coordination with regulatory agencies like IDEQ and EPA.

Monica Hampton asked for more details about the initial discussions with NE-ID and NE-8 regarding high burnup casks. Brown said the Office of Nuclear Energy (NE) oversees fuel disposition including interim storage sites for spent fuel across the complex and final disposition sites such as Yucca Mountain. He said one of their projects is to destructively examine high burnup fuel from commercial reactors to determine if the integrity remains good. He said spent fuel from commercial reactors is stored in casks on concrete pads. He said the Nuclear Regulatory Commission (NRC) licenses those independent spent fuel storage installations for a certain number of years based on the knowledge of how well the fuel can be safely stored in a dry cask. He said if they determine that the fuel is still intact after it has undergone high burnup conditions for a long time, they can submit that information to the NRC so they can extend the commercial fuel storage pad licenses. He said NE is working on a possible project to bring a cask of commercial spent fuel to the site to do that research. He said it is part of the NE research mission and will be done in conjunction with the Lab. He said they have looked at multiple areas to do the research, and Idaho is one of the places where it would not cost very much to complete.

Hampton asked for clarification on the timeline. Brown said the estimate he has heard is to ship the cask in 2027 and maybe start the research in 2030. He added that at this point, it is just a concept.

Mark Permann asked about DOE's development of a railcar for nuclear waste shipment and its potential use by DOE-ID. Brown said that was developed by NE and is primarily intended to ship spent fuel.

## **Public Comment Session #1**

Tami Thatcher of Idaho Falls stated she was a nuclear safety analyst at the INL site, raised in southeast Idaho, has family in southeast Idaho, and is a citizen. She mentioned that she has been attending CAB meetings for over 10 years and writes about and researches issues pertaining to the INL site and the commercial nuclear energy industry. She pointed out that there used to be six full-day meetings a year, but now they have been reduced to three meetings. She noted that there are usually four scheduled, but one is often canceled. She said some meetings are very short, with presentations being rushed through.

Thatcher said CAB members used to ask more questions to gain a deeper understanding, stating that every question, even those seeking to understand new concepts, helped others understand. She said that now, CAB members ask only a small handful of questions, and the discretion to allow public questions depends on the time available. She argued that the process is orchestrated to prevent the public from asking questions during presentations. She said she submitted several questions to the question box in February and hasn't received any answers, suggesting that the public participation portion is lacking.

Thatcher said that experts had forecasted clog-up problems with the Integrated Waste Treatment Unit (IWTU) before it was even built and did not recommend the technology. She stated that the IWTU has been limping along, reverting to small-scale testing to figure out why it is clogging up. She criticized the design as terrible, noting that waste treatment was supposed to be completed in 2012. She said the best-case scenario is 5 to 6 more years to fix the system if they can determine the cause of the clogging. She said that fast presentations prevent people from fully grasping the severity of the situation.

Thatcher addressed the issue of leaking drums, stating that the discussion did not mention that only drums loaded with certain materials at specific times were leaking. She said that these drums have been leaking in INL facilities, and the contractor has been slow to identify the occurrence, source, and cause. She said the response over the past two years has been slow and discussion of the issue has been inadequate. She said that the Waste Isolation Pilot Plant (WIPP) should not have to discover the leaking drums and send them back to Idaho. She said that condensation is not a new issue and that the drums are engineered systems with a technical problem that is not being addressed properly. She said that this situation puts workers and others at risk.

## **Supplemental Environmental Projects (SEPs)**

Nicole Hernandez (DOE-ID) provided an overview of SEPs, past project examples, and how to apply. The Presentation is available on the ICP CAB website: <https://www.energy.gov/em/icpcab/articles/icpcab-meeting-materials-june-2024>

Nate Francisco asked for an explanation of the training provided to regulatory personnel. Johansen said it facilitates training for hazardous waste management personnel throughout the west. Hernandez added that they have also done training with the community and organizations that provide recycling efforts or similar things.

Farber asked how much information is publicly available and provided throughout the development and implementation process for each project.

Hernandez said the CAB is one method they utilize. She said they don't advertise it in the paper because they would get too many projects to evaluate. She said they do National Environmental Policy Act (NEPA) evaluations of the projects which get posted on their website so those who monitor NEPA projects would be notified. She said she is unsure if the state of Idaho publishes anything regarding the SEPs. She said they do work with each entity who submits a proposal, and they are part of the community and the public.

Edmo said that he didn't see any tribal involvement in regard to the agreement with the state and IDEQ. He said he would like to see if the tribes can be involved in some manner. He said maybe the tribal staff could participate in the trainings that were mentioned. He said sometimes the tribes are in opposition to IDEQ and most of that is regarding the phosphorus plants, and the relationship isn't the rosiest. He said he thinks the tribes are getting left out a little bit.

Hernandez said they have been working closely with Wyatt Peterson on a new project regarding the contamination that has been identified in Fort Hall. She said that it did not come to fruition at this time, but she is working with Peterson to include it in the SEP proposals for next year.

Edmo clarified that Peterson is the new representative for Tribal DOE.

Brown added that they have been in communication with Peterson regarding SEPs but the timing for the maturity of the tribal projects did not meet the timeline for the 2024 schedule, but they are working with him for future SEPs.

Hernandez said they can think about things such as the recycling trainings that could also benefit the tribal community and reduce the potential for groundwater contamination. She said she would keep in communication with Peterson to try to expand that potential.

Ehresman asked how advanced the ideas need to be in order to be submitted to DOE for consideration. Hernandez said they need the ideas before January so they can start working with the partners to answer questions about budget, timeline, etc. She said they make their short list between January and March.

Skinner said that Idaho Falls has discontinued its recycling program and asked if the SEP's could be used to support their recycling program. Hernandez said that, at the request of Mark Brown, they reached out to the city of Idaho Falls and Pocatello to see if DOE could help with recycling projects. She said Idaho Falls did not feel that it was financially viable for them, but Pocatello was very responsive. She said she hopes that they will enter into a SEP with Pocatello and perhaps the two communities can come together to utilize that SEP in a combined effort.

Gumm asked if the information is online for a SEP application or if they should reach out to Hernandez. Hernandez said they should reach out to her.

Hampton asked if the penalty amount has changed over the years or remained the amount set early on. Hernandez said it is set at \$2,000 per tank per day. She said that as the IWTU continues to operate, eventually they will no longer have to pay the penalty. She said the amount is based on the risk and the fee is established via a penalty matrix according to the type of infraction and associated risk.

Permann asked if all submitted projects remain on file if they are not selected for that year. Hernandez said they are kept on file but most of the time they are able to do all submitted projects. She said lately they have had so many applications that they have had to keep a few in the hopper and plan to return to them in the future, but the entities would not need to resubmit.

Farber asked if there were not enough SEPs to cover the whole penalty cost, was cash money paid. Hernandez said one-year IDEQ wanted the money to go into their fund because they had an issue they needed to correct. She said she believed it was a mining issue and they needed the money to take care of that. She said sometimes IDEQ will come to DOE and say that they need a certain amount paid to them instead of a SEP and then use it to do something environmentally beneficial themselves. Farber asked why three SEPs are proposed in 2024 but there are still some excess funds. Hernandez said it is because DOE is responsible for paying IDEQ 25% of the SEP funding. She said for 4 years they were allowed to not pay anything to the State of Idaho and all the money went to the SEPs so this year they had to cover that 25% back to IDEQ as required.

Nancy Murrillo, from Fort-Hall, asked if it was correct that the SEPs are part of a settlement and are penalties that are a conduit to these projects. Hernandez confirmed that was correct. Murrillo asked what instrument is used to convey the money and who is eligible for it. Hernandez said tribes, cities, counties, and non-profits would be candidates for proposing a SEP. She said for-profit entities, or activities that are already required by law for an entity to perform are not eligible for a SEP. Murrillo asked what the timeframe is to submit a proposal and what the cost ceiling is. Hernandez said there is no ceiling and proposals should be submitted by December/January every year to be considered for the upcoming year. She said they have an invoicing system. She added that entities can also provide partial funding for certain aspects of a project if an entity has additional funding coming from elsewhere. She said they are very prescriptive about what part of the project the SEP funding is paying for because they must demonstrate to IDEQ that they completed it.

Murrillo asked what is necessary for the proposal. Hernandez said the proposal should include an estimate of the value of the project, how much it would cost to perform the project, a general schedule of how long it would take to complete, and a general discussion of how it is environmentally beneficial. She said DOE will ask how the entity thinks it meets the criteria and help flesh that out before presenting it to IDEQ. Murrillo asked what committees review and approve the projects. Hernandez said DOE develops a short list that they think are viable candidates and takes it to IDEQ who formally approves the projects. Murrillo asked how long the approval process takes. Hernandez said 30 days. Murrillo said that is unbelievably quick. Hernandez said they collaborate with IDEQ throughout the process, so IDEQ is not seeing the proposals for the first time when they receive them.

Thatcher said there are a few projects that appeared to be budget padding by IDEQ or DOE. She said the Per- and Polyfluoroalkyl Substances (PFAS) investigation project should have already been state or federally funded. She asked why the money for groundwater testing wasn't already part of the state budget or redundant to other state programs. She also asked for an explanation of why the SEP program seems like it has been conducted secretly and people haven't known they could apply for it. Regarding the PFAS SEP, Hernandez said that if they do something that is internally beneficial, DOE only gets to claim 50% of the value towards the penalty payment and they must match the amount as well, so federal dollars are being used to complete that project. She said that there is no requirement to advertise or submit anything to the public to draw projects in. She said enough proposals come their way through other means that they have been able to successfully accomplish the penalty fee throughout the years. She said the CAB has provided several proposals throughout the years and entities that work for DOE contractors also know about the SEP program and will come to DOE with proposals.

## **Public Comment Session #2**

Tami Thatcher of Idaho Falls stated that not having a requirement to advertise SEP proposals is an inadequate response to not inviting people to submit proposals. She said it would be beneficial to look



forward. She mentioned that fines are continuing and are tied to the tanks not being closed. She said that they can't close the tanks at the Idaho Nuclear Technical and Engineering Center (INTEC) until treatment is complete, so there are many years of penalty money left. She said that it's not too late to start inviting ideas for projects because the money is not drying up anytime soon. She added that optimistically, it will still be five to six years before the tanks are cleaned up, so there is still money coming into the pot.

Thatcher noted that DOE occurrence reports used to be included in the ICP safety performance and mentioned that EPA and IDEQ were also listed. She said it would be beneficial to have those things as well as defense nuclear safety board recommendations or insights listed, particularly pertaining to safety analysis deficiencies in off-site public dose and worker protection. She said that since they are increasing the radiation doses to workers at IWTU, it might be useful to have a trackable metric of the number of workers exposed to elevated levels. She expressed concern that when IWTU is operated, there are probably many elevated airborne releases, and reports are increasingly untimely.

Thatcher said that DOE has a contractor who handles some of the environmental monitoring, while IDEQ also does some of the monitoring. She said that quarterly reports used to be available within a few months, allowing for ongoing checks throughout the year, but now a quarterly report cannot be obtained for a year. She added that the annual report does not come out the year after but is tardy as well, resulting in the inability to see timely environmental monitoring reports. She stated that you cannot ask questions about why an air monitor is off, or about gaps or statistically significant large negative values which have no physical validity. She said that years go by with only assurances that everything is fine, emphasizing that environmental monitoring is important.

Thatcher said that when Idaho first started monitoring drinking water, it included the INL's drinking water and required blind samples sent to three different labs because of known irregularities between labs. She said that the DOE asked the state to stop monitoring and now sends the water to their preferred lab to get their preferred result. She said that this practice conceals contamination levels and the interesting aspects of contamination released by INL.

## **Groundwater Monitoring Update**

Aubrey Tremelling and Shelby Goodwin (DOE-ID) provided an update on groundwater monitoring activities, contamination prevention and the Test Area North (TAN) plume. The Presentation is available on the ICP CAB website: <https://www.energy.gov/em/icpcab/articles/icp-cab-meeting-materials-june-2024>

Brown asked Goodwin to explain what a core is. Goodwin said it's a section of the well taken out to show the strata layers and see what is happening geologically.

Hampton asked how the well locations are determined. She said she noticed at the top of the map there is a gap where monitoring is not occurring and asked for an explanation. Goodwin said not as many wells are needed in the north because the Snake River plain aquifer flows from the north to the south. She said the water in the north remains unaffected by anthropogenic disturbances, so they are not as interested in monitoring it. She said the water could be potentially affected by INL activities as it moves through the site and would flow out to the south. She said they monitor more in the south to confirm what is happening to the water and ensure that no contamination is flowing off-site. She said the water to the east also has less of the INL influence and they are trying to characterize the INL's water.

Ehresman asked how often the wells are checked and if the people who check the wells have free access to check anytime or if they must be escorted. Goodwin said the United States Geological Survey (USGS)

has access to all wells and can visit anytime. She said the wells are sampled annually and the water levels are measured more frequently, about semi-annually to see the seasonal fluctuation.

Skinner asked what speed the water moves within the aquifer. Goodwin said it flows about a quarter of a foot a day at the northern end. Eric Traub said it is estimated to be between 0.2 and 0.35 feet at the northern end. He said they analyzed the plume with tracer tests to calculate that estimate. Regarding the southern parts of the plume, Traub said he did not know the exact rates offhand.

Skinner asked if it is expected to be faster or slower on the southern end. Goodwin said it could be a little bit faster because it is closer to the Snake River. She said there is a large gradient between the northern and southern ends of the aquifer so the speed would typically get faster closer to the river.

Edmo asked if there are any efforts on the INL to help recharge the aquifer. Goodwin said that is a bit out of their control. She stated that aquifers are primarily recharged through infiltration of snowmelt which affects what will happen in the rivers that year, and the snowpack has decreased over time. She said humans could influence the aquifer through cloud seeding but DOE would not be involved in that. She said it's possible the State of Idaho has some programs, but she does not know. She said injecting water into the aquifer could also influence the recharge but there is no excess water to provide for that. She said they do have sustainability goals and used water is treated and allowed to infiltrate.

Dick Meservey asked if crops are monitored as well as the water. Goodwin said there is a full environmental monitoring program, including crops and wildlife.

Betsy Holmes said they collect samples of potatoes, milk, greens, lettuce, etc. in addition to typical things like air, water, and soil. She said they have a broad monitoring program that looks at how something released at the site would move through the environment and make it to an off-site receptor such as the public and how it could affect the environment in some way.

Johanson said that the IDEQ INL oversight office in Idaho Falls also has a separate independent monitoring program and Landry Austin could talk to the CAB if they have more questions.

Hampton asked if the software packages are publicly available. Goodwin said inlpubs, inldata, webmaps and inlcolor are currently available and the rest will be released to the public in the future after testing is complete. Hampton asked if she knows a timeline. Goodwin said she does not know.

Farber asked what the Trichloroethylene (TCE) contaminant level is. Tremelling said it is 5 micrograms per liter.

Hampton asked how far the water must be transported. Traub said it is less than 100 yards overall.

Nate Francisco asked if they measure microbe activity levels. Tremelling said the amendment creates elevated levels of different components like nitrate, and when these components are at a higher level there is likely a higher activity of in situ bioremediation. She said when those concentrations begin to lower, they know that it's starting to dissipate into the aquifer and return to background levels.

Francisco asked for more clarification. Traub said they measured the microbial communities a lot when the remediation first started, but since they are seeing a decrease in the TCE overall, they know there is enough of a microbial community to impact the TCE. He said they no longer keep track of those communities but the overall decrease in TCE shows that there is enough to perform the remediation.

Edmo asked if the contamination that created the hotspot has been removed. Tremelling said they no longer allow for any wastewater discharge which is what created the hotspot in the first place.

Ehresman asked for clarification on the 17-foot distance. Tremelling said they measured the distance to see how far it has expanded. Traub said it is less than 100 square yards.

Francisco asked if the plume of the radionuclides matches the plume with the TCE contamination. Tremelling said the contamination is confined to the source zone and parts of the medial zone. She said cesium 137 is only in the source zone and strontium 90 has migrated slightly into the medial zone but nothing is in the distal zone at this time. She said all the radionuclides are only located in the area where the plume is being treated.

Farber asked if there is a snapshot of the medial zone over time to show the performance of the pump and treat and re-injection in that section. Tremelling said they have a map that shows the current concentrations. She said the lighter section is between 5 to 50 micrograms per liter, the darker area is 50 to 100 micrograms per liter, and the pink area is greater than 100 micrograms per liter, but everything is at a much lower concentration than the initial concentrations.

Francisco asked if there have been any hits on wells anywhere else on the INL site with radionuclides, TCE, or anything else associated with historical activities. Tremelling said she was not certain regarding TCE specifically, but there are other sites such as Waste Area Group (WAG) 3 in the INTEC facility where the perched water and soils were contaminated with radionuclides. She said there is ongoing remediation in these areas. She said if the CAB wants more information on other areas such as WAG 3, DOE could put together a presentation for another meeting. Francisco asked if there have been any other hits in the aquifer monitoring wells. Tremelling said there has. She said at INTEC there is some contamination in the aquifer, but it's being remediated and isn't to the extent of what they see at TAN. Brown said they found some TCE a few years ago in a monitoring well near the rest area but he thinks it was due to cross contamination. Traub said it was actually tetrachloro ethylene. He said he believes it was cross contamination. He said there are other areas where there is contamination in the perched water. He said all the other WAGs have radionuclides but as for the aquifer it just depends on the WAG itself. Francisco asked if any of those hits have been on the down gradient side of the site. Tremelling said they are all located more towards the historical activities. Goodwin said USGS is also monitoring the southern border and they don't see any contamination at the southern border or beyond.

Farber asked if there are progress reports available to the public. Tremelling said there are annual WAG reports that can be found in the administrative record on IEC's website.

Tami Thatcher, Idaho Falls, asked what years the pump and treat was conducted and what the airborne radiological effect is. She said she wondered why all the monitoring is focused on those contamination areas and never anything downstream.

Traub said the pump and treat started around 2001 and monitoring is ongoing. He said they monitor the air released from the air stripper treatment units and monitor the water that is going back into the aquifer. He said they must meet compliance standards. Tremelling asked if those results are provided in the annual WAG reports. Traub said they provide the compliant sampling for the water that is going back in, but he would need to look up the vapor results. He said for the air stripper treatment units, overall, they monitor the breakdown of TCE and are not really worried about the radionuclides within the air.

Traub said there are monitoring wells outside the plume area called sentinel wells. He said they just sampled those wells within the week, and those samples are non-detect. He said overall they are not seeing any TCE within those wells, so any TCE that is travelling has been broken down by monitoring

natural attenuation to the point where they no longer see it in the aquifer at those wells. He said they monitor down to about 450 feet which is where the aquifer is flowing and they monitor at various steps.

Goodwin said they have multiple programs. She said IEC has their program for the ICP and there is also the WAG 10 where they do more of a sitewide sampling and additional downstream monitoring. She said USGS has their monitoring program on top of that which is sitewide. She said some of the wells sampled by USGS and IEC are called west bay wells, which are multi-level monitoring wells that can isolate different areas of the aquifer and sample at discrete depths. She said this means they can sample at 3 different locations in the aquifer and those wells are monitored on a regular basis. Tremelling referenced the map and added that they do also have down-gradient wells so they can see if contamination is moving down through the site and beyond the boundary.

Thatcher asked if there was a west bay well at TAN. Traub said there are no west bay wells at TAN. He said most of them are on the southern boundary. He said at TAN they have wells drilled to various different depths with pumps at different depths within the aquifer, so they are sampling a large portion of the aquifer to ensure that they have non-detect TCE concentrations once the water moves beyond the plume area.

### **INL Site Wildlife and Terrestrial Ecosystems**

Doug Herzog and Nicole Brooks (DOE-ID) provided an overview of INL site flora and fauna and ecological monitoring. The Presentation is available on the ICP CAB website:

<https://www.energy.gov/em/icpcab/articles/icp-cab-meeting-materials-june-2024>

Ehresman asked what plants are considered invasive or noxious by the site. Herzog said cheatgrass is a main concern, especially when it comes to fire, but they will treat for other plants such as Russian skeleton weed and thistles.

Hampton asked for further information on carcass recovery and if assessment and sampling is conducted on the carcasses. Herzog said deceased animals, especially near one of the water ponds, will be collected. He said typically tissue sampling will be done to see what is going on, but those animals are turned over to Fish and Game. He said he is unsure on the time frame to get the data, but they do look at it to try to determine cause of death.

Hampton asked what partner agencies are involved when the wildlife does leave the boundaries of the INL site. Herzog said they work in partnership with Fish and Game quite a bit. He said they are currently in the planning stages for a project to collar elk on the site to track movement and migration across the area.

Francisco asked why they control and restrict access to the large portion of the INL site that is not used for facilities. Brooks said the entire INL is listed on the national priorities list as a CERCLA site. She said the site was used by the Army as a bombing range years ago, so there are munitions of explosive concern (MEC) on the site. She said there are very large areas of the site that are institutionally controlled, which means there are access restrictions on those areas. She said there are also government controls including the lease agreement and the property transfer restrictions. She added that access is also restricted for security reasons. Brown said the ICP is not the only one doing work on the site. He said the Navy does a lot of work on the site and a lot of it requires security protection. He said the department of homeland security and the US Army also have a presence on the site. He said DOE does some classified work on the site which also requires the site to be protected. Besides the contamination areas, he said one of the biggest things they protect the public from are the MECs. He said when people are out in the field or when they look at new sites to build facilities, they do extensive surveys to make sure that none of the

MECs are in the area. He said one of the big projects they are working on right now is to expand the hunting boundaries, especially up north, because the farmers are complaining to the Fish and Game and others, including DOE and state representatives, that the elk populations are damaging crops. He said the deer know how far you can go to shoot them and how far you can't, so the farmers want more site access in the north, up to a half mile, to hunt the animals and reduce depredation on their fields. He said one of their big concerns with granting that request is the MECs. He said they are working to create education so hunters understand the danger and know what to do if they find an MEC.

Brown said in 1942 they withdrew all of the INL land for the government and for the government's purpose. He said another aspect is that a lot of nuclear facilities have to analyze, measure, and plan for how the closest public population could be harmed by the nuclear activities if something went wrong. He said one of the nice things about the INL site is it is so far from populated lands which allows them to do a lot more work safely and efficiently without affecting the public.

Francisco said that it looks like most of the facilities where activities are occurring are closer to the highways and the vast majority of the unused land is further away from where the people are. He asked if there are any efforts for cleanup activities on the rest of the unused lands, for example to cleanup the unexploded ordnance, for future uses. Brooks said, any cleanup activities outside of facility areas would primarily be regarding those MECs. She said they walked the area in 2014 as part of a cleanup effort for the MECs and identified several through that effort. She said they also recognize that these munitions will resurface through events such as frost heaves or fires. She said recent flyovers have identified additional craters and a few additional MECs. She said they recognize that they may never know if they have found or cleaned up all the MECs but are actively looking for craters and munitions to retrieve and detonate.

Francisco asked if they also use ground penetrating radars or Light Detection and Ranging (LIDAR) during flyovers to locate the ordnance. Brooks said they are working on using LIDAR but the drone technology that they currently have is already able to see craters that they weren't able to see before.

Brooks added one more thing in regard to expanding the hunting boundary. She said they have done a document called an explanation of significant differences which is a document they utilize to make a change to a Record of Decision. She said that it is currently going through agency review. She said once they have had a technical staff briefing with the tribes, they will conduct government to government consultation to receive the tribes' input and then DOE will release the document for public comment. She said they will hopefully be providing a presentation on the topic at the next CAB meeting.

## **Cultural Resources and Tribal Presentation**

Anna Bowers and Larae Bill (Shoshone-Bannock Tribes) provided a presentation on cultural resources and heritage in relation to the INL site. The Presentation is available on the ICP CAB website: <https://www.energy.gov/em/icpcab/articles/icp-cab-meeting-materials-june-2024>

Edmo thanked the presenters for sharing their culture and traditions so that people know the realities and the truth of their identity as a tribal nation.

## **EM SSAB Meeting update and EM SSAB Recommendation**

Teri Ehresman (CAB Chair) and Bob Skinner (CAB Vice-Chair) provided a summary of the Spring 2024 EM SSAB chairs meeting in Chillicothe, Ohio.

Ehresman presented a recommendation drafted at the chairs meeting recommending that the EM SSAB website maintain and keep documents related to board activities in perpetuity. The ICP CAB discussed and came to a consensus to support this recommendation.

### **Conclusion**

Andrea Gumm concluded the public portion of the meeting.

Teri Ehresman, Chair  
Idaho Cleanup Project Citizens Advisory Board