

Meeting Minutes

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

Applied Research Center, Aiken, SC

March 27, 2017

Monday, March 27, 2017 Attendance:

<u>CAB</u>	<u>DOE/Contractors/Other</u>	<u>Agency Liaisons</u>
Gil Allensworth	Zach Todd, DOE-SR	Heather Cathcart, SCDHEC
Susan Corbett	Jack Craig, DOE-SR	Beth Cameron, SCDHEC
Robert Doerr	Michael Mikolanis, DOE-SR	Shelly Wilson, SCDHEC
Dawn Gillas	John Lopez, DOE-SR	Trey Reed, SCDHEC
David Hoel	Gail Whitney, DOE-SR	Susan Fulmer, SCDHEC
Eleanor Hopson	Wesley Bryan, SRR	Rob Pope, EPA
Daniel Kaminski	Jean Ridley, DOE-SR	<u>Stakeholders</u>
Jim Lyon	Susan Clizbe, DOE-SR	Rose Hayes, Public
John McMichael - <i>Absent</i>	De'Lisa Carrico, DOE-SR	Maralyn Parsons, Public
Cathy Patterson	Avery Hammett, DOE-SR	Tom Clements, SRS Watch
Larry Powell- <i>Absent</i>	Tony Polk, DOE-SR	Jim Marra, CNTA
Bill Rhoten- <i>Absent</i>	Jim Folk, DOE-SR	
Earl Sheppard	James Tanner, S&K Logistics	
Nina Spinelli	Chelsea Gitzen, S&K Logistics	
Ed Sturcken	Federica Staton, S&K Logistics	
Louis Walters- <i>Absent</i>		
Mary Weber		

Opening: Nina Spinelli, CAB Chair

Mrs. Spinelli welcomed everyone to the meeting.

Meeting Rules & Agenda Review: James Tanner, CAB Facilitator

Mr. Tanner reviewed the meeting rules and the agenda for the day and the CAB members introduced themselves.

Nuclear Materials Committee Update: Dawn Gillas, Vice-Chair

Ms. Gillas welcomed everyone to the meeting and introduced the committee members. Recommendation Nuclear Materials Operations Review (REC 334), Improving H-Canyon Throughput (REC 337) and Process All Aluminum-Clad Spent Fuel in H Canyon As Soon As Possible (REC 341) remained open. The next meeting is Tuesday, April 11th, 2017, 6:30 p.m. to 8:20 p.m. at the DOE Meeting Center. The committee had no presentations.

Strategic and Legacy Management Committee Update: Bob Doerr, Chair

Mr. Doerr welcomed everyone to the meeting and introduced the committee members. Recommendation #338, Revision of the Savannah River Site Community Involvement Plan and Recommendation #342, Military Trainings at the Savannah River Site remain open. The next committee meeting will be held Wednesday, April 12th, 4:30-6:20 pm at the DOE Meeting Center. He then introduced the presenter, John Lopez.

Presentation: Integrated Priority List, John Lopez, DOE-SR

My organization is responsible for putting together all the congressional funding requests for the Site. As Bob said, we are in the process of starting to plan for fiscal year '19. I know a lot of you are saying that we are still in '17 and don't have a budget for '18 yet but we are starting to plan for '19. Well that is true, but it is the process we have to prepare the administration for the rollout of their fiscal year '19 budget.

For those of you that were in Hilton Head, you have already seen this presentation but I would like to walk you through the process for developing our fiscal year budgets. I am here to provide you with an understanding of how Environmental Management identifies our prioritized budget and to also request your input for FY'19. Last year, you guys sent us a letter and laid out what your priorities were for FY'18 and we used that and communicated that to Headquarters letting them know your priorities. We also did the same thing with EPA and DHEC. We gave them a chance to give their priorities for FY'18 and we are doing the same thing for FY'19. This presentation also fulfills a commitment for the Strategic and Legacy work plan.

The Principal Deputy Assistant Secretary has provided guidance to each of the sites. Jack (Craig) has been directed to reach out to all of the stakeholders to ask for input when we are developing the FY '19 budget. We get our money at the Site in what we call "buckets". When Congress and the President passes a spending bill it comes down to us and then to OMB (Office of Management and Budget) and we get that in buckets. Last year, for a point of reference, in FY '16 our budget was almost \$1.4 billion for the whole year. We do not have the flexibility to move money around within those buckets unless we go to Headquarters for approval. We are allowed to do a \$5 million dollar, one time a year reprogramming without congressional or OMB approval but with a budget of \$1.36 billion \$5 million dollars really isn't that much. If any time during the year we want to move money around between those buckets we have to formally go to the Office of Management and Budget and Congress and ask for that reprogramming. For FY'17 we are doing exactly that because we are in a continuing resolution, we have had to move money around.

Once we get our target for FY'19 Headquarters will give all the DOE-EM sites a target so, as a point of reference in the FY'18 budget that the President came out with, he identified \$6.5 billion dollars for the EM program. Environmental Management will then take that target and breakout individual targets for each one of the EM sites. We at Savannah River will get a number and it will come down to us by those buckets and we start breaking our work scopes down into lower level activities and they are basically grouped into 4 main activities: Safe Operations for the Site, Operation Support, Clean-Up Activities and Progress to Make EM Missions. They are not always in these priority orders but pretty much they are. We try to find all of our Site activities first and what's left over we use for operational support, clean-up and other missions.

Support Safe Operations and Site Services are activities necessary to maintain facilities or systems in a state of operational readiness and it also include Site Safeguards & Security. About \$140 million of our \$1.4 billion dollars goes to safeguards and security, which is included as part of the Site Operations and Site Services budget. After that, we have Operational Support. These are activities that are necessary to meet contractual and legal commitments and obligations in support of Site Operations that are not included in Safe Operations, Compliance, and Making Progress categories. The primary focus includes, regulatory (EPA and SCDHEC) support activities and Site Infrastructure support activities. Cleanup Activities are activities necessary to comply with Federal and State regulations like

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). The money that is left over after we pay for everything else is used for processing in the canyons, dispositioning other non-compliant waste will be paid out of the Making Progress account. The primary focus in this category is mission activities associated with Nuclear Materials and Spent Nuclear Fuel stabilization and disposition (PBS 11C), Solid Waste Stabilization & Disposition (PBS-13), F-Area Surveillance, Maintenance, and Deactivation (PBS 41), Facility Deactivation & Decommission (PBS 30).

For FY'17 we are under a continuing resolution until April 28<sup>th</sup>, at that point in time Congress can either pass a full year spending bill or keep us under a continuing resolution, but we are very hopeful that we are going to get a full year spending bill. I know you are wondering what we have been doing to date to keep us going. I talked earlier about that \$5 million dollar reprogramming. That was something we did immediately when we knew we were going to be in a continuing resolution, we transferred \$5 million dollars from the solid waste program into the liquid waste program to keep them going. We also are doing a formal reprogramming and SWPF and Saltstone Disposal Unit 6 construction projects didn't need as much money as last year so we submitted a formal reprogramming to move money from those two projects into the liquid waste program and to the nuclear materials program. That was approved two weeks ago and they only allowed us to do reprogramming for seven months out of the year. This moved \$13 million dollars into the nuclear materials program and another \$20 million dollars into the liquid waste program. If Congress does not pass a full year spending bill we will then move forward with another reprogramming to move money from those projects into nuclear materials and liquid waste but we are very hopeful that Congress will pass a spending bill by the end of April that will allocate the money where we need to.

For FY'18, on March 16<sup>th</sup>, the President released a blueprint budget for all the departments. It was a two page summary of high-level activities, high-level scopes and funding numbers associated with that. Fortunately for EM, there was a budget of \$6.5 billion dollars proposed for the EM program. In comparison, FY'16 was \$6.2 billion and FY'17 was \$6.1 billion, so if Congress goes ahead with the President's recommendation, \$6.5 billion dollars for EM would be good news. No we at the Site, don't know what are funding numbers are going to be for FY'18 so between now and May we are working with headquarters and all the Other sites to develop the overall Fiscal Year '18 budget. That is due to be released in May. Right on the heels of that we are going to start working on FY '19 and that is why I am here today. We do not know our targets yet of FY'19 but we are here asking for your input to provide us they FY'19 priorities. We are asking for this input from you by April 28<sup>th</sup> because like I said, when the budget for '18 comes out in May, right away we are going to start working on the '19 budget.

## Q&A Session

Bob Doerr, SLM Chair: John, I know last year we talked about PBS 20 and we don't have it ranked from the top four PBS's for priority however, this issue of security includes Cyber Security and there is money being allocated in '19 for it. Cyber Security is becoming a bigger and bigger issue, how does DOE feel about their cyber security? Should more financial priority be put on that?

John Lopez, DOE-SR: I was just at headquarters last week and I specifically asked about cyber security. One of the things that we are looking at in FY'18 is creating a separate PBS for cyber security. I specifically asked last week to our budget director if we were still moving forward with that and the indication I got was that we were. All the DOE sites are being asked to pull out their cyber security scope into a separate PBS. Not only are we pulling that scope out we are also looking at increasing the budget for that.

Nina Spinelli, CAB Chair: Comment from Susan Corbett, CAB Member, we should be getting more information from groups particularly interests in what materials are continuing to leak and migrate out of the Site and their potential health effects. I am concerned about allowing any other nuclear waste to be used here; with dwindling budgets and less revenue to work with I am concerned that clean-up will become a low priority, while money making missions move to the top of the list.

Jim Lyon, CAB Member: You talked about all these programs and I believe that MOX probably falls into capital programs and that is a lot of money and it is affecting everything up the pipeline. I want to know if we could hear more about this.

John Lopez, DOE-SR: I would love to be able to talk about MOX but our program does not include MOX. We are the environmental management program and MOX is funded under the NNSA and is not a part of one of those buckets we get for the Site. EM supports MOX by producing fuel for the MOX facility but we as EM don't deal with the MOX project.

David Hoel, CAB Member: Just recently the CAB passed Recommendation #341 which advocated using H-Canyon to process aluminum clad spent nuclear fuel as soon as possible. I think our money prioritization letter should reflect that same recommendation and for that reason I am suggesting moving item number 3 under the "in-addition" list up to item number 2 in the top prioritization list.

Bob Doerr: In the first numerical section we address PBS 11c my understanding is that WIPP is open again and that is in fact happening, if so, referencing PBS 11c we want to accelerate the work?

David Hoel, CAB Member: Item 1 has to do with plutonium down blending which is not the same as spent nuclear fuel processing and so I am suggesting that we keep number 1 and move number 3 on the second list up to become 2, behind number 1, to advocate a priority for aluminum clad spent fuel processing.

James Tanner, CAB Facilitator: So David, would numbers 2 and 3 become 3 and 4?

David Hoel: Yes.

Bob Doerr: Let's make that change.

Dawn Gillas, FDSR Chair: There is a little nuance between the new 2 and 4, they are both related. Number 4 is part of number 2. Processing the spent fuel for down blending to send off to TVA is part of making the new number 2 happen. The number 2 is a longer term picture; it's the whole basin versus number 4, which is what's going on right now for the next couple of years of processing the fuel. They are both very related and I am not sure if they can be combined but I would go even one step further and make 235-F number 4. I am struggling with the verbiage of the new 2 and 4 but I would suggest making number 3, number 4.

Jack Craig, DOE-SR: If you look at the last group there, number 4 say PBS 100, reprioritize CAB to 3<sup>rd</sup>? I think it requires some clarification.

David Hoel: Previously, we saw a breakout of PBS 100 and funding for the CAB was set at priority 4 or 5 and we were recommending that its priority be moved up a bit within PBS 100. John I have no idea where the CAB falls in the current PBS. Is it still at 4?

John Lopez: We have not prioritized '18 yet because we haven't received our target but I will tell you that most likely the overall funding amount for PBS 100 won't change from '17. Where it falls within that priority; is yet to be seen as we develop the '18 budget.

David Hoel: To be clear for number 4 there we should say reprioritize CAB to third priority within that PBS.

John Lopez: Are you looking for additional money above what you are getting now or just a move in priority?

Bob Doerr: We just simply wanted to make sure that the CAB was getting its fair share within that PBS.

#### Public Comments

Joe Ortaldo, Public: If you ask EM and if the other departments are willing they have come occasionally to the CAB to give an update on MOX and other topics. A lot of the money is fixed but there is money that isn't allocated. In my opinion you should prioritize so that money is being spent on reducing or eliminating the highest risk at the Site.

Facilities Disposition and Site Remediation Committee Update: Dawn Gillas, Chair  
Ms. Gillas welcomed everyone to the meeting. 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. She then introduced the presenter, Gail Whitney.

Presentation: [Environmental Monitoring Overview](#), Gail Whitney, DOE-SR  
The purpose of the monitoring program is to determine the impact of emissions and discharges to the public and surrounding environment. In this case, we'll use the "CAB Rolling Hills Community" as a hypothetical community to demonstrate these concepts in a simpler way. The first thing you want to do is design a program to measure or model contaminants from a facility. For the CAB Rolling Hills Community, that would be the cabin, and that is the house that we are going to work from for our model design program. The second thing is to put in place appropriate sampling and monitoring techniques to determine what those contaminants are, how much and where they are. Third, would be to analyze those to actually determine what it is that you have that are leaving your facility and in case of our cabin today, your home. Last, one of the things we have to do is report the results.

For the Rolling Hills Community, we look at what type of operation would be occurring and for that it would be domestic. Then we want to decide what would be discharged from that facility in your case for the rolling hills community center we would have chemicals. I want you to think of this in terms of the normal home activities that you actually perform at your house. For most homes it would be batch releases and by batch releases that would mean filling and emptying your bathtub, washing dishes, washing clothes etc. Then we will look at what form that would be (gas, liquid, particulate) and where these things will be coming from and where they will be going in the environment.

We sample at the point of discharge (effluent) or at points beyond (surveillance) and we sample everything, chemicals produced by the activity. We sample using composite, instrumentation, sampling devices. Laboratory analysis will determine the amount of sampling and if the samples need to be preserved. For the Rolling Hills Community, the grab sample would be the sample that comes directly from the water pipe.

We analyze the collected samples to determine if and what amount of chemical or radionuclide is present in the sample. The collected samples are analyzed by field technicians in an in house laboratory. When the data is finalized it is provided to customers in documented reports. The three reports that display the data are compliance reports that are submitted to federal and state agencies to show compliance with federal and state regulations. Internal reports are in-house reports that track historical trends, assess programs and protocols and identify areas for improvement. Lastly, external reports are published to provide information to stakeholders and the public.

Effluent monitoring consist of radiological air releases from facility stacks and vents, inline, or offline monitoring, non- radiological air releases are estimated using standard models and facility liquid discharges. Environmental surveillance includes radiological surveillance and non-radiological surveillance.

Radiological surveillance encompasses air, streams, rivers, storm water, vegetation, soil, sediment, drinking water, foodstuffs, dairy and wildlife. Nonradiological surveillance includes facility drinking water, air, streams, rivers, wastewater, storm water, sediment and fish. We have 15 radiological liquid locations on-site and 28 national pollutant discharge elimination system industrial wastewater outfall sampling locations on-site. There are 37 national pollutant discharge elimination system industrial storm water outfall sampling locations. There are 222 air effluent monitoring locations on-site and they are similar to the chimneys in your homes.

We also have to look at the impacts of SRS activities beyond the site and that is the environmental surveillance program. There are 11 outer perimeter air sampling stations and 3 additional locations at the Aiken airport, New Savannah Bluff Lock and Dam and the US 301 Bridge. We also have 39 total locations on and off-site for radiological surface water sampling. We also take samples upriver in North Augusta and downriver in Beaufort-Jasper and Chelsea.

In addition to our monitoring program we also sponsor a few grants. The South Carolina Department of Health and Environmental Control Environmental Surveillance Oversight Program allows SCDHEC to conduct independent environmental monitoring, sampling, analyses and confirmatory measurements on and around SRS and its facilities. They review and assess the SRS environmental monitoring programs and systems and they also evaluate the potential impacts from SRS operations. Lastly and most importantly, they provide this information to the public in an education form that summarizes their results. We also fund the city of Savannah to conduct tritium monitoring at Highway 301 Bridge, Savannah Industrial and a domestic water supply plant in Savannah.

Beginning this year, the Savannah River Ecology Laboratory will be providing and instituting a community outreach program intended to inform and educate persons living in the Shell Bluff community about radionuclide sources, concentrations and associated risk. The program will conduct some limited environmental monitoring over a two year period, but is not a long term continuous monitoring program.

The Central Savannah River Area Radiological Environmental Monitoring Program (REMP) was established by the 1992 the Energy and Water Appropriations Bill, to look at similar programs run by environmental monitoring groups such as the states of Georgia and South Carolina, DOE-SR, Savannah River Nuclear Solutions, Chem Nuclear (Energy Solutions), Georgia Power, Vogtle Electric Generating Plant and Environmental Laboratory (Southern Nuclear Company). Other outreach initiatives include the EPA Environmental Justice community workshops, Savannah River Site public tours, Citizens Advisory Board and the Environmental Bulletin.

The Environmental Monitoring Program will continue to serve as environmental stewards and conduct a comprehensive environmental monitoring program in both states. The program will ensure adequate monitoring is conducted to quantify the impacts, if any, of SRS operations on the public and the environment.

## Q&A Session

David Hoel, CAB Member: On slide 18 you talked about some anomalies including one that says that for offsite monitoring locations for groundwater there are zero in South Carolina and 10 in Georgia. I understand you have a robust onsite groundwater monitoring program but I don't understand why you don't do any offsite monitoring in South Carolina?

Gail Whitney, DOE-SR: Because the state of South Carolina conducts their own groundwater monitoring.

David Hoel, CAB Member: How many locations does the state have?

Gail Whitney, DOE-SR: We will get you that information.

Narrinder Malik, CAB Member: You mentioned that you take samples of rain water, what is the objective and is there any regulatory requirement for that?

Gail Whitney: When it rains chemicals and RAD's are washed out of the clouds and deposited back into the ground and water so we collect the rainwater. There is actually a correlation that you can do between what you see in a stack, what you collect in a rainwater sample and what we see deposited on the ground.

Teresa Eddy, SRNS: To add to that we do have an industrial storm water permit that is required for storm water runoff and storm water outfalls.

Eleanor Hopson, A&O Chair: I am concerned about the funding for the grants. Are they all just two year grants or do you have long term funding to continue monitoring?

Gail Whitney: The SCDHEC grant has been in place since 1993. The City of Savannah grant has been in place since 2003/2004. The SREL grant was just put in place last year and it was a limited scope grant for two years.

Beth Cameron, SCDHEC: I just wanted to answer the question about our groundwater monitoring, we have a defined network of 75 wells within a 10-mile radius of the SRS boundary and they are sampled on a 5 year rotation.

#### CAB Discussion on the Presentation

David Hoel, CAB Member: The way I understand it, DHEC is providing environmental monitoring as a check on SRS monitoring program. I don't see much value in triple redundancy in that regard.

#### Waste Management Committee Update: Dan Kaminski, Vice-Chair

**Mr. Kaminski welcomed everyone to the meeting and introduced the committee members and read the committee purpose. The committee has one open recommendation and three pending recommendations. The next meeting will be held April 11, 2017; 4:30 p.m. to 6:20 p.m. Mr. Kaminski then introduced the presenter Wesley Bryan, SRR.**

#### Presentation: DWPF Melter Change Out, Wesley Bryan, SRR

To give you a perspective of where we are the Defense Waste Processing Facility receives waste from both the tanks farms as well as the actinide removal process/modular caustic side solvent extraction unit (ARP/MCU). The liquid waste comes in from those facilities over to DWPF once it's in DWPF; the liquid is treated and moved to the facility up to the point where it is introduced to the melter. The melters' essential purpose is to heat up the liquid as well as mix it into it turns into a glass like product and that is at a little over 2100 degrees Fahrenheit. The material is then poured into a canister and from the canister it is then transported through the shielded canister transporter to glass waste storage building. The heart of the facility is the melter.

Even though we have reached a time to replace the melter it has had exceptional performance. Melter 2's design life is 2 years however Melter 2 operated for almost 14 years. That was the result of equipment design and operations and monitoring capabilities. All of those that really focus around the capability of keeping the melt pool hot as liquid is poured into the canisters and the capability to keep that temperature up including the pour spout of the melter so we reduce the cycle time and as a result the melter pour capabilities were increased as well as the rate. This particular melter poured a little over 10 million pounds of glass. Are there benefits from that? Absolutely. We eliminated the industrial and radiological risk for personnel. By not having to do outages every two years or so we eliminated the need for the exposure to the personnel; reducing their overall dose. We were able to exceed our mission objectives based on pour rate and extend the life of the equipment. A significant amount of overall operating costs were also reduced and or eliminated.

The facility has been basically in operation for 14 years. There is a lot of good in that, but there are also some challenges that come with that; specifically the cell covers. The cell covers are basically the roof of the operating cells within the plant. Those particular cell covers have had operational issues and we have had challenges where we had to put equipment on top of those cell covers. In order to get the melter out you have to have an exit path. There are

roughly 5 containers that will be used to create a melter route. That essentially is taking 20 foot containers and putting the material that was on the cell covers in those items getting them out of the facility and those particular items are being dispositioned or staged for reuse. There are certain aspects of DWPF that involve crane and also rail that are specific and unique to melter replacement. As a result of 14 years of operation, there are several pieces of items that need some inspection and maintenance to make sure they are ready to operate.

The melter weighs a little over 70 tons, as it comes out it will be placed into the melter storage box which is put inside the facility. Once it is inside, it will be pulled by rail and a 400 ton capacity crane will pick that load up and lower it into a concrete vault (failed equipment storage vault). The components that are associated with that equipment require extensive inspections and maintenance and we are going through that process now. Melter 2 has roughly 93 components and jumpers that have to be systematically removed through remote handling and cranes. Everything that is removed is inspected for reuse or repair. Once that is done, SRNL performs a "post-mortem" inspection through a specialized camera that they have developed.

Currently, melter 3 has been pulled from 717-F because we were working on melter 4. We are now moving melter 4 out and putting melter 3 in for final assembly and check-out to make sure it is ready to be transported over. Transport will be a unique activity due to the size of the melter. Several overhead obstructions have to be altered. Once it is there the process is reversed. We will back it into the facility, lifted into the crane, set down into the melt cell and then we will begin the installation. Once it arrives at DWPF we have a series of checks to go through to make sure that everything that checks out appropriately in F-area is still intact. Once the melter is in the facility we will do the checks again, get it installed, start assembling and once it is hooked up we will look into beginning start up testing and move into operations.

#### Q&A

Dawn Gillas, FDSR Chair: Are there long term plans for the final disposition of the melters in the vault?

Wesley Bryan, SRR: At this point there is stuff we need to evaluate so we truly understand what the disposition logistics would be.

Mary Weber, CAB Member: How does this affect your production output for the year?

Wesley Bryan: Significantly because it is not running but we have adjusted our production goals moving forward.

Mary Weber: So there is a number 4 on the books?

Wesley Bryan: Melter 4? Yes there is some assembly that has been done but it is not complete.

David Hoel, CAB Member: What was their actual operational life of melter 1?

Wesley Bryan: 8 years.

David Hoel: What was its expected design life?

Wesley Bryan: Roughly the same as melter 2 (2 years).

David Hoel: Based upon the average actual operations of melter 1 and 2 don't you think it is time to recalibrate your estimate melter design life?

Wesley Bryan: That is something we have to look at. From a planning perspective recognizing the magnitude of what it takes to undergo melter replacement activity you can adjust it but you can't rest on the past averages.

David Hoel: When do you expect to complete installation of melter 2?

Wesley Bryan: Installation of melter 2 will be in the fall and startup will be towards the end of the calendar year.

Bob Doerr, SLM Chair: What is the cost of the new melter?

Wesley Bryan: I do not know.

Jim Folk, DOE-SR: The cost of the melter itself is around \$20-\$30 million. It gets closer to \$40-\$50 when you add in all the activities that Wesley described.

Bob Doerr: I assume that this type of capital equipment replacement is not included in the annual operating budget?

Wesley Bryan: It is a part of the PBS-14c funding.

Narrinder Malik, CAB Member: Is melter 2 going to be classified as high level waste and does it meet any federal requirements like FFA/Cleanwater Act?

Jim Folk, DOE-SR: It is high level waste. It will come under DOE-435.

Robert Smith, CAB Member: Don't you reach a point of diminishing return? If you continue to lengthen the life of the equipment you run into more and more costs associated with reevaluating the support equipment.

Wesley Bryan: We have started a lessons learned since day one and through that course of that log of each one of those items we go through and evaluate each one of those as we can. At some point you have to go through a significant amount of renovation so there is a delicate balance that is on our agenda as one the items we need to make sure we appropriately evaluate and implement any corrective actions.

Rob Pope, EPA: You guys don't have a second vault in place yet, right?

Wesley Bryan: That is correct but when you get a vessel ready you also prepare to get a vault ready.

Rob Pope: What is the cost of a vault?

Jim Folk: A few millions.

Doug Howard, CAB Member: You said you had the crane and railroad that's going to help take out the melter. Do you have a backup for these if any of them fail?

Wesley Bryan: Yes. As far as the rail system and the components associated with that we've already had some inspections and ultra-sonic testing on those and identified the state of the railroad that we need to be ready. As far as the crane, we have already identified two other cranes on Site that have the capability if we need it.

Dan Kaminski, CAB Member: How much material actually remained in number 2?

Wesley Bryan: Roughly 10,000 pounds.

Dan Kaminski: How much does a canister normally hold?

Wesley Bryan:

David Hoel: You mentioned the number of canisters poured and the millions of pounds of glass produced but how much sludge does that amount to?

Wesley Bryan: I don't have an exact equate right now by gallons.

#### Discussion on the Presentation

David Hoel: This is an example of a hugely successful program. I should also point out that recently DWPF celebrated a big anniversary and back when it was completed it only cost \$1.2 billion dollars to construct and I found it interesting that the latest estimate for the Hanford plant is now pegged at 10x that amount and still won't be finished until 2022. It just shows that DWPF was a hugely successful project and continues to be so.

#### Public Comment

Jim Marra commented that the melter has resulted in a vast amount of money saved and he commends the designers of the melters.

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.

## Public Comments

**Tom Clements, SRS Watch commented that he believes that DWPF is a valued necessity at SRS and that waste removal is a top priority for the public.**

END OF DAY 1, March 27, 2017

Meeting Minutes

Savannah River Site Citizens Advisory Board (CAB)—Full Board Meeting

Applied Research Center, Aiken, SC

March 28, 2017

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Louis Walters- <i>Absent</i>	Federica Staton, S&K Logistics	
Mary Weber		

## Opening Ceremonies: Nina Spinelli, CAB Chair

Mrs. Spinelli welcomed the attendees and led everyone in the Pledge of Allegiance and the National Anthem.

## CAB Chair Update: Nina Spinelli, CAB Chair

Nina Spinelli announced that she was excited to begin her tenure as CAB Chair and welcomed the new members. She informed the public that the 2017 work plan has been finalized and is a great reflection of what the CAB hopes to achieve this year. She also outlined her goals for the CAB for 2017. Mrs. Spinelli encouraged the CAB members to focus on their charter and make sure that their recommendations can be used by DOE.

## Vote on Accepting January Meeting Minutes

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

## Meeting Rules & Agenda Review James Tanner, CAB Administrator

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

## Agency Updates

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

Good morning it's great to see all of you, and especially to welcome the new members. We appreciate the time and energy you invest in serving on the Board, and your efforts are of great value to us as we continue the nation's work at the Savannah River Site. I look forward to working with you – and all of our continuing members – and hope the orientation our staff provided helped get you started.

### **New Administration**

- Since the last time we met, Secretary of Energy Rick Perry has been confirmed and sworn in. A number of key leadership positions remain to be filled, but we continue working with DOE HQ to make the transition seamless. As we discussed at the last CAB Meeting, Sue Cange is the current Acting Assistant Secretary for Environmental Management.

### **Budget**

The Site is under continuing resolution at FY 2016 enacted levels through April 28, 2017

- SRS funding continues under Continuing Resolution at FY16-enacted levels through April 28
- Congress approved reprogramming as discussed in January -- \$33.6M total, \$20.3M from SWPF and \$13.3M from SDU-6 to Nuclear Materials (\$13.5M) and Liquid Waste (\$20.1M)

The President's FY 2018 Budget Blueprint was released March 16. It represents the Administration's top level proposed funding levels. The final proposed FY 2018 budget numbers will become available in May. The budget will then be sent to Congress for review and debate, at which time we will be able to provide more details.

### **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 conduct 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.
  - A Potential Inadequacy in Safety Analysis was declared in L-Area in March due to the lid coming off of an inner fuel can within the Fuel Basin. The inner can had been removed from a bundle and was on a tray when

it was being rotated to identify its fuel identification number. The inner fuel can and lid are credited as safety significant equipment.

- When the lid came off, all work stopped and the facility entered a limiting condition of operation which stopped all fuel movements in L-Area.
- L-Area has developed a path forward to address the inadequacy in the safety analysis. The fuel has been isolated allowing fuel movements to resume.
- 235-F continues to work removal of materials at risk and 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)**

- The workforce at WIPP successfully completed the first waste emplacement operations on Wednesday, January 4.
- DOE expects to resume shipments to WIPP in April.
- The schedule for waste shipments is not finalized. Current expectation is that the facility will eventually accept approximately two shipments per week and ramping up to four shipments per week by the end of the year.
- DOE-SR is completing Readiness Assessment activities necessary to resume shipments upon request from WIPP.

#### **Liquid Waste Outages**

- A highly complex system-wide outage of the Liquid Waste Facilities is in progress and expected to take several months. The scope of the work is broad, involving most aspects of the system. Two major projects – DWPF melter change and SWPF tie-ins – require other facility outages and specialized work in the interconnected Liquid Waste operations.
- First, the Defense Waste Processing Facility melter’s end-of-life. Wesley Bryan discussed this topic in greater detail yesterday during combined committee meetings.
  - After a 14-year record-breaking performance, the second melter in DWPF’s operating history—Melter 2—reached its operational end in February.
  - Because of the integration with other activities in the LW Outage, removing the melter will take four to six months.
- Second, the Salt Waste Processing Facility tie-in outage, originally scheduled to begin this summer, is taking advantage of the outage and completing some critical tasks early.
  - The SWPF outage is to prepare for the ultimate tie-in of current Liquid Waste Facilities to SWPF.
  - SWPF outage scope includes sheet piling installation, facility flushing/drainage, excavation to uncover waste transfer lines, and piping modifications of those transfer lines.
- Integrated into the mix with the melter replacement is the DWPF Facility Infrastructure Systems outage. This is the result of preventive and corrective maintenance on systems that cannot be shut down for extended periods during melter operations. Now is the optimum time to complete this work as well. Some of this is done in parallel with the melter changeout, and some will be accomplished after the changeout.
- The bottom line: This extended outage ensures all our work in the facilities can be accomplished safely and thoroughly. Using 2017 to complete this significant outage will put the Liquid Waste Facilities in a better operational position and to make them more robust for the next year and beyond.
- **Tank Closure**
  - Sludge waste removal out of Tank 15 continues. First mixing campaign to support sludge transfer to Tank 13 was completed February 26. Currently a supernate transfer is under way from Tank 13 to Tank 15 to support the second sludge mixing event in Tank 15.

- You will see more details about Tank 15 this afternoon during the scheduled presentation on recent liquid waste regulatory decisions.
- **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 completed 52 canisters in FY17 for an overall total of 4,155 canisters.
  - The Canister Double Stacking effort continues in the Glass Waste Storage Building 1. Crossbars have been removed from 321 canister storage locations, and modifications have been completed on 298 of them – this involves installation of new support plates and new shield plugs. Total of 143 radioactive canisters have been double stacked.
- **Saltstone Processing Facility**
  - Saltstone is operational and will go into an outage after processing available feed from Tank 50. For FY17, Saltstone has processed 152,410 gallons.
- **Saltstone Disposal Unit – 6**
  - Disposal cell construction is complete.
  - Balance of Plant is complete.
  - Final tie-in of SDU6 to Saltstone facility and readiness assessments are in progress.
- **Salt Waste Processing Facility**
  - Testing and commissioning activities at SWPF are about 41 percent complete
  - Operation with radioactive waste is on schedule to begin by December 2018.
- **3H Evaporator**
  - The evaporator remains shut down due to a leak in the evaporator pot. Leak locations were identified and the contractor is in the process of determining a suitable repair method.

### **Facilities Disposition and Site Remediation Programs**

In February, Savannah River Site (SRS) personnel accompanied the U.S. Environmental Protection Agency, Region 4 (EPA-4) and South Carolina Department of Health and Environmental Control (SCDHEC) representatives on regulatory field visits in support of the Fifth Five-Year Remedy Review Reports for SRS Operable Units (OUs) with engineered cover systems and for SRS OUs with geosynthetic or stabilization/solidification cover systems. The walk-downs determine if the remedy documented in the approved Records of Decision is still effective. During the three-day visit, 30 units were inspected, and no major concerns were noted.

In February, SRS received a Notice of Violation (NOV) from SCDHEC for failure to obtain the required number of domestic water samples in December 2016. SRS was 3 short of the required 10 bacteriological sampling results of the SRS drinking water system. All of the sample results were fully compliant and the NOV contained no fines or penalties. However, SRS was required to post an onsite public notification.

EPA, state, and DOE cleanup project management and staff from the three DOE sites in EPA Region 4 – Oak Ridge, Paducah, and Savannah River Site – met at SRS in February to observe the cleanup decision making process. Prioritizing cleanup tasks; responsibilities for decision-making and milestone changes within DOE, EPA, and state agencies were discussed. Leaders from EPA’s Federal Facilities Restoration & Reuse Office (HQ) and DOE’s Office of Environmental Management also participated

On March 20, SRS received a Notice of Violation (NOV) from SCDHEC for the 291-F stack emissions sampler being out of service from May 31, 2016 to November 1, 2016. Sampling did occur from an alternate location, but SCDHEC determined the alternate location does not meet requirements to collect data necessary to perform modeling to

determine offsite exposure. The NOV carried no fines or penalties and requires SRS to document the accuracy of a new flowmeter to SCDHEC by April 15.

## Q&A Session

Nina Spinelli, CAB Chair: What happens after the notice of violation?

Shelly Wilson, SCDHEC: DHEC will send a notice of alleged violation and then we will schedule a discussion to share information back and forth so we can hear the information and allow the party an opportunity to share the mitigating factors and then we move forward with a resolution.

Michael Mikolanis, DOE-SR: When we do receive a notice we become aware of the noncompliance and we will do an assessment of what happened and in the case of the domestic water sampling, we understood what led to that. In fact, as a corrective action the contractor did a self-assessment and one of the findings from that was that they thought they should do an external assessment of their program to identify opportunities to strengthen their programs.

Dawn Gillas, FDSR Chair: The new administration has made statements about modernizing and or increasing the nuclear arsenal. SRS historically was a major part of doing that activity. Right now there is little or no capability at SRS to continue those capabilities. In fact, we are cleaning up after those works. Has there been any discussion with the new administration that any of this might be coming back?

Jack Craig, DOE-SR: We haven't had any detailed discussions about mission differences coming to the Site. We have had some initial discussions about infrastructure improvements at the Site. We do still have defense programs only capable of tritium production. So that's one area that may receive some funding. We have also been in some active discussions and provided a lot of information about other areas at the Site that we believe need some infrastructure improvements to extend its life. The conversation we have been having is potentially improving infrastructure of our existing facilities to support our existing mission.

David Hoel, SLM Vice Chair: Except for the L-Area inadequacy that you described in your remarks, were there any other DOE order violations or non-compliances in the past two months?

Jack Craig: I don't believe so.

David Hoel, SLM Vice-Chair: Can you comment on the status of negotiations with DHEC and EPA on future tank closure deadlines?

Jim Folk, DOE-SR: We recently completed the discussion for the two tanks for this year and what we will be doing now coming up as a part of the commitments with the state and the EPA is that we will be having two upcoming meetings. The first which I believe is in May and we will begin that discussion that you were asking for.

David Hoel: I noticed in your remarks Jack that it appears that there has been some progress on the 3H evaporator investigation; that you have now clearly determined where the leaks are in the evaporator pot. Is that the big change between this meeting and the last?

Jack Craig: I believe so. We have some videos that we have all taken a look at and identified the location of the bottom of the pot where we have the issue. I believe they are at the point where they have proposed to fix that but yes we have identified the problem and I think that there were a couple of proposed solutions.

Mark S. SRR: David we have identified it as clearly at the bottom of the pot. In a lot of our vessels we use a steam pumping mechanism so we think there is so steam erosion at the bottom of that vessel which is good information to know in case we do decide to replace the vessel. There are three definite holes or cracks in the bottom of it and we think we can build a cap around the bottom and weld it.

David Hoel: Can you comment on the status of the double-stacking project for high-level waste canisters?

Jack Craig: We are continuing and we are still in the process of glass storage building #1 and that activity is continuing even though we are not producing anymore cans this year we can relocate the cans that are in that building to double-stack. 150 out of 2500 or so have been double-stacked.

David Hoel: In the past two months were there any recent foreign spent nuclear fuel receipts at SRS?

Maxcine Maxted, DOE-SR: No there has not been.

David Hoel: Can you comment on the status of the German foreign spent nuclear fuel proposal or the Canadian proposal?

Maxcine Maxted, DOE-SR: There has been no change in the German proposal since last summer. The Canadian projects are underway both the liquid and the fuel.

David Hoel: Does that mean something has been received?

Maxcine Maxted: The fuel we have been receiving for a while. The liquids were in a law suit and that should occur again this year.

Narrinder Malik, CAB: To DHEC, in the past we have reduced the monitoring especially at the tank farms and DWPF. Is it possible that when the monitoring system fails in one of the high-level facilities like 299-H can we use the graded approach based on monitoring models?

Shelly Wilson, DHEC: We can always talk about some changes in monitoring but we do have an air permit that requires some established monitoring so we are always willing to listen if there are some proposed changes or amendments to make that system more accurate or more efficient or better capture the full picture of emissions. We are certainly willing to talk those things through with the Site if they bring them to our attention but right now we would not plan to stop the monitoring requirements that we have.

Narrinder Malik, CAB: If we continue to use A-models monitoring it will reduce a number of costs.

Shelly Wilson, DHEC: We have in the past adjusted some monitoring requirements if it is technically feasible even considering costs and we are open to those discussions.

Michael Mikolanis, DOE-SR: Over the last 10 years or so we have been working with the state of SCDHEC and they have been very open and willing to consider adjustments to the monitoring program. We still have over 2,000 wells that we monitor on-site for ground water and a number of points of emission that we monitor. As we identify opportunities to do it in a more cost effective way, we can technically justify appropriate monitoring results we have approached the state and discussed those opportunities with them and they have been very reasonable to work with us to be able to accomplish the mission safely while still demonstrating appropriate protection of the public, South Carolina and Georgia.

Dan Kaminski, WM Vice Chair: Can we get more detail on the L-Area lid failure?

Maxcine Maxted, DOE-SR: In L-Area we use bundles to put the fuel assemblies into. This fuel was actually in an inner can that was inside of a bundle and we were removing them just to get an idea of fuel inspection and when they did it was out of the bundle. The lids go on in a clock wise motion and when they were turning the can to identify its number fuel was released from its mechanism and the lid came off. Nothing came out of it; it was on the tray but at that point it is not in our procedures as normal operations so they did the right thing and stopped and went into investigation and we stopped all activities until we could get it back in a secure safe form.

Gil Allensworth, WM Chair: Jack I have a question about SRR selecting the commercial supplier Westinghouse. Is Westinghouse's pending bankruptcy going to effect that?

SRR: They are making a filing, I do not know the exact legal term but it is not a default it is a continuing operation filing and of course they have bigger issues with their nuclear reactor production but they have given us assurances that they will complete our project and we are just keeping an eye on reports. Their work has been proceeding on schedule and at cost and I have no concerns at this point.

Gil Allensworth: Are they also doing the 3H evaporator?

SRR: No.

David Hoel: Jack, can you comment on the status of the SRR contract re-compete?

Jack Craig: It is still underway. The public notice on the website had an award anticipated in April and it hasn't been updated yet so that is still the official stance at this point.

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

Beth Cameron: We are working on getting out our annual data report that should be available next month and it will be available in cd form and on the SCDHEC website.

Shelly Wilson: Our regional office is out at SRS a good bit. I would say probably every week. I also wanted to mention that DHEC is involved in some ongoing dialogue. Jack mentioned a dialogue at the national level sponsored by the Environmental Council of States, that is a group of states and their environmental agencies get together and talk about common issues that ECOS has facilitated a dialogue with EPA and DOE and all of the states that host DOE facilities. We have been talking since last year and we had a meeting recently at Oak Ridge. The focus is to build relationships and those relationships help us understand commonalities where we all like to collectively focus and help each other out. We at DHEC plan to continue that form of discussion. There is also an environmental management advisory board that has different people from across the nation that is similar to the SRSCAB and I am currently serving on that board.

## Q&A Session

David Hoel, SLM Vice Chair: In the DOE Environmental Monitoring presentation we learned of DHEC's redundant check on the accuracy of DOE's environmental monitoring data. Can you comment on whether you have seen any significant anomalies between the data that you find and the data that DOE finds?

Beth Cameron, DHEC: Over the years we have not seen any big anomalies between our data and theirs. It has always been fairly consistent.

Dawn Gillas, FDSR Chair: Again with the new administration there have been proposed significant cuts in EPA, have you heard or do you expect any of those to hit the programs that support the CAB?

Shelly Wilson, DHEC: We are hearing the same things and right now it is very broad. We are not seeing a lot of the specific cuts and the specific areas and so we are planning already because for a few areas of DHEC we do know that they are likely in the crosshairs of a substantial cut. We are already planning on how to arrange that but we just don't have the details yet to know how much and exactly where so I am not sure if any of those cuts will be in the areas of our support to CAB activities.

Narrinder Malik, CAB: Groundwater monitoring; have you noticed any radionuclides or any other contaminants in the plume?

Shelly Wilson: Yes. There are some major groundwater plumes on the Site and those plumes have variety of chemicals and a variety of radionuclides.

## Environmental Protection Agency Update: Rob Pope, EPA

If FY'17 continues how it is none of our oversight will be impacted. All of the project managers that work on site will still be working on the site. Our travel dollars do not look good for FY'17 and our contract support may also be cut, but all that is unknown.

## Q&A Session

Dawn Gillas, FDSR Chair: You were talking about your big list of things that are still important on your list from the EPA view point can you give me the next one or two areas that you think that we should be focusing on past D-Area?

Rob Pope, EPA: Lower 3 Runs because we are engaged in that right now and there is a Site that we call Dumbarton Bay which is another coal ash site.

Dawn Gillas: Has there been any thought about signage to not mow over the caps?

Michael Mikolanis, DOE-SR: Ever since the pollinator issue arose about a year or so ago EPA has spoken with us about that and we have had an active dialogue about ways we can do that. We have a lot of land on the Site and we are working on ways that we can help the EPA and their mission along with ours.

Rob Pope, EPA: If we can mesh better pollinator species out there with cost savings that is always the way we will try to move forward. Finding money to add flower seed is not always easy and EPA is well aware of that so we will certainly be engaged in discussions on how we can make it work.

Dan Kaminski, WM Vice Chair: Obviously there is a cost to mowing and everyone has been cutting back on mowing to save money. I would like to know if there is an inherent need or benefit for mowing. Is it to keep down critters?

Rob Pope: In the regulations, you have to keep deep rooting species from getting into your cap because they could damage the cap. Mowing is much cheaper than replacing caps so that is why most caps get mowed regularly to keep deep rooting species from taking hold and being their permanently.

Dan Kaminski: If you reduce mowing by planting shallow rooting species could you get your seed money from that?

Michael Mikolanis: Those are exactly the things that we are looking at and thinking about. Our ecology lab has a facility that has done a number of studies on this type of stuff.

David Hoel SLM Vice Chair: Rob you mentioned that your folks have been inspecting the waste sites on Site including all of the caps. Can you comment generally on what shape they are in? Are they generally well maintained or what?

Rob Pope: In short, yes they are very well maintained. We completed a five year review a few years ago and one of the things that was noted at the time with the hog situation they seem to love these caps so there are a number of caps as a result of that five year review; SRS has installed fencing around those caps to get the hogs from destroying the caps.

Dan Kaminski: Do we have a tentative schedule this year as WIPP goes forward as to how much material will be moving and do we have an idea of tonnage, barrels or number of shipments?

Jack Craig, DOE-SR: We an inventory of waste destined to go to WIPP. I believe we have about 100 shipments of legacy TRU waste that can be disposed at WIPP. We are continuing to produce down blended plutonium material and that material can also go to WIPP. We believe that we have about 8 shipments of down blended plutonium is ready to be shipped today. We hope to start that in April and whether or not we get a shipment every week has not been determined yet because we are also trying to coordinate between Oak Ridge, Idaho, and others. Because of the accident at WIPP, they have different requirements for material coming to WIPP so we are going to have to reevaluate some of our current backlog of TRU to ensure it meets that new requirement at WIPP. That may delay us a bit but I don't see a problem with it ultimately getting to WIPP. Our plan is to begin shipments with the down blended plutonium material that we have.

Dan Kaminski: Is WIPP considering prioritization with regards to keeping like kinds so that they are not inadvertently mixing?

Jack Craig: Not really. I think their concern is ensuring that whoever shipping to WIPP meets their updated waste acceptance criteria. As long as the Sites and the WIPP project people are comfortable with that there is no real issue with mixing material from different Sites because they all meet the waste acceptance criteria.

## Public Comments

Tom Clements, SRS Watch informed the CAB and public of the network of public interest boards around the country. He also expressed concern on the import of German graphite balls of spent fuel. He urged the CAB to consider endorsing the planting of flowers on caps.

Becky Rafter, GA WAND thanked the EPA and CAB for their hard work and commented on the budget and its effect on work at SRS, DHEC and EPA.

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.

Strategic and Legacy Management Committee Update: Bob Doerr, Chair  
Mr. Doerr welcomed everyone to the meeting and introduced the committee members. Recommendation #338, Revision of the Savannah River Site Community Involvement Plan and Recommendation #342, Military Trainings at the Savannah River Site remain open. The next committee meeting will be held Wednesday, April 12th, 4:30-6:20 pm at the DOE Meeting Center. He then introduced the presenter, DeVela Clark, USDA Forest Service.

Presentation: SRS Natural Resources Management Plan DeVela Clark, USDA Forrest Service

DeVela Clark, Forest Manager explained how the presentation will show how they work across multiple units and with partners to fulfill their interagency agreement with DOE. Forest Service currently manages 111 Redcockaded Woodpecker clusters. In 1986, the site had a total population of four birds. In 2016, the population stands at 402. There are 94 active clusters (active clusters = A Cluster containing one or more active cavity trees.) and 86 potential breeding groups (potential Breeding Group = an adult female and adult male that occupy the same cluster, whether or not they are accompanied by a helper, attempt to nest, or successfully fledge young).

The Forest Service conducted applied research for Red-cockaded Woodpecker recovery by comparing U.S. Fish and Wildlife Service (USFWS) RCW recovery guidelines against observed foraging (feeding) by RCW onsite and precision habitat measurement by light detection and ranging (LiDAR). The results showed that RCW foraging guidelines are too prescriptive and need to be more flexible and simplified. Results will be included in the next USFWS recovery plan.

An average of 3,500 acres of forest are thinned annually. Prescribed fire helps maintain the thinned condition. Ten acres of native flowering plants are annually sown in opening to enhance pollinator habitat where it was once lacking diversity. Planting practices are adjusted to encourage a diverse existing plant population to become more abundant. Additionally, since 1994, native grass plugs have been planted annually ranging from 20,000 to 130,000.

Wild hogs also called feral swine present several impacts to human health and negative effects on native species. They can host many parasites and diseases that threaten humans, domestic livestock and native wildlife. They compete with native wildlife species for food resources and with their prolific breeding they can produce major population growth in a small period of time. Carcasses are used for various scavenger or other research projects, sent to the landfill, or when removal is imprudent, are left in place.

Wild hogs/ feral swine also routinely engage in two types of behavior that are damaging to soils, crops and water resources (Rooting and Wallowing). Their rooting behavior, during which they dig for food below the soil surface, causes erosion, damages lawns and farm lands, and weakens plants and native vegetation. Wallowing behavior, during which feral swine seek out areas of shallow water to roll in mud, destroys small ponds and stream banks, which impacts water quality.

Research helped to improve the effectiveness of feral hogs management by completing annual determination of piglet survival/mortality to better estimate pig population size, continuing evaluation of whole-sounder (whole social group) trapping as a control technique and monitoring sounder dynamics to better inform trapping efforts.

Since 2005, over 9,000 feral hogs have been removed from the site with aid from nuisance wildlife control contractors. They continue to closely work with the USDA Forest Service Southern Research Station and the Savannah River Ecology Lab (SREL) to enable and assist feral hog research.

Frequency, priorities and objectives are matters of importance for prescribed fires and they continue to minimize impacts to on-site and off-site populations. In FY'16, they were selected with Savannah River

National Laboratory (SRNL) and the USDA Forest Service Pacific Northwest Research Station to become one of five sites nationwide to study emissions and smoke plume development from prescribed fires. The work is externally funded by five agencies.

Forest Service maintains site boundary fence and signs, vegetation corridor (visible boundary demarcation), and firebreak around exterior boundary, Hwy 125, and Hwy 278. In 2014, they cleared debris and repaired all 85 miles of boundary fence damaged in ice storm PAX. All river boundary signage was checked and replaced as needed. Firebreak disking was not accomplished due to focus on clearing roads.

DeVela explained that funding and accomplishments have been fairly consistent over the last several years and the differences in maintenance accomplishments reflect weather conditions and timber hauling activity. In 2014, most of the maintenance mileage reported consists of debris clearing from ice storm PAX.

In 2014, the Western Expansion project was completed and brought online, bringing 17 additional acres of land under irrigation for a total of 62 acres. Following Hurricane Matthew, which brought a large volume of silt/sediment into the pond, the system was down for about 2 months to clean the intake structure and filter system. Irrigation volumes are dependent on weather conditions and water deficits in the soil.

Tritium contaminated groundwater is intercepted in an excavated pond, filtered, and irrigated in a loblolly pine plantation. Water is absorbed in root zone of trees and evapotranspired. Tritium is released into the atmosphere by pine trees at a level so small it cannot be measured.

Irrigation rates are adjusted based on weather and tree root growth; goal is to irrigate at such a rate that all water is absorbed by trees, and none makes it back to groundwater plume.

Annually, Forest Service does routine vegetation maintenance, repair erosion and animal control on approximately 586 acres of caps. Vegetation maintenance includes mowing, fertilizer and pesticides.

Funding and work has remained fairly stable and they actively maintain vegetation on approximately 586 acres of burial caps, and repair erosion and hog damage on a total of 900 acres. Annual targets generally reflect four rounds of mowing on 586 acres, plus a variable amount of lime/fertilizer or pesticide control.

We clear access to monitoring well pads based on sampling schedule developed by SRNS and DHEC. Approximately 6,500 well pad maintenance visits in 2016.

DeVela Clark concluded his presentation by discussing their community outreach programs including Fire Prevention Education, SRS Ultimate Turkey Hunt and Fishing Challenge, STEM/Conservation Education and Career Fairs, Savannah River and Environmental Sciences Field Station and Multicultural Advisory Committee/Special Emphasis Programs.

## Q&A Session

Doug Howard, CAB Member: Where have these hogs migrated from?

DeVela Clark: They are throughout the Southeast.

Peggy: I was told that originally farmers used to release the hogs into the woods when they were homesteading here and in the fall they would go round up some hogs to butcher and utilize them for food. It was a way to raise the hogs that didn't cost much money. They were domestic animals and to save money they would turn them loose into the woods. So they came from Europe when we people settled here they brought their animals with them.

Doug Howard: What is the roaming range of these hogs?

Peggy: I think they can travel several miles but they are pretty much all over the country now.

Doug Howard: Do you see a future impact on the Site?

Peggy: As long as we can stay trapping them and staying on them I think it was around the year 2000 or so, we had one year that we could not trap them and we had a terrible explosion of the number and we have been trying to catch up again since that. You really have to stay on them. We utilize smart traps to catch more hogs. We let the little ones go in and feed and eventually when the older ones see that nothing is happening they go in and that is when we drop the trap. The traps call your phone.

### Vote on Integrated Priority List Letter

A motion was made to vote to approve the Integrated Priority List Letter. Motion seconded.

Votes: 17 Yes, 0 No, 0 Abstention.

The Motion was carried, and the Integrated Priority List Letter was approved.

### Waste Management Committee Update: Gil Allensworth, Chair

Mr. Allensworth welcomed everyone to the meeting and introduced the committee members and read the committee purpose. The committee has one open recommendation and three pending recommendations. The next meeting will be held April 11, 2017; 4:30 p.m. to 6:20 p.m. Mr. Allensworth then introduced George Matis to recognize the Glass Waste Storage Building Double Stacking Teams. Jeff Lita, Dan Iverson and John Owen were awarded plaques for their innovation.

### Presentation: Recent Liquid Waste Regulatory Decisions Sherri Ross Jolene Seitz, DOE-SR

The salt waste agreement is a part of the saltstone permit requirement and it pertains to how they are treating the salt waste in the facility. The saltstone solid waste landfill permit had a requirement that they will begin operating the salt waste processing facility in 2011. An exchange of letters between the agencies extended that date until October 31, 2015 but the fines were retroactive if they didn't make that commitment. The current target start-up date is December 2018.

The main issues between the agencies that needed to be resolved were the salt processing rates and getting back on schedule with the recovery of the liquid waste program. South Carolina Department of Health and Environmental Control (SCDHEC) calculated \$200 million dollars' worth of potential fines and penalties (September 2011 – October 2016) for alleged violation. On October 21, 2016 DOE-SR and SCDHEC reached an agreement to commence operation of the salt waste processing facility by December 31, 2018 and perform four supplemental tank closure activities valued at \$200 million dollars. They also agreed to process 36.75 Million gallons of liquid waste between FY16 – FY22. The reduced processing rates will be allowed if SCDHEC approves DOE's justification for not meeting processing rate. The agreement will continue until 36.75 million gallons has been processed and after the agreement, DOE will process at least 8 Million gallons a year.

Jolene Seitz: I will emphasize one thing Sherri didn't mention regarding the dispute. Settling it took around 15 or 16 months so it was not something taken lightly. With relation to the federal facility agreement, back in 2007, DOE, EPA and DHEC set up some FFA milestones for the high-level waste tanks related to completing bulk waste removal and closing the tanks. There was a milestone for 2016 that they complete bulk waste removal efforts in two tanks. We were unable to do that and requested an extension and EPA and DHEC agreed to extend.

Tank 15 is currently going through bulk waste removal. The sludge slurry is being removed and sent to Tank 13 in H-Tank Fam. Tank 13H supernate is being used as the slurry medium. The first campaign for Tank 15 was completed on February 26, 2017 and the tank is in the second removal campaign. They have estimated that 6 campaigns will be

necessary to remove the sludge material from the tank. The goal is to be done by October and the final campaign is forecasted to be complete in December 2017.

Under the salt waste agreement they agreed to use a ticker, which is a project for cesium tank treatment for only salt waste and it is the first time this technology is being used on high-level waste.

They are planning to have two between April 1 and August 31 for DOE, EPA and SCDHEC to discuss plans for 2017 Federal Facility Agreement milestones. The Subsequent Federal Facility Agreement Milestones will be determined after considering the new liquid waste contract, a new performance baseline, updated system planning, system health, results of Tank Closure Cesium Removal demonstration and other activities.

Consolidated General Closure Plan for F-Area and H-Area Tank Farms is a new closure plan as a result of DOE-SR approaching the state discussing the new lessons they have learned from closing 6 tanks and wanted to adopt those into a new plan. The new plan streamlines processes and closure module development and provides flexibility for isolation and grouting sequences.

### Q&A Session

David Hoel, SLM Vice Chair: The 36.75 million gallons of liquid waste, does that include sludge as well as salt waste?

Sherri Ross: Just salt waste.

Tom French, CAB Member: You have a tremendous amount of work going on and you are also going through a contract transition so is the transition period designed so that you can match the skill turnover?

Sherri Ross: There is clearly a transition plan where the new contractor comes in and they look at all the procedures and workforce and make notifications and that is specified in the contract.

Tom French: Is it going to be keyed to your schedule?

Sherri Ross: It is very important that that happens and we develop new system plan and performance baselines under the contractor's proposal. We are thinking we are going to have some new ideas come and we will factor that in and reestablish our regulatory commitments and that's the discussion that DOE is going to be having with EPA and the state as we move forward.

Jim Folk, DOE-SR: We have a very detailed laid out schedule over the next year. This is basically the time of our schedule. I expect that in 90 days the new contractor will be transitioning in and all the current work scope will be continuing on. Remember, largely when you have a management change, while we may have a couple days of settling in period I really don't expect that to significantly impact when it comes to the day to day work scope that we are going to be executing.

### Nuclear Materials Committee Update: Dawn Gillas, Vice-Chair

Ms. Gillas welcomed everyone to the meeting and introduced the committee members. Recommendation Nuclear Materials Operations Review (REC 334), Improving H-Canyon Throughput (REC 337) and Process All Aluminum-Clad Spent Fuel in H Canyon As Soon As Possible (REC 341) remained open. The next meeting is Tuesday, April 11th, 2017, 6:30 p.m. to 8:20 p.m. at the DOE Meeting Center. The committee had no presentations. Ms. Gillas also noted that she wanted to know the current status of working towards getting the NEPA documentation and paperwork to get passed the current aluminum based fuel processing completed and what is being done to the non-aluminum based fuels covered as bullet points at each meeting.

David Hoel, SLM Vice Chair discussed the position statements that are close to expiring.

Facilities Disposition and Site Remediation Committee Update: Dawn Gillas, Chair  
Ms. Gillas welcomed everyone to the meeting. 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. The committee had no presentations.

## Board Discussion: Meeting Format

The Board discussed changing the meeting format to efficiently and effectively operate. Issues of concern and topics discussed included:

- public comment period
- earlier start time on Monday's effecting travel
- only 1 Committee Chair update for the entire meeting
- placement of committee and agency updates
- recommendations

After further discussion and input from Board members the Board decided on two meeting formats and formed an ad hoc committee to vote on which format to use at a later date.

Closing Remarks: Nina Spinelli, CAB Chair  
CAB Chair, Nina Spinelli thanked DOE-SR for their support and thank the CAB members for the diligence and contrubutiOns to the discussion.

MEETING ADJOURNED March 28, 2017