July 22, 2025
Savannah River Site (SRS) Citizens Advisory Board (CAB)
Full Board Meeting Summary
Center for African American History, Art & Culture

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# Tuesday July 22 Attendance

**CAB Attendees**

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| Marty Ball | Phyllis Britt | Scott McKay |
| Kim Ray | Kenneth Sajwan | Hubert Van Tuyll |
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**SRS Personnel**

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| James Tanner, CAB DDFO, DOE-SR | Bert Crapse, DOE-SR | Catelyn Folkert, BSRA |
| Edwin Deshong, DOE-SR Deputy Manager | Matt Baker, DOE-SR | Chuck Bryan, DOE-SR |
| Evan Watkins, DOE-SR | Aniya Ziegler, DOE-SR | |
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**SRS CAB Support Staff (S&K Logistics)**

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|---|---|---|
| Audrey Barron, Communications Coordinator | Juanita Campbell, CAB Administrator | Stephanie Kemmerlin, Coordinator/Program Analyst |

**Agency Liaisons & Public**

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| Heather Cathcart, SC DES | Crystal Robertson, SC DES | Madeleine Kellett, SC DES |
| Jon Richards, EPA | | |
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**Meeting Summary**
**SRS CAB – Full Board Meeting**
**Center for African American History, Art & Culture**
**120 York St., NE, Aiken, SC**
**July 22, 2025**

Meeting began at 9:00 AM Eastern Standard Time

## Meeting Introduction: Juanita Campbell, CAB Facilitator

Ms. Campbell opened the July Full Board meeting by welcoming everyone. She then had everyone in the U-shape introduce themselves and reviewed the meeting rules.

## Chair Update: Phyllis Britt, CAB Chair

Ms. Britt welcomed everyone to the July CAB Meeting. She reported that the national chairs group has started doing a series of seminar type things online every couple of months. She attended the first one and it was mostly a discussion about AI and about the effect of data centers on electricity needs and in SRS we talked a little bit about making the land available for such things as time goes on. She stated that she wasn't sure what the topic is for the next meeting, but it would be coming up in the next month. The chairs meeting took place last month again online.

## Environmental Management (EM) Manager Update

Savannah River Site (SRS) EM Manager, Mr. Edwin Deshong, provided an update on current SRS projects. Mr. Deshong noted that the Advanced Manufacturing Collaborative (AMC) that is located on the University of South Carolina – Aiken, construction is substantially complete with their certificate of occupancy for the interior evaluation receiving a satisfactory grade in June. AMC achieved the critical decision 4 on July 21st. He noted the CD4 is a final step in this process. They are currently installing lab equipment and furniture and targeting August for a ribbon cutting event.

## EM Manager Update Q&A

There were no questions.

## Agency Updates

Mr. Jon Richards, with the U.S. Environmental Protection Agency (EPA) reported that several employees had taken buyouts like DOE. Their Super Fund Division Director was one of them. Hunter Johnson is now the Acting Super Fund Division Director. He also mentioned that Brianne Martin, one of the project managers, had a good internal briefing for L area which was at a draft proposed plan stage. They are very excited about this because the briefing includes region 4 management, attorneys, senior attorneys and HQ that usually get involved. The other item he mentioned was the preliminary cease waste removals. The last one was in mid-June. He also shared that he was privileged to present at last week's TREAT workshop.

Ms. Heather Cathcart, with the South Carolina Department of Environmental Services (DES), provided updates. She reported that on June 10th, the regional office performed their monthly saltstone inspection and conducted ambient stream monitoring in the Upper Three Runs creek on South Carolina 125. The same inspection and monitoring occurred again on July 8th.

On June 20th, DES issued concurrence that DOE may enter into the sampling and analysis phase for tank 8. This preliminary cease waste removal satisfies the second of two for the 123126 PCRW commitments. She noted that on July 1st, they celebrated their first birthday as South Carolina DES. On July 16th, they had a regulatory walkdown for the early construction and operational disposal site for N1 central shop scrap lumber pile and the Ford building.

## Agency Updates Q&A

There were no questions for Mr. Jon Richards nor Ms. Heather Cathcart.

## SRS Heavy Water Program: Larry McDaniel, DOE-SR

Mr. McDaniel provided an overview that included the background of heavy water, current inventory at SRS, the storage protection that is implemented, some potential reuse options
That are being explored, and the industry standard for heavy water.

## SRS Heavy Water Program Update Q&A

Mr. Van Tuyll asked that if the water is naturally occurring, where is it found, how is it found?

Mr. McDaniel's stated it is found in water. You must use specialized equipment to pull the heavy water out of it. Mr. McDaniel asked for Mr. Babineau's (SRNL division director for the Tritium Technology Division) assistance with this question. He stated there is a purification process where you can purify the water. You would go out and dip up a big bucket of it and then it goes through a process where it separates the light water from the heavy water using a different chemical. Mr. Babineau went on to describe that there is basically 156 parts per million of D2O, heavy water in all the water that is around us and in what you drink. It varies from location to location. It's about 156 parts per million. The most cost prohibitive part of the process is getting to 1%. And in the past when it was done at Savannah River, they used what was called the Girdler sulfide process. It was a chemical process to get it up to 1%. From there you use water distillation. Its distillation columns is similar to what you do in petroleum distillation. And then you concentrate it from 1% up to 99.5 or greater.

Mr. Ball asked if the use of detritiated water or heavy water for moderator, increasing or decreasing in commercial reactors?

Mr. McDaniel stated it increases as you use it as a moderator. As you use heavy water or even light water in a reactor the fuel process itself causes the tritiation to increase.

Mr. Ball then asked are reactors moving away from using heavy water as a moderator?

Mr. McDaniel stated Absolutely! Some of the reactors, even department reactors, will always be heavy water. He doesn't know the transition requirements for upgrading a reactor or modifying a reactor to use a different type of moderator, but there are new reactors that use graphite and light water and molten salt as their moderator in those reactors during the fuel cycle. Mr. Richards with EPA then added that all the commercial reactors are all light water reactors. So, some of the research has been with graphite, the salt as he's mentioned, but all the commercial ones; really Canada, Pakistan are the only ones that use heavy water for commercial reactors.

Mr. Ball then asked about the sodium-moderated reactors?

Mr. Richards stated those would've been commercial reactors like France that is like 95% nuclear power. It's all light water reactor.

Mr. McDaniel reemphasized that light water is kind of like tap water, just pure water.

## Detritiation of SRS Heavy Water Update: Dave Babineau, BSRA

Mr. Babineau presented on the detritiation of heavy water and the many uses of it. SRS legacy heavy water has significant potential for commercial value.

## Detritiation of SRS Heavy Water Update Q&A

Mr. McKay asked that if you are reducing the amount of heavy water use, from the other industries that use the heavy water, are those going to go up in cost or you said you can't transfer yours to them? Are they making that and are they collecting?

Mr. Babineau stated that is the job of isotope sales. Once it is detritiated, then Mr. McDaniel would transfer it to them and they can sell it. Each office within DOE is restricted by Congress what they can legally do, and the Office of Isotope sales was actually set up specifically to sell isotopes. The Mark 18 program that was mentioned earlier, that is to recover the plutonium 244, specifically to sell that isotope for use elsewhere. So, the isotope sales program is using those isotopes that were generated all over the country for the weapons program in the beginning and they can they cannibalize what was there before and sell them. The isotope sales program is what is funding this effort, and they would actually take the water once it was detritiated, and then they can sell it.

Mr. Babineau adds that there is another project on the books through the isotope sales program to recover helium 3 from some of the storage media in the tritium facility today that can't be recovered. It's another $36 million project that they are working on today to build a process and a facility to do that.

Mr. Ball stated the assumption seems to be that if you have heavy water its 2 deuterium atoms with an oxygen. How do you distinguish that?

Mr. Babineau stated that it's actually a combination of HTO, HDO, DTO, D2O, and T2O. They call them isotopologues. You get the whole range of them but that distillation process actually separates them out completely and you can actually, at different phases, which take out pure D2O and then you'll have a tap point later on which takes out pure T2O. You can actually have tap points where you'll get DTO if you want it. You just have to use analytical techniques to figure out where that is in the process.

Ms. Britt asked after you do all this then what do you do with it? Do you just sell it? Is that the purpose?

Mr. Babineau stated yes. Basically, the water would be stockpiled, it may even be transferred to. Oakridge National Lab. The national lab is actually one of the premier labs for distribution of isotopes for the isotopes program; they're an Office of Science lab. Ideally, once the helium 3 is purified from that recovery process it will be transferred to the Oakridge National Lab and they will distribute it as requested by the isotopes office. The process hasn't really been figured out yet. It may be kept at Savannah River and then dispense it, or it may be transferred to Oakridge and then they would dispense it. It's up to the isotopes office.

Mr. McDaniel spoke again stating that as a reminder the United States is not making any more heavy water. The inventory that we have is what we have as far as SRS is concerned. If we can clean it up, we can reuse it through the isotope office to send it to the places that Mr. Babineau had listed in his in his slide; medical reactors, the naval reactors use heavy water. We have some research organizations, research reactors through the university program that also use heavy water and they're running out of heavy water. So, if we can create this detrtitiation process here, we can go back to providing through the isotope program the critically short isotope of detritium oxide.

Mr. Babineau stated there's not that many in the world that produce it. South Korea, maybe Canada has an operating process today. They just continue to recycle what they had. That's one of the reasons it's so expensive. It's like thousands of dollars per kilogram to buy it. So that's why this water's worth potentially a bunch of money if we can get the tritium out.

Mr. Van Tuyll thanked Mr. Babineau for an excellent presentation. He particularly appreciated the explanation of a bunch of the basic science. He asked given the expense of detritiation, would it be more expensive to try to produce it from scratch?

Mr. Babineau stated that yes it would. To build a plant that could do this at the scale they want, it would probably be on the order of a roughly a billion. To do the process that has been described is in the low to mid 100 million on a large scale. Full scale processing all that heavy water within 10 years. And that would give the isotope office what they think the demand is for 10 years. So, it would be a few hundred million versus a billion. It would also build up our competency in this area because we've pretty much lost it until now until we started this process because they didn't run the heavy water plant at SRS since he thinks the 60s. So, really, we weren't up to speed on this until we started working this project. Basically, this would build our competency. You could still use this part of the process and then you would have to build that front-end process for, you know, it would be significant amount of money, but it wouldn't cost as much as if you just did it all at once. So, it helps us slowly build that competency over time. And we can still use this. Once we finish this heavy water, when we go from light water, we could just add it on the front-end process to get to that 1% and then use this for the rest. At least that would be my plan if I was still around in 10 years, but I'll probably be retired by then.

## State Regulatory Oversight of the ECODS N-1 Central Shops Scrap Lumber Pile, and Building 690-N & Record of Decision: Heather Cathcart, SCES, Jon Richards, EPA

Mr. Richards' presentation focused on remedial alternative selection for the early construction and operational disposal. His is more the superfund side and how they approach these sites. A record decision is the final document, DOE signs first, the state and then EPA. Even though DOE is the lead agency, EPA being the author of superfund is the final signature. He mentioned that ECODS stands for Early construction operational disposal and there are 20-25 on site, mostly from the early 50s.

Ms. Cathcart presented on the State perspective of the ECODS N-1 Central Shops Scrap Lumber Pile, and building 690-N. She stated it has been a year since SCDHEC changed to SCDES. She reviewed the processes of how everything works to achieve the Record of Decision.

## State Regulatory Oversight of the ECODS N-1 Central Shops Scrap Lumber Pile, and Building 690-N & Record of Decision Update Q&A

There were no questions for Mr. Richards.

Ms. Ray asked about when those decisions/recommendations go to the reading room, you mentioned USC-Aiken and USC-Columbia libraries. Is there a reason why they only go to those two reading rooms?

Ms. Cathcart stated she wasn't certain. She mentioned that perhaps Matt Baker, DOE, would know.

Mr. Baker stated that he doesn't have the history on why those were the two selected. He stated that he will investigate it.

## Board Business:

There was no board business to discuss.

## Public Comments

No public comments.

## Closing Remarks

Ms. Campbell thanked everyone again for attending the meeting. She reminded everyone to sign in if you hadn't already done so, and for CAB members to sign their vouchers and they would be collected. She also encouraged everyone to be on watch for emails that are being sent to them from the DOE CAB team.

Ms. Britt encouraged everyone to pay attention to their CAB meeting schedules/dates. She was thankful for the reminder that was sent to everyone. She reminded everyone that the next subcommittee meeting is August 19 online, and September 23rd for the full board meeting. Ms. Campbell states that there are plans for the full board meeting to be held at the new AMC building at the USC-Aiken campus.

Meeting adjourned at 11:00am EST.