Meeting Minutes

Savannah River Site Citizens Advisory Board (CAB)—Combined Committees Meeting

Marriott, Hilton Head, SC

January 23, 2017

Monday, January 23, 2017 Attendance:

CAB	DOE/Contractors/Other	Agency Liaisons
Gil Allensworth	Zach Todd, DOE-SR	Heather Cathcart, SCDHEC
Tom Barnes	Jack Craig, DOE-SR	Beth Cameron, SCDHEC
Louie Chavis - *Absent*	Michael Mikolanis, DOE-SR	Shelly Wilson, SCDHEC
Susan Corbett	John Lopez, DOE-SR	Trey Reed, SCDHEC
Robert Doerr	Jean Ridley, DOE-SR	Susan Fulmer, SCDHEC
Dawn Gillas	Susan Clizbe, DOE-SR De'Lisa	Jon Richards, EPA
David Hoel	Carrico, DOE-SR Avery	Stakeholders
Eleanor Hopson	Hammett, DOE-SR Tony Polk,	Rose Hayes, Public
Virginia Jones - *Absent*	DOE-SR	Maralyn Parsons, Public
Daniel Kaminski	Andrew Albenesius, SRNS	Earl Patterson, Public
Jim Lyon	Lee Fox, SRNS	Ed Wannemfcher, BWXI
John McMichael - *Absent*	Ginger Humphries, SRNS	Colin Jones, CH2M
Clint Nangle - *Absent*	Kristin Huber, SRNS	
Cathy Patterson	Melissa Jolley, New South	
Larry Powell	Associates	
Bill Rhoten	James Tanner, Time Solutions	
Earl Sheppard	Chelsea Gitzen, Time Solutions	
Harold Simon	Federica Staton, Time Solutions	
George Snyder		
Nina Spinelli		
Ed Sturcken		

Louis Walters- *Absent* Mary Weber		

Opening: Harold Simon, CAB Chair

Mr. Simon welcomed everyone to the meeting and reviewed the times for public comments.

Meeting Rules & Agenda Review: Susan Clizbe, DOE-SR Facilitator

Ms. Clizbe reviewed the meeting rules and the agenda for the day.

Facilities Disposition and Site Remediation Committee Update: Tom Barnes, Chair

Mr. Barnes welcomed everyone to Hilton Head. Mr. Barnes informed the CAB that his term as a CAB member has finished and that he has enjoyed his time as a CAB member. The committee had no open or pending recommendations. The next committee meeting will be held April 12th, 6:30-8:20 pm at the DOE Meeting Center. He then introduced the presenter, Avery Hammett.

Presentation: Topics for Consideration, Avery Hammett, DOE-SR

Ms. Hammett provided an overview of potential topics for the Facilities Disposition and Site Remediation 2017 work plan. Once completion of the meeting on Tuesday, the FD&SR Committee would have completed all of the topics in the 2016 work plan. Ms. Hammett provided a list of proposed topics including Final Approved Federal Facility Agreement Appendix E which was a result of CAB Recommendation 279 and Soliciting Input for Update of SRS Community Involvement Plan (Recommendation 338). She concluded her presentation with a summary of the path forward to finalizing the work plan.

There were no questions from the CAB or Public.

Presentation: D-Area Ash Basin, Karen Adams, DOE-SR

Karen Adams began her presentation by showing an aerial of D area where the work is taking place. The four facilities that are included in the project are the 488-4D coal ash landfill, 488-2D coal ash basin, 488-1D coal ash basin and the remaining section of the 488-9D.

D Area Ash Basins (488-2D & -1D) & Landfill (488-4D) supported the operations of the powerhouse which shutdown in April 2012. The ash basins are permitted by the Industrial Waste Water and Construction Permit (IWT) and the ash landfill is permitted under Class Two Solid Waste Landfill permit. The D Area Coal Pile Runoff Basin (489-D) was partially closed in 2011 under the American Recovery & Reinvestment Act.

In 2011, DOE led negotiations with USEPA and SCDHEC to allow closure flexibility to meet the potential budget forecast and the new schedule allows closure to occur over 5 years rather than 6 months.

Closure of the landfill and basins will be implemented through a series of removal actions and early final actions to accommodate the FFA milestone schedule.

488-2D Ash Basin will remain open as a detention structure for water management during and after construction. A Geosynthetic Cap will be installed over the488-4D Ash Landfill. A Geosynthetic Cap will also be installed over the east end of the 488-1D Ash Basin. The west end and inlet basins will be graded and sodded for erosion control. 489-D Coal Pile Runoff Basin will remain open as retention structure.

Ms. Adams presented a drawing displaying a typical installation of a Geosynthetic cover. A typical cover system includes a foundation, geosynthetic clay layer and drainage layer and a soil cover.

There are two phases of the D Area Ash Project. Phase I includes the 488-2D Coal Ash Basin and the 488-4D Coal Ash Landfill. Phase II includes the 488-1D Coal Ash Basin and the 489-D Coal Pile Runoff Basin.

The Phase I contract was awarded to Envirocon on February 5, 2015. Mechanical completion of 488-4D was completed on August 31, 2016 and mechanical completion of 488-2D was completed on September 23, 2016. Physical completion of both facilities was completed on December 20, 2016. The Phase II contract was awarded to Envirocon on March 31, 2016. Mechanical completion of 489-D is forecast for February 28, 2017 and 488-1D for February 28, 2018, respectively. Physical completion of both facilities is forecast for July 2019. The Total Project Cost for all four facilities is $74.2 million. The projects milestone dates have been met and exceeded.

Ms. Adams concluded her presentation by stating that the D Area Ash Project has made good progress since construction started and is on schedule and within budget. The remediation efforts will meet CERCLA and South Carolina State Permit requirements for closure of all four facilities and completion of construction is scheduled for 2019.

Q&A Session

Susan Corbett, CAB Member: Coal ash in general is a very toxic substance, is it not?

Karen Adams, DOE-SR: No ma'am. What we have the most problem with is coal itself. Coal ash is not a contaminant migration threat to the ground water. There is a small ecological risk for coal ash but the way in which we are closing these will prevent that risk.

Susan Corbett: But doesn't coal ash contain mercury and lead and arsenic and other heavy metals?

Karen Adams: There are metals associated with coal that does show up in the coal ash but very small amounts. The coal is the real problem more so than the coal ash

Susan Corbett: For the disposal method, is there a liner underground?

Karen Adams: No, there are no liners in the basin.

Susan Corbett: So what will stop the mercury, lead and arsenic from migrating down into the water table.

Karen Adams: That is the purpose of the liner over the top (of the basin). The geosynthetic top will prevent the rain from permeating through to the ash.

Susan Corbett: What is the projected life expectancy of these covers?

Karen Adams: I believe is it 30 years but the way we have installed them they should last for much longer than that; because we do have to maintain them, we do go out and do regular walk downs of these caps to make sure they are still intact and doing as they were intended.

Susan Corbett: So they will have to be replaced? Are there monitoring wells around to check to see if anything is leeaching into the ground water?

Karen Adams. Yes. The ground water monitoring that we have done prior to this project shows no ground water contamination associated with these ash basins. There is ground water contaminations associated with the coal pile run off basin because it is very acidic. It is basically coming from the coal. The ground water is very low in ph.

Susan Corbett: How far down in terms of feet does it go?

Karen Adams: The water table is not very far from the surface because we are a mile from the river. So, 5 to 10 feet, you will hit water.

Susan Corbett: So it is possible at some point if the water table rises it could come in contact with the coal ash?

Karen Adams: Right. That is one of the problems that we have to address as part of the closure of these facilities. Currently, because of the way they were constructed back in the early 50's they were built at grade but at that grade the ground water is so close all the water that was used during operation, as the ash got taller the ground water followed it. So yes, you are correct it is mingling with the bottom of the land fil. One of the things that we have to look at after this project is the separation of ground water from the bottom of the land fil. We project it will take 10 years for at least 3 feet of separation to occur.

Jim Lyon, CAB Member: Could you describe the geosynthetic materials you are using and what is the anticipated lifespan? Secondly, what is your plan for long term monitoring maintenance and repair of these facilities?

Karen Adams: To answer your first, the drainage layer is a plastic mesh in between two sheets of felt. The clay layer has two sheets of felt and sandwiched in between those two sheets of felt is a granular form of clay that absorbs water when wet.

Jim Lyon: I get that you have one permeable and one that's not permeable but what's the long term plan.

Karen Adams: The project baseline for EM goes out to 2065. We do annual inspections of all the covers that we have onsite and we also have in our baseline dollars associated with the care and maintenance of those covers. Not only do we review the covers themselves but also our regulators do the same thing every 5 years under CERCLA they come out and do a remedy review. They also make sure that the covers in place are doing what we said they were going to do, protecting the ground water and our annual inspections also make sure that we don't have any subsidence and that if repairs are needed they are done quickly.

Jim Lyon: So actually it is an ongoing plan? I recommend for the sake of clarity and reassurance that you add that to your briefing.

David Hoel, CAB Member: I noticed in slide 2 where you do an aerial of the facilities and their permits, I noticed some are permitted as sanitary landfills and others are permitted as industrial waste water treatment facilities. I presume that's because these basins were treatment units or the water going into them, is that correct?

Karen Adams: Yes because we were discharging the water we had to get that treatment because basically we have an MPDES permitted outfalls for these units so we have to meet toxicity requirements before we discharge.

David Hoel: Since this project began in 2012, have there been any exceedances of those permits?

Karen Adams: We just received an NOV (Notice of Violation) in December of 2016, for total suspended solids because as we passed our toxicity tests for the 1D basin we were discharging from 1D. There was a communication lag and we weren't not able to go back and resample the report was submitted to SCDHEC so we had to send it out as an exceedance of total suspended solids so the exceedance happened in August and the report went out in September and we received the Notice of Violation in December. As soon as we realized what happened in the August-September timeframe we put out corrective actions and motions. We have put things in place to help prevent this from happening again. That was our first and hopefully last one on this project.

David Hoel: So there haven't been any violations with the landfill portion of this project?

Karen Adams: No. This was on the ash basin.

David Hoel: Slide 11 talks about a great deal of fill material. Where does that fill material come from?

Karen Adams: We have a D Area borrow pit that we developed just for this project so it is about a 40 acre borrow pit. We have borrow pit number 1 and it was used for phase 1 and we have pretty much exhausted

it. Now we are working on the development of borrow pit number 2 and it is going to be used for fill material and topsoil for phase 2. We were very fortunate to have a borrow pit that close.

David Hoel: On slide 21, the basins that have water in them appear to be different in color. I was just wondering why that is.

Karen Adams: I do not know. Yes they are. The north inlet basin is an industrial blue and the south basin is not so much. They are mostly rainwater, why they are colored differently, I do not know. When we take samples of these waters that problem that we have is that it mostly passes drinking water standards but the alkalinity is off and the PH is off. When the powerhouse was in operation, these basins were the first stop for the ash slosh that came from the powerhouse and that is basically a mix of ash and water. They would use these basins one at a time so when the water came in they would allow time for the ash to settle and it would overflow into 1D and 1D would overflow into 2D. Since the powerhouse shut down the only water that enters these basins is rainwater there is no industrial water coming.

David Hoel: I am confused by the "Dewatering and Closure of the 488-2D Ash Basin; to remain open as a detention structure" statement.

Karen Adams: To close it, it means we are excavating the ash, consolidating it into the landfill next door, and we do confirmation samples to make sure we removed all the ash. Then we put down the fill material and the sod so its closed but it is still open because we need to manage water during construction but we also need to manage the water because it is not percolating into the ash getting into the ground water; it is running off the cap as rainwater and the basins will collect that water and we will be able to manage it so we won't have an erosion problem. Yes it is confusing when I say it is closed but it is going to be open as a basin to collect rain water.

Gil Allensworth, CAB Member: The aerial photos just off of what happened last year how did you all get them, was it a drone or helicopter?

Karen Adams: No we can't use drones on the site. They were taken with a helicopter.

Public Questions

Marylyn Parsons, Public: Slide 9 has the cost of the project at $74.2 million dollars. This project is not the final thing that will ultimately be done with the ash. What was the cost to remove the ash and put it into a lined landfill?

Karen Adams: I believe it was over $100 million and most of that would have been transport costs because we do have a lot of ash in the area. Even though this is early action we do hope that this is going to be a final action for this ash. It will remain under the caps and the caps will be maintained for years to come.

Strategic and Legacy Management Committee Update: Gil Allensworth, Vice-Chair

Mr. Allensworth welcomed everyone to the meeting and introduced the committee members. There were 2 open recommendations. The next committee meeting will be held April 12th, 4:30-6:20 pm. He then introduced the presenter, Zach Todd.

Presentation: Topics for Consideration, Zachaery Todd, DOE-SR

Mr. Todd provided an overview of potential topics for the Strategic and Legacy Management Committee 2017 work plan. Once completion of the meeting on Tuesday, the FD&SR Committee would have completed all of the topics in the 2016 work plan. Mr. Todd provided a list of proposed topics that reflected the CAB's interest and he concluded his presentation with a summary of the path forward to finalizing the work plan.

There were no questions from the CAB or Public.

Presentation: Historic Preservation, Andrew Albenesius, SRNS and Melissa Jolley, New South Associates

Andrew Albenesius and Melissa Jolley presented an update on the SRS the Cold War Preservation Program. He defined the Cold War period as the time from post WWII when the Soviet Union developed atomic weapons to the fall of the Berlin Wall and Soviet Union. He also defined historic artifacts as relics that can be used to detail the story of the Cold War.

The National Historic Preservation Act was enacted in 1966 and fostered the system by which federal agencies survey and identify districts, sites, buildings, structures, and objects significant in American history, architecture, archeology, engineering, and culture, and use this information to plan projects so that, where possible, historic places are preserved and used for public outreach.

The 50th Anniversary of the site recognized SRS's Cold War facilities and equipment as potentially significant and began its Cold War inventory as required under the NHPA.

The Programmatic Agreement is an agreement with the Site and the State Historic Preservation Office that ensures the identification and treatment of resources and artifacts that date from SRS's selection to the end of the Cold War. The main tenants of the program are identifying facilities for preservation, writing histories, collecting and managing artifacts and providing public outreach.

The site Layout and over 200 Cold War resources have been identified as significant and are eligible to be considered as a National Register-eligible Cold War historic district. There was no new Cold War resources such as buildings or structures identified in 2016.

In the curation facility we have a number of artifacts that we have, since the beginning of the program in 2004, collected and then they are there to tell the story because there was no museum outlet at the time, we do have now, a private museum apart of the Aiken County museum that is in startup mode, The SRS Heritage Museum. So we know now where we are headed in the future to try to tell the story and do a better job with public outreach.

The curation facility has new artifacts coming in constantly. We are in the process of scanning all of our historic photographs on 16 millimeter film; they date back to the early 50s. We created a traveling exhibit for the Augusta Library. In public outreach we are continuing to partner with SRS communications where we do a throwback Thursday and basically highlight a particular piece of history with photographs or other things to tell one of the Cold War stories we have had a number of tours through the curation facility and we also have an ongoing quarterly historic heritage tourism meetings for preservation where there are a lot of collaboration that goes on working to improve the telling of the story. In terms of compliance we are fully compliant with the Historic Preservation Act. In a tactical sense from the programmatic agreement there is a Cultural Resource Management Plan which gives more detail in what we do to comply with NHPA.

Q&A Session

There were no questions from the CAB.

Public Q&A

Rose Hayes, Public: One thing that I have become more aware of after leaving the CAB and having obtained broader research interest is the number and cost of people who work there that have health issues now. It is a very large chargeback figure to the Bureau of Labor Statistics. It is not easy to find out about all the people who have made great sacrifices for their country and I am hoping that if you are doing something like it says in slide 14, to represent the legacy, that you will have information on those fine people. Also we have the problem of legacy materials left at the site and I am hoping that in the county museum there will be very informative information for our public on that issue because I find that many people really misunderstand what did go on and what is going on at the site. Finally, will there be something available to us that detail which areas the categories will cover?

Andrew Albenesius, SRNS: The categories of Cold War History are numerous. There is early construction, early operations, the story of African Americans on site which is pretty significant, displaced members of the community and other reasonable topics. Those stories are evergreen. What you have mentioned could potentially become a part of future exhibits for telling the Cold War story. We are not constrained by which stories we tell. I think any story is fair game.

Rose Hayes: From what I understand is that you don't really have a plan; you are going to add on as the occasion permits?

Melissa Jolley, New South Associates: We are not a museum at the curation facility. Our goal at the curation facility is to preserve and protect the artifacts. As of right now, we do some outreach through exhibits but as of right now our focus is on collecting the history and that is constantly changing and growing depending on what artifacts we are able to find.

Rose Hayes: Do you have records on some of the workers who had illnesses as a result of working there?

Melissa Jolley: We have artifacts from the range of the years from 1950-1989 and there has been nothing that we haven't collected because of a certain story. We collect things that are specific to the site.

Andrew Albenesius, SRNS: I would tell you that that has not been a focus area at this point. The program is in somewhat its infancy stage. We are at the point where we have just gotten a true public outreach mechanism which is the SRS Heritage Museum. We are really changing gears on what stories we are going to tell and how we are going to tell them.

Waste Management Committee Update: Earl Sheppard, Chair

Mr. Sheppard welcomed everyone to the meeting and introduced the committee members. The committee has one open recommendation and two pending recommendations. The next meeting will be held April 11, 2017; 4:30 p.m. to 6:20 p.m. Mr. Sheppard then introduced Soni Blanco, DOE-SR.

Presentation: Topics for Consideration, Jean Ridley, DOE-SR

Jean Ridley offered a summary of potential topics for the Waste Management Committee 2017 work plan. Jean Ridley noted that the Waste Management Committee completed all of the topics on the 2016 work plan. Ms. Ridley provided a list of proposed topics that reflected the CAB's interest.

Nuclear Materials Committee Update: Larry Powell, Chair

Mr. Powell welcomed everyone to the meeting and introduced the committee members. Recommendation 334, 337 and 341 remained open. The next meeting is April 11th, 2017, 6:30 p.m. to 8:20 p.m. at the DOE Meeting Center. The committee had one presentation, Topics for Consideration presented by Tony Polk DOE-SR.

Presentation: Topics for Consideration, Tony Polk, DOE-SR

Tony Polk presented a list of prospective focuses for the Nuclear Materials Committee 2017 work plan. Tony Polk noted that the Nuclear Materials Committee completed all of the topics on the 2016 work plan.

Administrative and Outreach Committee Update: Eleanor Hopson, Chair

Ms. Hopson welcomed everyone and introduced the committee members. She noted that the membership drive has ended; however, they are still seeking to replace members next year. Membership applications were available on the back table. To be considered for the next term, you must complete your applications. She informed the members of the upcoming outreach events and recommended they volunteer. Ms. Hopson informed everyone that the Administrative and Outreach Committee will be meeting in the Palmetto Room after the Combined Committees Meeting.

Discussion: CAB Standard Operating Procedures, James Tanner, CAB Support Team

The Board collaborative discussed revisions to the internal processes and refined the language to suit the CAB's mission. The CAB received clarity and insight from DDFO, Michael Mikolanis on issues of member removal and DOE's role in the CAB. The Board voted to remove the topics concerning member removal and vote on the internal process without them and make a proposal on the amendment to the CAB at a later date. Topics discussed include:

- Quorum
- Online voting/Electronic Participation
- Member attendance
- Closed meeting procedures
- Member removal process
- Letters to DOE vs. Recommendations

Public Comments

Marilyn Parsons, Public, spoke on recommendation 311, Improving Public Participation. She thanked the CAB and DOE for pushing to hold meetings outside of Aiken so more members of the public could attend. She also commented on clean up actions concerning the site. She stated that SRS should take necessary actions to clean up areas such as the ash basin in D-Area immediately.

Rose Hayes, Public also provided comments concerning clean up. She recommended that the CAB included addressing the specifics surrounding materials leaving the site in their SOP.

Harold Simon, CAB Chair, thanked everyone for their participation and cooperation in the SOP process. He also thanked James Tanner for his role in facilitating the SOP discussion

END OF DAY 1, January 23, 2017

Meeting Minutes

Savannah River Site Citizens Advisory Board (CAB)—Combined Committees Meeting

Marriott, Hilton Head, SC

January 24, 2017

Tuesday, January 24, 2017 Attendance:

CAB	DOE/Contractors/Other	Agency Liaisons
Gil Allensworth	Zach Todd, DOE-SR	Heather Cathcart, SCDHEC
Tom Barnes	Jack Craig, DOE-SR	Beth Cameron, SCDHEC
Louie Chavis - *Absent*	Thomas Johnson, DOE-SR	Shelly Wilson, SCDHEC
Susan Corbett	Michael Mikolanis, DOE-SR	Trey Reed, SCDHEC
Robert Doerr	Terry Spears, DOE-SR	Susan Fulmer, SCDHEC
Dawn Gillas	John Lopez, DOE-SR	Jon Richards, EPA
David Hoel	Susan Cilzbe, DOE-SR	Stakeholders
Eleanor Hopson	De'Lisa Carrico, DOE-SR	Rose Hayes, Public
Virginia Jones - *Absent*	Avery Hammett, DOE-SR	Tom Clements, SRS Watch
Daniel Kaminski	Tony Polk, DOE-SR	Maralyn Parsons, Public
Jim Lyon	Gene Rhodes, SREL	Earl Patterson, Public
John McMichael - *Absent*	Lee Fox, SRNS	F. Taylor, Public
Clint Nangle - *Absent*	Ginger Humphries, SRNS	Becky Rafter, GA WAND
Cathy Patterson	Kristin Huber, SRNS	Lindsay Harper, GA WAND
Larry Powell	Karen Patterson, SC NAC	Kevin S. , BJWSA
Bill Rhoten	James Tanner, Time Solutions	Patrice Moore, BJWSA
Earl Sheppard	Chelsea Gitzen, Time Solutions	Tricia Kilgore, BJWSA
Harold Simon	Federica Staton, Time Solutions	Colin Jones, CH2M
George Snyder		
Nina Spinelli		
Ed Sturcken		

Louis Walters- *Absent* Mary Weber		

Opening Ceremonies: Harold Simon, CAB Chair

Mr. Simon welcomed the attendees and led everyone in the Pledge of Allegiance and the National Anthem.

Vote on Accepting November Meeting Minutes

A motion was made to vote to approve the meeting minutes. Motion seconded.
The Motion was carried, and the Minutes were approved.

CAB Chair Update: Harold Simon, CAB Chair

Mr. Simon reviewed the meeting rules and agenda. Earl Sheppard also welcomed everyone to the meeting and introduced his colleague Kevin Sexton. Mr. Simon thanked the retiring members for their service to the Board.

Meeting Rules & Agenda Review James Tanner, CAB Administrator

Mr. Tanner reviewed the meeting rules and the agenda for the day.

Waste Management Committee Update: Earl Sheppard, Chair

Mr. Sheppard welcomed everyone to the meeting and introduced his colleague Kevin Sexton the committee members. The committee has one pending recommendation. The next meeting will be held Tuesday October 4,
6:30-8:20 pm at the DOE Meeting Center. Ms. Jones then introduced Roberto Gonzalez.

Agency Updates

Department of Energy Agency Update: Jack Craig, DOE-SR

New Administration

- We have been working with DOE-HQ to facilitate a smooth transition to the new Administration.

Budget

- SRS funding continues under Continuing Resolution at FY16-enacted levels through April 28, 2017.
- SRS has submitted a Reprogramming Request, within the FY16-enacted funding levels, to re-align FY17 funding to cover priority work scope within SRS nuclear materials and liquid waste operations.
- Funding source for this reprogramming derives from Salt Waste Processing Facility (SWPF) and Saltstone Disposal Unit (SDU) #6 line items (funding available from these two projects due to construction completions in FY16).
- Reprogramming involves a movement of funds between programs or projects that is different from what was originally appropriated by Congress.
- Specifically, this reprogramming will allow the Site to retain cleared, trained, and qualified personnel necessary to:
  - Maintain the safety envelope and process limited amounts of spent nuclear fuel and plutonium (Pu) in H-Area

- Continue Building 235-F activities to reduce the amount of Pu-238
- Receive Pu material in accordance with Presidential non-proliferation commitments supporting global threat reduction goals
- Support the Liquid Waste program
- Continue SWPF integration work required to support the tie-in to H-Tank Farm and Defense Waste Processing Facility (DWPF)
- Reduce the delay in meeting Federal Facility Agreement (FFA) commitments for Bulk Waste Removal Efforts and Tank Closure
- Continue procurement of Tank Closure Cesium Removal (TCCR) capability consistent with the Dispute Resolution Agreement with South Carolina Department of Health and Environmental Control (SCDHEC)
- Accomplish Critical Decision-1 for design and construction of SDU #7

- Beyond FY17, FY18 Budget is still under development and roll-out is anticipated sometime this Spring.

Nuclear Materials Program

- All Nuclear Materials facilities are in sustained operations.
- H Canyon continues to process spent nuclear fuel.
- HB line continues to process plutonium feed material for disposition.
- K-Area continues to perform down-blending of plutonium and will be conducting destructive examinations of 3013 containers as part of the surveillance program for long term storage of plutonium.
- L-Area continues to support fuel receipts from Foreign and Domestic Research Reactors and transfers of Spent Nuclear Fuel to H-Canyon for processing.
- 235-F initiated material at risk removal from cell 6 in December 2016 and continues to address actions for completion of the Implementation Plan for DNFSB Recommendation 2012-1.

Environmental Cleanup: Liquid Waste and Solid Waste Programs

- **Waste Isolation Plant Project (WIPP) Resumes Operations this month.**
  - Workforce at WIPP successfully completed the first waste emplacement operations on Wednesday, January 4, 2017.
  - All previously certified waste from the Waste Handling Building will be emplaced prior to accepting new waste shipments from generator sites to WIPP.
  - DOE expects to resume shipments to WIPP in Spring 2017.
  - Schedule for waste shipments is not yet finalized, presently expecting that the facility will slowly and safely ramp up to approximately five shipments a week later this year.

- **Tank Closure**
  - Sludge waste removal out of Tank 15 continues. First mixing campaign to support sludge transfer to Tank 13 is in progress.

- **Tank Closure Cesium Removal**

- SRR has selected the commercial supplier Westinghouse Electric Company, LLC, to design and fabricate an ion exchange process with an "at-tank" deployment for the removal of the cesium component of salt waste to be demonstrated. The vendor design continues on schedule.

- **Defense Waste Processing Facility (DWPF)**
  - DWPF is operational, with DWPF 45 canisters completed in FY17 for an overall total of 4,147 canisters.
  - Crossbars have been removed in 292 canister storage locations in Glass Waste Storage Building 1 as part of the Canister Double Stacking effort, and 248 locations have been completed (new support plates and new shield plugs installed). Total of 87 radioactive canisters have been double stacked.

- **Saltstone Processing Facility**
  - Saltstone resumed operations in December as expected. For FY17, Saltstone has processed 82,380 gallons.
- **ARP/MCU**
  - ARP/MCU outage is complete and it is currently operational. For FY17, MCU has processed 396,981 gallons.

- **Saltstone Disposal Unit – 6**
  - Disposal cell construction is complete.
  - Installation of an elastomeric liner inside the cell was completed in December.
  - Upon completion of the liner installation, the cell was filled with water and a hydrostatic test conducted. A non-toxic fluorescent dye was added to the water used for the hydrostatic test and a black light test conducted on the outside of the cell to ensure leak tightness. No dye was detected on the outside of SDU 6 during the black light inspection, which successfully concluded the leak testing for SDU 6.
  - Final tie-in of SDU6 to Saltstone facility is in progress.

- **Salt Waste Processing Facility**
  - Testing and commissioning activities at SWPF are about 38.5 percent complete and operation with radioactive waste is on schedule to begin by December 2018.

- **3H Evaporator**
  - The evaporator remains shutdown due to a leak in the evaporator pot. Teams continue work on the path forward, which includes system planning, understanding the failure of the pot, repair options, and procurement and replacement of the pot.

Facilities Disposition and Site Remediation Programs

- During the month of November, the Savannah River Site Community Reuse Organization (SRSCRO) removed four excess 115kV transformers from a storage yard in N-Area. Removal of these items was a joint effort between DOE-SR, SRNS and SRSCRO that was completed December 1, 2016.
- On November 18, 2016, SRS transmitted the *Annual Review of Cultural Resource Investigation by the Savannah River Archaeological Research Program (SRARP) - Fiscal Year 2015* to the South

Carolina State Historic Preservation Office. This annual report describes how DOE has met its cultural resources management commitments through conducting archaeological reviews, curating artifacts, performing compliance-based research, and providing outreach and education activities to the public. The review is available on the Savannah River Archaeological Research Program, or SRARP, website at www.srarp.org.

- November 16-17, 2016, SRS hosted the Central Savannah River Area Radiological Environmental Monitoring Program (REMP) Meeting. The group meets twice a year to exchange technical information, and establish and maintain protocols for the timely communication of changing environmental conditions to the member organizations. The REMP organization is comprised of representatives from SCDHEC, Georgia Department of Natural Resources, Southern Nuclear Company, Georgia Power, Energy Solutions, DOE-SR and SRNS. Although not REMP members, invitations are also extended to the Beaufort – Jasper Water and Sewer Association and the City of Savannah Industrial and Domestic Water Supply.

Q&A Session

David Hoel, CAB Member: Jack can you tell us if there have been any environmental violations or non-compliances in the past two months? We did hear about the total suspended solids NOV that you received in December.

Jack Craig, DOE: That is the only one that I am aware of.

David Hoel: Were there any violations or non-compliances with DOE orders?

Jack Craig: Not that I am aware of.

David Hoel: Can you comment on the status of the negotiations concerning the tank closure deadlines?
Jack Craig: That's still under informal dispute. I think we may have some members of our team here that are directly involved with that that can discuss that.

Jean Riddley, DOE: Currently, we have no milestones yet, that we have missed. We did informally, successfully meet with DHEC and EPA and resolve the FY-16 Bulk Waste Removal Effort milestone. We have upcoming ones and we have agreed to meet again informally, with DHEC and EPA for the FY-17 milestones.

David Hoel: I read in the paper yesterday that the new administration has established a federal hiring freeze can you comment on what effect that might have on Savannah River Site?

Jack Craig: It will have some impact but I do not know the extinct yet. I believe we have about 14 open vacancies in our federal positions on site and we are actively hiring on those. We will have to regroup to understand better what that means. If it just means external hires or does it mean that we can do internal hiring.

Dawn Gillas, CAB Member: On DWPF goals of 80 canisters for the year, that seems a bit low to me for a goal based on historical pouring. Can you comment on why that's a bit low?

Jack Craig: You are correct. One of the things that we are doing in '17 is ramping up to support startup of SWPF and in doing that we have to do modifications to the tank farm and some modifications to DWPF in order to do that. There will be a planned outage to do those tie-ins starting in FY-17 and I believe it will last for 6 months. The outage is necessary to reconfigure the tank farm to connect it to SWPF and to do some other modifications and therefore the 80 canister goal is a result of that downtime.

Dawn Gillas: On the REMP meeting is it possible for a CAB member to sit in on that meeting as observers?

Jack Craig: I thought you might ask that. From what I understand this is a working but I think if you are interested or have questions I can find that out for you. If you have questions about what will be discussed at the meeting we can probably get you answers to that as well.

Mary Weber, CAB Member: Can you put a dollar amount on the reprograming request?

Jack Craig: We are trying to reprogram about 61 million dollars from the SWPF project and the SDU-6 project. Remember that was construction dollars that we had in FY-16 that we don't need in '17 because we completed construction projects. We would like to reallocate that money. 40 million would go to the liquid waste program and 21 million would go to our nuclear materials program.

Jim Lyon, CAB Member: Jack, do you have any knowledge that the new administration will have different priorities that would impact your budget?

Jack Craig: I do not. We haven't had any direct interactions with the transition team. I should mention that we do have an acting assistant secretary at the moment until someone is confirmed.

Environmental Protection Agency Update: Jon Richards, EPA

Similar with other federal agencies we just learned that we are included in the federal hiring freeze, which we did expect. We continue working well with SRS and DHEC on all FFA projects. We have just signed a 5 year agreement for the ground water remedies. The work for soil contamination and caps has started and an environmental bulletin will be released detailing that work.

Q&A Session

There were no questions from the Board.

South Carolina Department of Health and Environmental Control Agency Update: Shelly Wilson, SCDHEC

In October, we were at odds with DOE on three different milestones and I am pleased to say that today we have resolved all of those issues. The most significant one was the one related to the delay in the salt waste processing facility. That milestone was a 2015 milestone that was delayed although DOE had finished construction; DOE had not actually started up the facility, which was what the milestone required. That delay represented a delay in treatment. In the November meeting, we shared with you that we resolved, that milestone delay with a dispute resolution agreement between DHEC and DOE. DOE committed to a very large volume of treatment in the near term for every year until 2022. We appreciate DOE's effort to reprogram money in light of the continuing resolution, especially in support of those high-level waste activities that are going to help meet that dispute resolution agreement. Lastly, the status of legacy stockpile at Savannah River Site related to past activities and Cold War efforts, high-level waste being one and a lot of the transuranic waste being another. DOE started out with 12,000 cubic meters of transuranic waste in a stockpile at SRS and it's not the easiest thing to treat and dispose. Many years ago, starting out with 12,000 cubic meters DOE worked its way down and dispositioned about 95% of that and a good bit of it went to the waste isolation pilot plant in New Mexico. Our agency, DHEC, helped to accelerate a lot of that packaging and characterization shipment. We were incredibly pleased that the original 12,000 cubic meters shrank down to around 6,000 cubic meters and that little bit was left there when the incident occurred at WIPP causing WIPP to shut down. Now that WIPP is back open, there is just a little bit of the legacy stock pile to address. We know many other sites across the nation have transuranic waste that they want to ship and we're encouraging DOE to put a priority on SRS so that project can be completed.

Q&A Session

David Hoel, CAB Member: At a committee meeting we received a briefing from DOE on their performance metrics for the past year, and one of the metrics was environmental compliance. In that they

declared that they had 100% environmental compliance last year. How do you square that with the fact that they did not meet the SWPF deadline? Do you consider SRS's record last year at 100% compliance?

Shelly Wilson, SCDHEC: Because we resolved that milestone, yes I do.

David Hoel: On the remaining transuranic waste destined for WIPP, didn't DHEC and DOE, many years ago, have an agreement for transfer of all legacy waste to the Waste Isolation Pilot Plant but it wasn't completed? Can you use that written agreement with DOE to make sure SRS gets somewhere at the front of the line when WIPP starts receiving waste again.

Shelly Wilson: I am not aware of the agreement where we had a final date for when everything had to be shipped. I know we had agreements that committed DOE to accelerating and reducing the square footage of property on the site that managed transuranic waste and all of those have been met but not an actual finalize date.

Recognition of Out-Going CAB Members

Jack Craig, DOE-SR Manger thanked Thomas Barnes, George Snyder and Harold Simon for their service to the board. He stated that serving on the CAB is a hard job and he appreciates their time and effort in support of SRS. Members Louie Chavis, Virginia Jones and Clinton Nangle were also recognized for their service.

PUBLIC COMMENTS SESSION

Tom Clements, SRS Watch, thanked the CAB for their service to the public and commented on the receipt of highly enriched uranium. He also commented that he wanted to hear more information about drones at SRS. He has filled a freedom of information request on the issue of importing German spent nuclear fuel and the MOX project.

Administrative and Outreach Committee Update: Eleanor Hopson, Chair

Ms. Hopson welcomed everyone and introduced the committee members. She noted that the membership drive has ended; however, they are still seeking to replace members next year. Membership applications were available on the back table and to be considered for the next term, you must complete your applications. She informed the members that they would be voting for CAB Chair and Vice Chair and the SOP following the committee update and the results will be announced at a later time.

Vote on CAB Standard Operating Procedures

A motion was made to vote to approve the Standard Operating Procedures. Motion seconded.
Votes: 17 Yes, 0 No, 1 Abstention.
The Motion was carried, and the Standard Operating Procedures were approved.

Facilities Disposition and Site Remediation Committee Update: Tom Barnes, Chair

Mr. Barnes welcomed everyone to Hilton Head and introduced the committee members. The committee had no open or pending recommendations. He encouraged everyone to attend the next committee meeting on April 12th, 6:30-8:20 pm at the DOE Meeting Center. He then introduced the presenter, Gene Rhodes.

SREL Pubic Participation: Gene Rhodes, SREL

The Savannah River Ecology Lab was started in 1951 with the initiation of the site. Dr. Eugene Odum for the University of Georgia was given a small contract to study the ecological impacts of the mission of the Site. There was large construction for a number of years early on and a lot of the foundations of radioecological studies were conducted at that time. Eugene Odum is the father of modern ecology, and he was known largely for systems ecology and studying eco systems. He branched out into an area that was relatively new. In 1954, a permanent lab was established at SRS and the facilities that exist now were established in 1977.

SREL's mission is to enhance their understanding of the environment by acquiring and communicating knowledge that contributes to sound environmental stewardship; and to provide the public with an independent evaluation of the ecological effects of SRS operations on the environment.

SREL carries out its vision in mission in three ways: research, education and service. An interdisciplinary program of field and laboratory research conducted largely on the SRS and published in the peer-reviewed scientific literature. SREL's research program has produced over 3,380 peer-reviewed scientific publications to date and 64 books. SREL provides avenues for education and research training for undergraduate and graduate students and service to the community through environmental outreach activities. Over 700 undergraduates representing all 50 states have participated in SREL-sponsored research. SREL graduate students have received more than 125 awards.

Research and environmental stewardship are incorporated in the SREL environmental outreach programs. SREL provides hands-on classroom and field experience for students and conducts educator workshops. In FY16 SREL reached 39,000 people by providing: 310 talks, 31 public tours, 30 exhibits at local or regional events, and 45 "Ecologist for a Day" programs for local schools.

In FY16 SREL staffed 103 employees and students. Their facilities in A-area include laboratories, equipment, offices, animal care and storage. SREL also occupies a low-dose facility, Par Pond. DOE set aside 75 field research sites and this year they have added a laboratory facility in B-Area that used to be ecology lab in the early 2000's.

The lab has a broad set of disciplinary expertise because they have broad array of things in their scope of work on site. SREL's disciplines of expertise include: Aquatic and Terrestrial Ecology, Geology / Soil Science, Environmental Microbiology, Hydrology, Molecular Biology, Environmental Chemistry, Radiation Ecology, Ecotoxicology and Risk Assessment, Wildlife Ecology. The labs current research areas are Characterization and Effects, Ecological and Health Risks and Remediation and Restoration.

IN FY16 the SREL work scope enacted significant land management activities for set asides. The graduate and undergraduate education programs advised 47 graduate students and hosted 13 undergrads in new NSF funded research experience for undergraduates program in radioecology. They also hosted a total of over 84 graduate students conducting research on SRS and taught 1 course on main UGA campus and 3 at SREL. The labs interdisciplinary research initiated collaborative research programs with Savannah River National Laboratory (SRNL), U.S. Forest Service–Savannah River (USFS-SR), UGA, U.S. Department of Agriculture (USDA), U.S. Army Corps of Engineers (USACE) and other university, federal, state, and private partners involving research on radionuclide and metal remediation, feral swine control and radioecology. Ecological research support was provided to Area Closures Project, SRR, SRNL, etc.

SREL plans to have continued growth in graduate student enrollment, undergrad experiential learning, and scholarly productivity and continued investments in equipment and facilities. SREL also plans to develop new missions and roles at SRS. Gene Rhodes concluded his presentation by detailing SRELs current and future projects that will assist the DOE and the local community.

Q&A Session

Dawn Gillas, CAB Member: I am glad that SRS is being used for research regarding rabies. A few years ago my farm had a very large raccoon population and we had rabies come through and wipe out the raccoons. No one really had any suggestions on how to handle the rabid raccoons.

Larry Powell, CAB Member: You mentioned that you recruited someone from the Wild Turkey Federation, who was it?

Gene Rhodes: P.J. Perea. He was running their museum at the time and he also used to be responsible for a number of their media and publications.

Larry Powell, CAB Member: Your last presentation you mentioned birth control (for the wild hogs), have you made any progress with that?

Gene Rhodes: No. The site actually has contractors that control the swine population and they have given a part of the site to conduct research on. A lot of what we are doing right now is focused on movement and we are looking at birth rates and what actually kills these hogs. We implant transmitters in the pregnant females and when she gives birth we know where and we tag the piglets and see if they survive. I think that is what you are referring to.

David Hoel, CAB Member: Why Shell Bluff for environmental monitoring?

Gene Rhodes: Many reasons. There is already some momentum in Shell Bluff. GA WAND has been active there and the community leaders are very engaged. It is fairly rural and it's very well situated when you look at its relationship to SRS and the community members do have legitimate concerns.

Susan Corbett, CAB Member: What species of fish are you going to be using in the test?

Gene Rhodes: Medaka. It is a Japanese rice fish.

Susan Corbett, CAB Member: Has this been used in the past for other tests? Where and which tests?

Gene Rhodes: Yes. It has been used in many places. Right now it is being used in Japan for a model for cosmic radiation for astronauts. It has also been used by cancer researchers to look at a variety of physiological mechanism associated with cancer when it comes to exposure to different chemicals. There are a handful of fish species that are good models for the scientific community and one of the things that make the fish a good model is that they have gone in and sequenced the genome and they understand the genome and the proteins that are expressed by the animal. We selected Medaka because of the previous testing with cosmic radiation.

Susan Corbett: Which radioisotopes will they be exposed to?
Gene Rhodes: We are basically exposing them to cesium 137 in 3 low doses.

Susan Corbett: How are they exposed?

Gene Rhodes: Picture a rack that holds a small thing that looks like a generator, a small round device. We have the ability to pull out a lever and when we do it releases the cesium source.

Susan Corbett: So this is an external exposure?

Gene Rhodes: Yes it is all external.

Susan Corbett: How does that play out in nature?

Gene Rhodes: In most of these environments the external exposure is far more significant that the internal exposure. Particularly in the aquatic systems that have some age on them. We have avoided doing the internal exposure because it is extremely difficult to do that on Site.

Susan Corbett: Typically are these kinds of studies only limited to external?

Gene Rhodes: This is the only facility like it in the world. Most of the other facilities that have done this use a huge single dose. One other facility in Japan does low dose exposure in rodents. Once we move beyond these studies we will consider doing things that do internal dose but we haven't gotten there yet.

Susan Corbett: Pretty much all of South Carolina's bodies of water contain mercury and you said that mercury in an environment tends to degrade the genetic material.

Gene Rhodes: There are studies that suggest that mercury inhibits DNA repair.

Susan Corbett: What I hear from that is the combination of mercury and radiation will decrease the body's ability to repair it's self from doses of radiation.

Gene Rhodes: That's exactly right and what we believe. We have already done the experiments with low dose radiation only with just fish and radiation. This time we are adding the mercury and we will be able to compare the results of radiation only, mercury only and radiation and mercury together.

Susan Corbett: I also heard you say that you thought the studies and the results of exposure of low dose radiation were mixed. Weren't all of the bear studies about low level radiation all said that there is no linear threshold.

Gene Rhodes: That is one model but there is a large body of work that suggests no evidence that it is truly linear. So there is competing science on this.

Gil Allensworth, CAB Member: I love your outreach program. With P.J. do you anticipate those numbers going up?

Gene Rhodes: I do but I don't think they will go up in the traditional sense. If you look at our outreach program we do a pretty solid job at getting out into the community but we are missing other audiences and that is what I am challenging him to help with. P.J. has contacts and connections with other markets that we haven't tapped into.

Gil Allensworth: Where are the graduates going after they leave your program?

Gene Rhodes: A variety of different places. A number of our master's students have gone on to PhDs. Others have gone onto federal jobs, state positions, and back to graduate school. Right now we are seeing a 50/50 mix. 50% go on to a PhD and 50% go elsewhere into the public or private sector. We just had a first cohort so those numbers are going to improve and change over the next few years. I don't know of any that have been unemployed.

Strategic and Legacy Management Committee Update: Bob Doerr, Chair

Mr. Doerr welcomed everyone to the meeting and introduced the committee members. There were 2 open recommendations. The next committee meeting will be held April 12th, 4:30-6:20 pm. He then introduced the presenter, John Lopez.

Integrated Priority List: John Lopez, DOE-SR

John Lopez discussed the process for formulating the budget. Budgets are always done two years ahead of time so we are currently, this spring, going to be working on FY19 budget. I am here to request the CAB's input on priorities for formulating that budget.

When we get our guidance each fiscal year from headquarters it comes down to us in buckets. We get a total for the site but they also give us initial guidance on each one of these program baseline summaries on how much funding is allocated to each one of the PBS's. My organization sends that out to the programs and we begin our budget formulation process. We start identifying which scope we can and cannot do with the targets we received. There was a PBS 12, our Spent Nuclear Fuel Program, when the President released his budget last Spring, PBS's 11 and 12 were combined into one PBS for nuclear materials. There was a new PBS created, PBS 41. This was a scope that was formally a part of PBS 11C, Surveillance, Maintenance, and Deactivation of F-Area and 235-F. Those scopes were pulled out and placed into their own PBS. There has been a lot of talk about cyber security and hacking. We are a very secure site and we have those same types of issues and concerns that the rest of the federal government has so when we received our initial guidance for FY18 there was a new PBS created for cyber security. A lot of our cyber security is paid through our indirect accounts and in our security accounts so what we did was we took all of that scope and pulled it out of our indirect account and our security accounts. What we did was we pulled it out of our indirect accounts and security PBS and we rolled it into one PBS, cybersecurity. Also

something new that we started in 2017 was the infrastructure PBS. These are the construction projects with a value greater than $5 million dollars. This was something that we hope carries on to future PBS's. Jack Craig talked about how infrastructure is always a large concern for us at the site, we are hearing some chatter from the transition team about additional infrastructure money going out for the United States and we are hoping we get part of that for SRS.

Once we get our funding for each PBS we distribute that out to our programs and then we begin to process and develop our Integrated Priority List. The Integrated Priority List is really grouped into 4 sections: Minimum Safe Operations and Essential Site Services, Operational Support, Cleanup Activities to meet Compliance Milestones and Commitments and Progress in other EM Mission activities. Minimum Safe Operations & Essential Site Services are activities necessary to maintain facilities or systems in a state of operational readiness, which includes Site Safeguards & Security. Operational Support activities are necessary to meet contractual and legal commitments and obligations in support of Site Operations that are not included in Minimum Safe Operations, Compliance, and Making Progress categories. Primary focus includes: Payment-in-lieu of-taxes (PILT), Headquarters and Site direct contracts not managed by the Site M&O Contractor, Community (CAB) and Regulatory (EPA and SCDHEC) support activities and Site Infrastructure support activities.

Cleanup Activities to meet Compliance Milestones & Commitments are activities necessary to comply with Federal & State Regulations that include: Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), Resource Conservation and Recovery Act (RCRA) and Federal Facility Act (FFA) These regulations primarily focus on cleanup and monitoring activities associated with Solid Waste (PBS 13), Liquid Waste (PBS 14C) and Soil & Water Remediation (PBS 30). Lastly, Making Progress in other EM Mission Activities primarily focuses on mission activities associated with Nuclear Materials and Spent Nuclear Fuel stabilization and disposition (PBS 11C), Solid Waste Stabilization & Disposition, Infrastructure (PBS-13), F-Area Surveillance, Maintenance, and Deactivation (PBS 41) and Facility Deactivation & Decommission (PBS 30).

We get our funding in individual buckets and those buckets are broken down into more detailed priorities. They are categorized by Min. Safe, Operational Support, Regulatory Commitments and Making progress. Those categories help us when we are lining up which priorities take precedent over others.

We are under continuing resolution through April 28, 2017. We did receive FY18 preliminary targets and we developed those budgets last spring but right now FY18 has been pretty quiet and as a result of the new administration, there hasn't been any additional guidance on the plan for FY18. Typically each year the President releases his budget in the first week of February for the next FY. That's not going to happen this year because of the elections and the new administration but we do anticipate the FY18 budget to be rolled out this spring. In conjunction with that we are going start working on the FY19 budget so as soon as we finish the FY18 budget we are moving on to FY19 budget and this is where we are coming to you to solicit your input on your priorities for FY19. I know that's hard to do when you don't know what FY18 but we are here to solicit your input. We would like to have that input back to us by April 28th. You gave us a really good list for your FY18 priorities so the big question is do you want to maintain those priorities or express them in a different way. For FY17 your number one priority was DOE's number one priority and that was the Liquid Waste Program. We are also committed to maintaining our commitments on the Liquid Waste program and making sure that all our or environmental compliance milestones are funded at sufficient levels where we can meet those priorities. It's good to see that you put a high priority on infrastructure improvements; we do as well. We are constantly fighting for infrastructure dollars at SRS since most of our facilities are 50-60 years old.

Q&A Session

Bob Doerr, CAB Member: I noted that DOE is looking for the CAB to finalize their IPL priorities by April 28th. I believe what we have done in the past was we allocated time at the March Full Board Meeting to develop a list of priorities for the FY.

Shelly Wilson, DHEC: Do other DOE sites have an easier time moving money around from one bucket to another?

John Lopez, DOE-SR: No. They are in the same boat as us. Everyone has to go through OMB in order to be able to move money around between the buckets.

Shelly Wilson, DHEC: So they have a relatively similar number of buckets?

John Lopez, DOE-SR: We have quite a few and I think we have more than Hanford because our site is more diverse than theirs. I think we probably have more PBS's than any other site.

Shelly Wilson, DHEC: This "making progress" category, is that an SRS authored term or a DOE complex wide term?

John Lopez: That is complex wide it comes out in our funding guidance.

Shelly Wilson: Do you know if that is a relatively new category term?

John Lopez: No that has been in there for quite a while.

Mary Weber, CAB Member: I have one quick question about the handout, where it says spent nuclear fuel processing is that the old number that has been combined into 11C?

John Lopez: No the processing was 11C, 12 was actually receipt of spent nuclear fuel. The processing is paid for under 11C and the receipt and storage of spent nuclear fuel is PBS 12.

Mary Weber, CAB Member: So where does that show up on the handout?

John Lopez: That's probably under the K, H, and L-Area surveillance and maintenance.

Dawn Gillas, CAB Member: On the IPL handout, under 11C what are those DOE indirect: HQ Management Initiative, Site Assessments and S&S clearances?

John Lopez: There are DOE Headquarter contractors that work there and those costs are distributed to all the sites. They don't like us to use the term Headquarters tax but that is really what it is. It funds some of their direct programs.

Dawn Gillas, CAB Member: Why wouldn't that be included in the Safeguard and Securities PBS?

John Lopez: I do not know the answer to that. It has always been distributed to the other PBS but there probably is a specific guidance that comes out on with scope to include in PBS 20 and I believe PBS 20 is only the physical security on the site and not for clearances.

Dawn Gillas: I have an issue with making progress on processing and receipts being below headquarters initiatives not knowing what those headquarter initiatives are.

Waste Management Committee Update: Earl Sheppard, Chair

Mr. Sheppard welcomed everyone to the meeting and introduced the committee members. The committee has one open recommendation and two pending recommendations. The next meeting will be held April 11, 2017; 4:30 p.m. to 6:20 p.m. Mr. Sheppard then introduced Lee Fox, SRNS.

Solid Waste: Lee Fox, SRNS

Mr. Fox stated that DOE Order 435.1 drives all of the work for radioactive waste. SRR deals with High level waste and SRNS does not process or manage that waste. The next level of waste is transuranic waste (TRU). The vast majority of TRU waste has gone to the WIPP site. SRNS processes and manages low level waste. SRR disposes low level waste on site.

When deciding to accept waste, SRR utilizes a waste acceptance criterion. They have to decide if it meets the waste acceptance criteria for disposal on-site. If it doesn't they will ship it to a commercial facility, that accepts government waste or to an off-site government disposal area.

SRNS generates approximately 5,000 cubic meters of low level waste per year. There is no legacy waste in storage on site. Waste is disposed of in boxes on-site in 650 ft. long trenches.

SRNS also deals with hazardous and mixed low level waste but they don't receive high amounts of it and permits only allow hazardous and mixed low level waste storage for a year. SRS generates approximately 30 cubic meters of waste per year. Due to the scope of their work, SRNL is the biggest generator of hazardous waste. The hazardous waste is shipped off to a commercial vendor for destruction. If it has a radioactive component and it doesn't meet the TRU criteria it is disposed of off-site. No legacy hazardous or mixed waste is stored on-site.

SRS typically receives approximately 30 cubic meters of TRU waste per year and currently there are approximately 750 cubic meters of TRU waste in storage. There is approximately 650 cubic meters of waste on site but due to accidents at WIPP it has remained in storage. SRNS is currently anticipating WIPP accepting more waste and they are preparing to resume waste shipments.

Q&A Session

David Hoel, CAB Member: is Hanford no longer receiving waste from other DOE sites?

Lee Fox, SRNS: I know they are not receiving waste from us.

Earl Sheppard, CAB Member: Will you ever have to go back into those trenches to check anything? How long will those buried containers last?

Lee Fox, SRNS: As the trench is being filled in we actually put in small lysimeter wells that come around the exterior of the trench and those look for migration of any isotopes as these boxes degrade over the years. Our performance assessment assumes that the box isn't there. In other words, the radioactive waste that we are putting in the ground, we immediately assume that it is available to the sand and clay that is around the boxes. We are assuming that the box is going to degrade away and as the trench gets filled in we actually mound clay back over it to divert the water off of the waste itself.

Earl Sheppard, CAB Member: The slide where the gentleman is loading the truck, he isn't wearing any protective equipment, is that normal?

Lee Fox, SRNS: Absolutely. Our facility is a clean facility. The only CA's that we will have will be actually in the trench. All of the boxes that come in to us are clean of radioactive contamination on the outside.

Susan Corbett, CAB Member: What is definition of low level waste?

Lee Fox, SRNS: Low concentration of radioactive risk.

Susan Corbett, CAB Member: Are you familiar with what happened at Barnwell? What are you all doing differently so that situation doesn't happen?

Lee Fox: I am not sure that I would say that we are doing anything differently based off of what happened at Barnwell. We reviewed our practices very well.

Susan Corbett: The building, can we call that higher than class C waste. Could it be characterized as that?

Lee Fox: No it is not. It is still DOE's classification of low-level waste.

Susan Corbett: I'm curious as to why it is requires that class. How is it different that it requires a separate building?

Lee Fox: Typically the waste that we would put in that facility is if the Tritium is a little higher. We want actually slow its movement into the environment.

Susan Corbett: Is Tritium the only thing that occurs in higher concentrations?

Lee Fox: Predominately Tritium but it could be slightly higher in iodine. Those are the two that we typically see.

Susan Corbett: the naval storage, is that actually a storage container at the reactor vessel itself?]

Lee Fox: These are the actual storage containers; the component is on the inside. Most of the components that we get out of the naval reactor program are classified so that's one of the reasons why they are in a thick, stainless steel, welded shut container. It is predominately activated metal. It is not the reactor itself. It is the shielding that surrounded the reactor.

Susan Corbett: How long does it typically take to fill up a trench?

Lee Fox: Typically we would not want to keep a trench of this size open for much more than 6 months.

Susan Corbett: There is an opportunity for rain to collect in these trenches, right?

Lee Fox: It typically doesn't collect. It drains in a number of days into the subsoil.

Susan Corbett: Is there opportunity for the rainwater to come in contact with the radioactive materials while it is sitting in that trench?

Lee Fox: No it does not. These containers are all sealed.

Dawn Gillas, CAB Member: The discussion about the radionuclides contained in low level waste, I thought I heard to say that the risk was similar in low-level and high-level waste.

Lee Fox: The risk for low-level waste is not anywhere near that of the high level waste. The concentrations are so much smaller that we don't expect that to impact the ground water movement off-site.

Susan Corbett: What is the closest body of water?

Lee Fox: Upper Three Runs creek.

Nuclear Materials Committee Update: Larry Powell, Chair

Mr. Powell welcomed everyone to the meeting and introduced the committee members. Recommendation 337 and 341 remain open. Dawn Gillas commented and recommend that recommendation 341 be closed but she wanted to add an update on spent fuel activities since the last meeting at each committee meeting. The next meeting is April 11th, 2017, 6:30 p.m. to 8:20 p.m. at the DOE Meeting Center. The committee had one presentation, South Carolina Nuclear Advisory Council, presented by Karen Patterson.

SC Nuclear Advisory Council: Karen Patterson, SC NAC

Karen Patterson has spent many decades examining the environments surrounding nuclear facilities and the sites that are best maintained and the best for the environment are nuclear facilities and sites; commercial and defense.

The purpose of the Nuclear Advisory Council is to advise the Governor on issues pertaining to nuclear activities in South Carolina and other duties that may be requested by the Governor. They receive their

authorizing statute from the South Carolina Code of Laws, Title 13 –Planning, Research and Development.

The duties of the council, in addition to other duties requested by the Governor, are:
1) to provide advice and recommendations to the Governor on issues involving the use, handling and management of the transportation, storage or disposal of nuclear materials within South Carolina, or such use, handling, transportation, storage or disposal of nuclear materials outside of the State which may affect the public health, welfare, safety, and environment of the citizens of South Carolina;
(2) to provide advice and recommendations to the Governor regarding matters pertaining to the Atlantic Compact Commission (South Carolina ,New Jersey, Connecticut);
(3) to provide advice and recommendations to the Governor regarding the various programs of the United States Department of Energy pertaining to nuclear waste.

Their statute also sets up the membership. One member is appointed by the President of the Senate and Speaker of the House. There are two environmental positions, a position reserved for an individual that has knowledge and skill in nuclear power, an individual that has knowledge and skill in nuclear industry, two academic positions and a member At-large.
Common topics that the SCNAC discuss include health and safety, environmental protection, emergency preparedness, workforce development and retention, transportation, priorities and time lines and funding. State and federal policy, business decisions and regulatory oversight are not included in their purview.

There are 7 operating reactors in South Carolina at four different locations. The SCNAC role in monitoring SRS activities mirrors the CAB's roles. DOE, contractors, and DHEC [and NRC] provide overviews of SRS activities at quarterly meetings. The council listens to presentations and determines if activities could affect the welfare and safety of South Carolinians if so any major issues are raised by Council to Governor for consideration.

The most common SRS topics consist of Funding, schedules, and workforce, Liquid Waste Vitrification and Tank Closure (tank farms, DWPF, SWPF, Saltstone), H-Canyon/HB Line (Spent nuclear fuel and plutonium processing), Vulnerable Spent Fuel (L Basin, Foreign Research Reactor fuel), Savannah River National Laboratory, National Nuclear Security Administration programs (MOX, tritium) and Defense Nuclear Facility Safety Board concerns.

Karen Patterson concluded her presentation by inviting the public and CAB to the quarterly meetings on the second Thursday of the first month of the CYQ (January, April, July and October) and provided a link to the SCNAC website www.admin.sc.gov/executive-director/nuclear-advisory-council (Google "SC nuclear advisory council").

Q&A Session

Nina Spinelli, CAB Member: Were you all under the Office of the Governor before you moved to the department of administration?

Karen Patterson, SCNAC: We were under the SC Energy Office.

Nina Spinelli, CAB Member: Are you all going to moved out that?

Karen Patterson, SCNAC: That was the reorganization done years ago. I do not know if it will change.

David Hoel, CAB Member: Did the council give any advice to the Governor with relation to changes that will be made in SC with regard to the Fukushima accident?

Karen Patterson, SCNAC: No I don't think we did.

Gil Allensworth, CAB Member: Why is the representative position not filled?

Karen Patterson: Don Wells was on the board but he did not run for re-election and the Speaker of the House has not yet appointed anyone.

David Hoel, CAB Member: How do you formulate your agendas?

Karen Patterson: Read the newspaper. I attend CAB meetings and utilize individuals who are plugged in the nuclear community. DOE has called and asked to discuss various topics as well as DHEC and other organizations.

David Hoel: Do you ever take suggestions from special interest groups?

Karen Patterson: Yes.

Dawn Gillas, CAB Member: Tony (Tony Polk, DOE-SR), you said something about Maxcine (Maxted) working at headquarters on something regarding spent nuclear fuel. Is that something we can know about?

Tony Polk, DOE: There are a number of things on the agenda for spent nuclear fuel. What I can mention is that they continue to look down the road towards the disposition of spent nuclear fuel and in particular dry storage is high on the agenda. I am not sure about other things but I will be glad to talk to Maxcine as we update you during the year I am sure there will be something from that that we will share.

Susan Corbett, CAB Member: I am interested in hearing if you think there is any possibility due to massive cutbacks that the CAB's may be eliminated in next year's budget?

Michael Mikolanis, DOE-SR: Although we really haven't much, I don't foresee a change to the Citizen's Advisory Board's. If we do start getting any indications of that, we will communication any potential issues. I expect that to be discussed at the chair's meetings that we have every 6 months.

Jack Craig, DOE-SR: I agree. The funding for the CAB remains a high priority on the priority list and I don't see that going away.

CAB Committee Chair Voting Results: Susan Clizbe, DOE-SR

Eleanor Hopson, Administrative and Outreach Chair

Dawn Gillas, Facilities Disposition and Site Remediation Chair

Larry Powell, Nuclear Materials Chair

Bob Doerr, Strategic and Legacy Management Chair

Gil Allensworth, Waste Management Chair

Public Comment Session

Marolyn Parsons, Public, commented that she was thrilled to see the research on the effect of low dose radiation and she thanked DOE and SREL for doing a wonderful job. She also encouraged the public and the CAB to continue their work voicing their concerns because public participation aids in change. She cited that rec 317 laid the groundwork for the SREL outreach program.

Becky R, GA WAND, commended the CAB, DOE, SRS and SREL for their work. She asked where the spent nuclear fuel for H-Canyon derived from. She inquired on the relationship between the tritium extraction and H-Canyon. She also requested to know the location of the reactors where the down blended recovered enriched uranium is being used.

Lindsay Harper, GA WAND, stated that she enjoyed her first CAB meeting and thanked the members for their service.

Rose Hayes, Public, thanked the CAB and spoke on her time serving as a CAB member. She asked if the foreign nuclear waste could be characterized because receipts of fuel that have not been characterized are a great concern for the Board and the public. She also requested DOE to inform the Board of the character

of the Japanese waste and noted that if there isn't a system for denying waste that would could potentially accept anything and have it stored at SRS for years.

Closing Remarks: Harold Simon, CAB Chair

Harold Simon thanked DOE-SR for their support and continued supply of resources. He recognized DHEC and EPA for their regulatory insight and informational support at each meeting. He acknowledged the CAB members service and effort and thanked them for volunteering their time. Mr. Simon shared that he gained valuable knowledge about SRS by serving as a member and he was thankful for being able to serve. Mr. Simon praised Nina for her diligence and he passed the gavel to the new CAB Chair, Nina Spinelli.

MEETING ADJOURNED January 24, 2017

SRS WATCH

Savannah River Site Watch

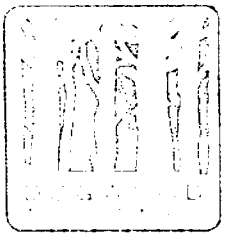
Outstanding Freedom of Information Act (FOIA) requests by SRS Watch as of January 24, 2017

The support of the SRS Citizens Advisory Board in obtaining these important documents is welcome and encouraged.

1. **SRS "Nuclear Materials Management Plan" for 2015 and 2016;**
2. **Documents, reports and photos on the SRS "Drone Scare 2016;"**
3. **Request for the CD-0 documents on expanding plutonium downblending capacity at SRS;**
4. **Reports prepared for German entities on processing and dumping of German AVR & THTR reactor spent fuel & documents on any transfer of funds to support SRNL research;**
5. **CB&I AREVA MOX Services MOX Fiscal Year 2016 award fee documents.**

Tom Clements, SRS Watch, srswatch@gmail.com, cell 803-240-7268

FEBRUARY 12 MEETING



Our February 12 meeting will feature a presentation by Emily Zucchino of Dogwood Alliance on the deforestation from the wood pellet industry throughout the Carolinas. Forests are increasingly coming under threat from the biomass industry. Across the South, forests are being clearcut, trucked to facilities, put through an energy-intensive production process to be turned into wood pellets, put on huge ships, and sent across the ocean to Europe where they are burned to produce electricity.

Several South Carolina communities have now been added to the growing list of existing or potential wood pellet facility sites. The wood pellet industry is bad for the climate, bad for forests, and bad for communities.

Dogwood Alliance is a coalition of grassroots activists dedicated to defending the unique forests of the Southern United States. We have already transformed the paper and pulp buying practices of some of the largest corporations on the planet, and we are just getting started...

Emily Zucchino is a graduate of the Fulbright Scholarship program, and attended UNC Asheville where she received BA degrees in Political Science and Sociology, and holds a Master's degree in International Studies and a Certificate in Nonprofit Management from NC State.

MARCH 12 MEETING

Our meeting on March 12 will feature Tom Clements of SRS Watch who will give a presentation on various current issues at SRS including high-level waste management, the imports of nuclear waste and plutonium, the status of the MOX project, nuclear weapons, terminating nuclear imports.

SRS WATCH

Tom Clements, who serves as the director of Savannah River Site Watch, was born in Savannah, Georgia and attended Emory University and the University of Georgia, where he obtained a Masters in Forest Resources in 1977. He has worked for the U.S. Forest Service and U.S. Office of Surface Mining and for the past 25 years has worked on nuclear issues for Greenpeace International, the Nuclear Control Institute, the Alliance for Nuclear Accountability, Friends of the Earth, the South Carolina Chapter of the Sierra Club, and since January 2014 as the director of Savannah River Site Watch. He lived over a decade in the Washington, DC area, where he worked on nuclear proliferation issues policy issues and has spoken and written on U.S. and international nuclear issues and has been quoted extensively by the media.

Clements monitors a host of energy and nuclear issues from a public interest perspective and has focused on the Department of Energy, with a specialty in DOE's Savannah River Site (SRS) located in South Carolina. While monitoring various Department of Energy and Nuclear Regulatory Commission projects, he focuses on risks associated with high-level nuclear waste and plutonium management at the Savannah River Site.

Tom is working to stop SRS from becoming a storage site for the nation's highly radioactive spent nuclear fuel from commercial power plants as well as leading an effort for Congress to defund the controversial plutonium fuel (MOX) program at the site.

Visit the SRS Watch site at http://www.srswatch.org before the meeting to learn more about local issues

---

APRIL 9 MEETING

Paul Koehler, Director of the Silver Bluff Audubon Center & Sanctuary, will be our featured speaker in April, with a presentation on the Audubon Center with emphasis on the bald eagle residents at the center. Paul's presentation will be followed in later April by a Sierra Club outing to the Audubon Center during eagle nesting season.

Photo Credit: Augusta Chronicle

Audubon

The Silver Bluff Audubon Center & Sanctuary, nestled along 2.6 miles of the Savannah River, comprises approximately 3,250 acres of forests, fields, lakes, ponds, and streams that support a wide variety of wildlife, with over 200 species of birds, including the federally threatened Wood Stork and Bald Eagle.

Aiken Group Sierra Club

NEWSLETTER

January 15, 2017

SIERRA CLUB

Welcome to the January Meeting of the Aiken Group Sierra Club!

Coyotes in the Southeastern Ecosystem

We are excited to have Sean Poppy of the Savannah River Ecology Lab discussing the arrival of coyotes to the southeastern landscape. As an Education Program Specialist, Sean uses native animals to introduce children to the wonders of nature. Sean also directs the popular "Ecologist for a Day" programs at SREL's Conference Center near New Ellenton. Classes spend the day in the field, checking traps and gathering scientific data. During the summers he takes his message to civic groups and makes presentations at libraries. He also represents SREL and its programs at festivals and other public gatherings throughout the year. He will be accompanied by Scooter, the orphaned coyote.

ACTION ALERT!

Our Edisto River and the surrounding lands are under threat of water depletion and environmental contamination from operations of corporate mega-farms to the area. Residents of Windsor and the surrounding communities are seeing the first, immediate effects, but this issue will ultimately affect us all.

Aiken County residents are encouraged to keep on top of this issue in the news media and to call or write your state representatives to advocate for: (1) regulation of surface water, (2) regulation of groundwater, and (3) a review by our state legislature on DHEC permitting rules for dumping chicken manure.

As-is, a chicken farmer is required to have a DHEC permit for as little as one chicken house, whereas no permits are required for these mega farmers to dump the equivalent of 10 chicken houses (2500 tons of manure) onto the land, leaving local residents gagging from the stench, and local wildlife to suffer the repercussions of the contamination.

We continue to actively seek members who have skills, experience, and time to take an active role in running the show with the Aiken Group Sierra Club! We can use all manner of skills -- office work, specialties of environmental interest, fundraising, communications, public outreach, and so on. If you think you might be interested, please contact aikensierragroup@gmail.com. Alternately you may call or text Wren Krentz at 803-507-7563. If you aren't able to contribute time, there is a tip jar located by the sign-in table!

Thank you for your support!