

Meeting Minutes
 Savannah River Site Citizens Advisory Board (CAB) – Combined Committees Meeting
 New Ellenton, South Carolina
 January 25, 2016

Monday, January 25, 2016 Attendance:

<p><u>CAB</u> Gil Allensworth Tom Barnes Louis Chavis – <i>Absent</i> Susan Corbett – <i>Absent</i> Robert Doerr Murlene Ennis – <i>Absent</i> Dawn Gillas – <i>Absent</i> David Hoel Eleanor Hopson Virginia Jones Daniel Kaminski John McMichael Clint Nangle Larry Powell Bill Rhoten Earl Sheppard Harold Simon George Snyder Nina Spinelli James Streeter Ed Sturcken Christopher Timmers Louis Walters – <i>Absent</i> Mary Weber</p>	<p><u>DOE/Contractors/Others</u> Maxcine Maxted, DOE-SR Jean Ridley, DOE-SR Avery Hammett, DOE-SR Rich Olsen, DOE-SR T. Spears, DOE-SR Thomas Johnson, DOE-SR Susan Clizbe, DOE-SR Sandra Hall, DOE-SR Brandon McBride, DOE-SR Sonya Goines, DOE-SR Patrick McGuire, DOE-SR Jack Craig, DOE-SR Jim Folk, DOE-SR de’Lisa Carrico, DOE-SR Kim Cauthen, SRNS Jimmy Winkler, SRNS Janet Griffin, SRNS Kristin Huber, SRNS Eleanor Prator, Time Solutions Tina Watson, Time Solutions James Tanner, Time Solutions</p>	<p><u>Agency Liaisons</u> Trey Reed, SCDHEC Gregory O’Quinn, SCDHEC Diedre Lloyd, EPA</p> <p><u>Stakeholders</u> Tom Clements, SRS Watch Rose Hayes, Public Karen Patterson, SCNAC Art Domby, Public Marolyn Parson, Public Bernice Johnson Howard, GA WAND Nancy Bobbitt, US Senator Johnny Isakson</p>
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Opening: Harold Simon, CAB Chair

Mr. Simon welcomed everyone to the January CAB Full Board meeting and presented the agenda. He stated that there is a designated public comment period for public participation with a sign-up sheet posted.

Welcome, Meeting Rules, & Agenda Review:

Tina Watson, CAB Facilitator, Time Solutions

Ms. Watson welcomed everyone and presented the meeting rules and conduct. Ms. Watson stated that public comments are regarded throughout the day as this is the informal portion of the Full Board meeting.

Facilities Disposition & Site Remediation: Tom Barnes, Chair

Mr. Barnes welcomed everyone to New Ellenton, SC, and introduced committee members. He stated that the next committee meeting will be at the New Ellenton Community Center in New Ellenton, SC, on April 13, 2016. Barnes introduced the presenter.

Presentation: FD&SR 2016 Topics for Consideration: Avery Hammett, DOE-SR

Ms. Hammett began by stating that the purpose of the presentation was to provide a list of topics for potential use when structuring the 2016 Facilities Disposition and Site Remediation Work Plan. Hammett stated that all seven topics included in the 2015 FD&SR Work Plan were completed. She then reviewed the DOE proposed topics for the 2016 FD&SR Work Plan, which

include the annual Savannah River Ecology Lab (SREL) Update; the ATSDR Public Health Assessment Report, which will be completed in two presentations: 1. the evaluation of offsite air contamination from the Savannah River Site (SRS) and 2. a report on the evaluation of the exposure to contaminants originating from SRS; the Annual Federal and State Regulatory Oversight of Cleanup Activities and the final Federal Facility Agreement (FFA) Appendix E presentation. She stated that Understanding Risks, a rollup of three separate education sessions into one summary report presentation, along with the annual presentation of the Site Environmental Report and Understanding the National Environmental Policy Act (NEPA) are included as well. She elaborated further on two (2) CAB proposed topics: "Mercury in the Water System: Who, What, Where?" and "Radioactive Limits for Discharge and SRS Permits." Hammett stated the next step for the committee is a meeting to decide the topics for work plan inclusion. Following CAB consensus, a DOE timeline on topic coverage and a final approval of the work plan will be obtained.

CAB Facilitator Tina Watson stated that written statement forms are included on the tables in the back if any written statements would like to be submitted along with a requested question form.

Administrative and Outreach Committee: Eleanor Hopson, Chair

Ms. Hopson welcomed everyone to New Ellenton, SC, and introduced the committee members. Although the membership campaign has ended for the year, she stated the CAB is always seeking new members and references membership applications located on the back tables. Ms. Hopson referenced the available *Board Beat* magazines located on the back table. Hopson stated that the following day (January 26) will allow voting for committee chairs with a discussion of CAB presence at upcoming events. CAB member Hopson stated that today's meeting will consist of the 2016 Topics for Consideration. She also stated that coordination with the CAB Support Team is maintained regarding CAB members' meeting attendance along with furthering and continuing ideas for community outreach. Hopson stated that efforts are maintained to better coordinate the student involvement program, and work with DOE continues to review committee feedback and implement its use at Full Board meetings. These activities are from A&O recommendation 315.

Nuclear Materials Committee Update: Larry Powell, Chair

Mr. Powell introduced the members of the Nuclear Materials committee and reviewed the committee's purpose.

The NM committee currently has no recommendations, but there is one (1) in draft. The committee next meets on April 12, 2016, 6:30-8:20 pm, at the New Ellenton Community Center in New Ellenton, SC. All are invited to join the discussion.

Presentation: NM 2016 Work Plan Topics for Consideration: Maxcine Maxted, DOE-SR

The NMPD is responsible for the H-, K-, and L-Areas. All of the 2015 work plan items have been completed. Maxted presented the 2016 Nuclear Materials Work Plan proposal, which included Nuclear Material Receipt and Storage, Nuclear Material Reuse and Disposition, and Strategic Initiatives and Policy Discussion subtopics for consideration, as well as the CAB-proposed Workforce Shift Data topic. The proposed topics are grouped by material type and include: Spent Nuclear Fuel (L-Area, Foreign/Domestic Research Reactor Receipts, and H-Canyon AROD Processing), Plutonium (K-Area and Downblending Status), 235-F Deactivation status, and Workforce Sustainment.

A meeting is scheduled for February to consolidate the proposed work plan topics and approve the 2016 plan.

Presentation: Operational Pause Update, Jimmy Winkler, SRNS

Jimmy Winkler, SRNS Senior Technical Advisor, presented an update on the September 3, 2015, HB-Line Phase III Safety Control Violation. Winkler reviewed his report with the Nuclear Materials committee in December, and today he briefed the Full Board. He reviewed the presentation agenda before beginning the update.

Background: The mission was to take material stored in K-area and repackage it, so it could be dissolved in H-area. Material that was encased in several nested and bounded vessels needed to be retrieved. The vessel is called a 9975 container. The containers are very thick, welded stainless steel cans, and the H-canyon dissolvers cannot dissolve stainless steel. The inner containers are also stainless steel. The material has to be repackaged into dissolvable containers for processing.

The vessels are placed in the glove box and opened. This has been done many times in the past. However, on this particular day, a new process was being introduced. Rather than just repackaging for processing, the new process included placing a small portion of the material into SRNL sample cans so that the lab could assist with some testing that had been requested. This was in addition to the traditional activity of placing the material in dissolvable cans for H-area processing. They were testing a new way to make oxide out of the material. Three (3) pieces of plutonium were placed into carbon steel containers to send to SRNL.

The dissolvable can goes into an orange nylon bag and is placed in an outer container that is also carbon steel. The nylon bag prevents any contaminant from the opening process to be transferred to the container or the Primary Containment Vessel (PCV). The SRNL containers were slightly smaller than the process vessels. The procedure called for all repackaged material to go into a PCV cart. The PCV provides all-around space in six (6) directions, so that the plutonium cannot interact with anything else. The cart containing the repackaged material went back to storage for future processing as per procedure.

Controls: Fissile materials require two (2) independent controls for safety. 1. Fissile material mass, i.e., how much of the material is there? And, 2. The spacing between the materials in the inner and outer containers.

Fissile mass was always under control. However, the SRNL cans were not placed into the PCV cart, so spacing was not controlled.

The Incident: On September 3, 2015, two (2) stainless steel cans were opened and material repackaged into two (2) dissolvable cans and three (3) SRNL sample cans without incident. The dissolvable cans were placed into the PCV cart and stored as required.

The violation involved the three (3) SRNL sample cans, which were placed into three (3) separate pails instead of PCV carts as required by procedure. The pails were placed into storage. The violation occurred around 5 pm.

The next day, September 4, was a Friday, which the team normally did not work. Monday, September 6, was the Labor Day holiday. The violation was discovered on Tuesday, September 7, 2015, during a document review. The Shift Operations Manager, SRNS, and DOE management were notified. SRNS CEO Carol Johnson directed an operational pause for all operations, nuclear and non-nuclear. Only safety and security operations were allowed to continue.

Event Causes Analysis: Apollo root cause analysis was used to analyze the incident. Apollo focuses on defining actions to prevent recurrence.

Winkler stated the procedure was clear and unambiguous. Neither the First Line Manager nor the three (3) workers took the opportunity to call a time out. The First Line Manager failed in leadership, and, in fact, he helped the event happen by providing the pails instead of securing carts. The Shift Operations Manager failed to assess the shift change protocol that would have allowed the work to continue into the next shift, such that the first shift workers would not feel rushed. Senior leadership had not looked at this particular team since June, because the leadership team was refocused on oxide work. In addition, work had stopped once that day due to an unrelated security issue.

Corrective Actions: SRNS follows Conduct of Operations, a disciplined, structured approach to operations. Under this model, it has been concluded that many problems in operations come down to communications issues. They used scenario-based activities rather than meetings and lectures to retrain people to address the communication issues. The results of the root cause analysis and follow-up plans were shared with all facilities, nuclear and non-nuclear.

They replaced some people after a disciplinary review. They strengthened communications between shifts. They are revising assessment plans so that teams are assessed on a more regular basis. They cannot allow so much time to lapse between reviews.

They have implemented additional classroom training by adding two courses: Transition to Leadership for production workers who move into First Line Manager positions and First Line Management 101.

This particular repackaging task, which included additional steps, created timeline issues within the shift. It should have been noted that it could possibly take more than one shift. Protocol needs to be addressed to parse the function across shifts as necessary.

Path Forward: The facility moved into Deliberate Operations (DO) following the initial investigation into the incident. DO involves complete reviews of complex and high-risk work, discussions on procedure adherence expectations, and corrective actions. A thorough review of assessments and corrective actions by Senior SRNS and DOE management teams is required to exit DO. Four (4) units are still in DO. Two (2) are expected to exit this week, with two (2) more expected to exit mid-February.

Part of a DO plan includes longer-term actions. SRNS is turning to the commercial nuclear safety community to conduct an independent review to see how they stack up within the nuclear safety culture. Continuous improvement of the procedure validation process will include a validating walkthrough of procedure. The point of a Deliberate Operations plan is to see sustained improvement in performance.

Q & A Session

George Snyder, CAB Member, expressed his appreciation that the operations pause and deliberate operations have taken as long as they have as it demonstrates SRNS' commitment to improving operations. Is this the first time that SRNS has used an operations pause?

Winkler: No, I have been with SNRS a long time, this was not the first time, but the first time in a long time, and the longest operational pause that I remember.

Snyder: The times that you remember were they as significant of an event as this?

Winkler: They were. In my recollection, the past events were more localized. However, this is the first time I recall it being nuclear and non-nuclear. I don't recall it being as broad as this one. There have been facility and area pauses, but nothing as broad and widespread as this one.

Dan Kaminski, CAB Member: Was the PCV available for them to use?

Winkler: Yes, plenty of carts were available.

Kaminski: Was use of the PCV and/or the pail part of the pre-job briefing?

Winkler: Yes, the focus of the pre-job briefing was on what they deemed the most hazardous part of the operation, which was cutting the cans open. If you are using a cutter, both on the outer container and more so in the glove box when accessing the inner containers, the focus is on hands near sharp edges and the edges of the cans once cut.

Kaminski: Was it determined whether at that point they deviated from the plan and put it in the pail?

Winkler: Yes, it was at that point they deviated. The decision was not part of the pre-briefing, but it was decided sometime during the workday to put it in the pails.

Kaminski: What is the normal use of the pails, and why were they in the area?

Winkler: The pails are used for a lot of different things, such as bagging out waste and storing standards for accounting instruments. They are not routinely used in this area and are not approved for this area.

Kaminski: So, they had to make an effort to actually get the pails?

Winkler: Yes, they had to go to storage. The First Line Manager retrieved the pails.

Kaminski: I and some CAB members have for some time been concerned about shift activities, the condensed work weeks, and length of shifts. When was this—perhaps at a time when people were more motivated to get out for the Labor Day holiday?

Winkler: The event took place at 5p.

Kaminski: When was the shift over?

Winkler: The shift was 6 am to 4:30 pm, and this task took longer than expected anyway, and there were several delays during the day as well. They had focused on the dissolvable cans. The decision to use pails was made around noontime or 1 pm, but they were working ad hoc [unauthorized] overtime, and there was some time pressure.

Kaminski: Did they have to have it done that day? Was this a task that could have been safely stopped and come back to on the next business day, or was this something that needed to be completed that day for safety reasons?

Winkler: It could have been safely stopped, and, in the past, the work group had demonstrated the knowledge to safely stop the work.

Kaminski: I really appreciate the updates that you have provided over the months.

Dave Hoel, CAB Member: On page 6 [of the presentation] you have identified the what of what happened, but I'm confounded as to the why—why did they willfully violate procedure?

Winkler: They asked them that and had several follow-up discussions and never really received a good explanation. Several of them were scratching their heads and didn't have a good answer. One person said, "Yeah, I know what I'm supposed to do and chose not to." Time pressure may have been part of that. They could never get a good answer.

Mary Weber, CAB Member: The root of it is why. If the problem is that they knew the procedure, but chose not to follow them, that's the issue that has to be addressed.

Winkler: That's correct. One of the reasons they took the operational pause in both nuclear and non-nuclear was to assess whether this was a site-wide mindset. They took the time to sit down in the small group meetings to say, "These are our expectations on verbatim procedure compliance." The feedback was, "Oh no, we have no idea why anyone would do what they did." In fact, many workers in the facility were upset and mad at this small team for what they did. They did not want to get painted with the same brush. There was a lot of head scratching. In retrospect, they looked at whether using the pails would have been a valid option. If someone had called a time out, and the question asked: "Can we use the pails?" the option would have been rejected, "No, those are unsafe, they haven't been analyzed. The carts have been analyzed, put them in the carts."

Pat McGuire, DOE-SR: Obviously, that was a big behavior problem. SRNS went through the disciplinary process to address that. They took very severe action against those individuals. They got the very clear message that this is not acceptable behavior and will not be tolerated.

Ginny Jones, CAB Member: On slide 3 [of the presentation] on the bottom row, the design of the interior of the PCV has those two circle things, how did they not put the cans in the place designed for them to be put? Were there enough places within the carts to accept the SRNL cans as well?

Winkler: Yes, they had carts available, enough spaces available for both the dissolvable cans and the SRNL sample cans. You can store two (2) containers per cart, and they had more than enough carts available to support the five (5) containers.

Jones: And they were more readily available, and the manager goes to the closet to get pails?

Winkler: Some carts were in a vault. Some had one side free, but the other side was occupied. They needed special permission to access those carts that had one occupant, because they were in the vault. The pails were in cold storage, meaning non-radioactive storage; it might have been an element in the decision that it was more convenient to walk down a couple of flights of stairs than to try to get into the vault.

Jones: Were the first lines asked why, and they didn't know? What did the manager who went to get pails say?

Winkler: He was more wanting to take one for the team. "All my fault, I did it." It was an error in judgment.

Jones: There was a consequence for him as well?

Winkler: Yes.

Jones: On the same page, there are items with asterisks that are new steps. And, they are not doing those anymore? Not doing what anymore?

Winkler: Taking the three (3) samples for SRNL. This was a one-time event to identify those three (3) small pieces for testing.

Jones: During the pre-training process, were these new steps clarified, identified, and discussed?

Winkler: Yes. The pre-job briefing did discuss very briefly the SNRS sample cans and requirements. They also did a tabletop review the day before.

Jones: When you do a tabletop review, is that with paper?

Winkler: Yes and no, you sit around a tabletop with the procedure and go through it step by step with just the operators. A pre-job briefing is with everyone involved, including the radiological safety folks, so that everyone is on the same page. These are both in a meeting setting, not in the field. They discuss possible abnormalities that they need to be ready for.

Gil Allensworth, CAB Member: The day before the event, they did a tabletop review. How long was the operational shutdown?

Winkler: Operational shutdown was from 9/11, and I don't know the exact date of exiting shutdown to deliberate operation. I'll have to get back to you on that.

Allensworth: How much did the shutdown cost?

Winkler: They did not put it in monetary terms, neither the cost nor the benefit. The benefits were worth the efforts to go through to reinforce procedural adherence expectations. They got a lot of positives about it. Procedure compliance. It was worth the effort to take a pause. This incident was such an anomaly of what they're used to that they had to stop and ask if this was happening across the site.

Allensworth: The word they are missing here is accountability. This does not seem like a systematic breakdown. The crew made a mistake, and this has caused a tremendous number of issues because of just a couple people.

Winkler: I believe that the right decision was made in terms of the disciplinary action of the four people who were involved.

Allensworth: This seems like this was a management failure. I understand what they're dealing with, but now they're bringing in outside commercial, such as Vogtle, and how much is this going to cost? This seems like a lot of work for something that should have been caught before it ever happened.

Pat McGuire, DOE-SR: Gil, we agree that accountability is a key element of working safely day in and day out. This was a significant departure for that work group, and they are still not sure why they deviated from procedure. They had to ask, "Does this exist elsewhere in the company? Is someone who processes purchase orders cutting a corner?" To ensure that that behavior doesn't exist elsewhere in the company, SRNS took time out to reinforce that this behavior is unacceptable. To ensure that behavior doesn't exist across the site. They had to reinsure from the President on down that this behavior is unacceptable. Reinsure the

expectation that everyone can raise their hand and request a time out. That takes time to make sure the workers understand the expected behaviors.

They wanted to know if anything abnormal was occurring. It's costing money. They are not completing the work in a timely manner. DOE did evaluate this and consider this action in our award fee determination; they did take into consideration this incident in overall performance, along with the positive work the contractor did throughout the years as well as other things that needed to be taken into consideration.

Karen Patterson, public, SC Nuclear Advisory Council: In the past couple of years, with mis-packaging at Los Alamos and poor WIPP vehicle maintenance, has the DOE looked at if they are somehow transmitting, consciously or unconsciously, that time and money are more important than safety? It comes back to "Is DOE doing its job?"

McGuire: From the standpoint of the department, safety is paramount, safety is the top concern. They feel it is worth the cost if they can assure that the workers and the public understand that. That safety is the overriding expectation.

Patterson: Is there a funnel up to HQ? Did HQ pay attention to this?

McGuire: Yes, EM40 conducted a Conduct of Operations assessment comprehensively in the October-November timeframe. This group, EM40, is the group that assesses Conduct of Operations around the sites you mentioned, particularly WIPP.

Rose Hayes, public: I share Karen's concerns about WIPP. All communities that are in some kind of juxtaposition to facilities like SRS have the same concerns. This work was high hazard and unique. I assume the control group had a tick list to follow on the next Tuesday. Why was the control group not present at the time of the work?

Winkler: When they were looking through the list, it was not their intention to find this. They were reviewing the documentation of work completion for the job and saw the seals were placed in pails. That was when they raised the red flag. Since they were reviewing job completion, they would not have been required to be present at the time of the event.

Hayes: And, what was the hazard?

Winkler: Using sharp equipment in close proximity to plutonium. Plutonium is an alpha hazard, such that even a small cut could introduce an alpha hazard into a person. The people who are there to protect workers, RADCON, were on the job at the time. No other workers or the public were endangered at the time. The review team was looking at material accountability paperwork, and they were looking for something else. They found the incident as they reviewed the paperwork.

Hayes: Are there federal SOPs?

Winkler: These are not federal, these are at facility level.

Hayes: Are there any federal SOPs?

Winkler: Yes, there are federal procedures that they comply with. When procedures are written at the site level, there are DOE SOPs that are embedded within the procedure controls to guard against criticality accidents.

Tom Clements, SRS Watch: I appreciate the response by DOE and SRNS. However, I'm not aware of any accountability at the MOX site, but it really contrasted with the SRNS response. My question is about the Apollo root cause analysis. What was learned from the agitator incident earlier in the year that was transmitted to the work teams in this mis-packaging incident?

Winkler: I'm very familiar with that incident as well and participated in the root cause analysis of that one. The agitator incident was a design and safety analysis flaw. The power went out because of a storm, and when the power was restored, it was not restored to the agitator in question. They took a sample, and it did not match what should have been the solution in that tank. When they had done the safety analysis, this was not identified as an issue, so there were no controls to prevent that from occurring. There were no controls in the procedure to prevent it. How do they compare? They don't. They were very different events.

Clements: The oxide production fell behind. Was there any pressure from EM or NNSA or SRNL? Did the production schedule have anything to do with the failure to meet expected quantities?

Winkler: I would say no, and there was no pressure from EM or NNSA. SRNL applied a small bit of pressure, they were nearing the end of the campaign. They needed to get the material to SRNL, and they were running a bit out of time.

Ginny Jones, CAB Member, follow-up: I'm hearing a theme of being concerned about sharp objects and safety related to that. Are you saying that in the paperwork, that's the main thing they were focusing on? Was that all they were concerned about?

Winkler: It is our expectation that they discuss all of the things. That was one of the issues they discovered—that they did not focus on everything in the pre-job review. I don't think the entire job was reviewed adequately.
Discussion closed.

Tina Watson, CAB Facilitator: Before we move on to the Discussion of Draft Recommendation, Maxcine has an announcement to make.

Maxcine Maxted, DOE-SR: The EA was issued for public comment on January 15, and it made it into the *Federal Record* today. We have copies of the *Federal Record* notice available for the board members. There are several ways to comment. We will have a meeting on February 4 at the North Augusta Community Center, which will be similar to the meetings held when the EA was first announced. There will be an open house with posters who can answer questions about the EA, and then we will take public comments.

Nina Spinelli, CAB Member: When was the February 4 meeting scheduled?

Maxted: It was released in the *Federal Record* today. It was in the *Aiken Standard* and the *Augusta Chronicle* yesterday. And it will also be in the *State* newspaper. There is an announcement on the headquarters' NEPA site.

David Hoel, CAB Member: Did you say we are getting an update presentation on this tomorrow?

Watson: Maxcine has an update on NEPA tomorrow, and this will be included in it.

Hoel: Could you tell me if there are alternatives in the EA documents, and do you have a preferred alternative?

Maxted: We do not have a preferred alternative, although we do have two (2) alternatives. We have the no action option, and we have H-Area and L-Area options. H-Area has three (3) alternatives. 1. Remove the graphite, dissolve the material, and move the fuel to the tank farm. 2. Remove the graphite, dissolve the fuel, separate the uranium, downblend into low-level waste, and solidify the thorium and fissile material for removal to the tank farm. 3. Remove the graphite, dissolve and separate the uranium and thorium, blend them into low-level waste, and send them to the tank farm. The L-Area option is to use the melt dilute that was in the NEPA documents, but research still needs to be done. This is essentially taking the graphite and melting it into a metal form and that form would be sent to a federal repository.

Hoel: Were there any other facilities that were looked at for this?

Maxted: No, Savannah River was the only site that was looked at.

Marolyn Parson, public: In the document, it talks about the work that might be done in the L-Area. What is it? Melt and dilute, they call it? It mentions that in early 2013 that process was used to process spent fuel. That activity stopped. Can you give us an idea of why that was stopped?

Maxted: Research activity on the process, and how it might be done in L-Area. At the time there were too many questions about how it might work, and they did not want to proceed.

Spinelli: In the last alternative, sent to federal repository, where?

Maxted: I do not know. That's why the process is not attractive, because we don't know where the repository will be, and we don't know what specification we will need to meet. Lots of unanswered questions.

Spinelli: There are no federal repositories to choose from? No federal repositories exist?

Maxted: That's correct.

Pat McGuire, DOE-SR: The NEPA document evaluates the environmental impact. If the final EA is issued, and there is a Finding of No Significant Impact (FONSI) and/or a decision to move forward with the EA, it still doesn't render a requirement that the company will do this work. It is still not the final decision. They're doing R&D for Germany for feasibility and other factors, but the NEPA environmental assessment does not render a final decision on whether they will accept the German material. This is just as a reminder.

Maxted: They need the technological advancements to reach an R&D level of 6. It's an engineering scale that proves all of the integrated systems work.

Parson: This is a question for the CAB. Given the timeline for this public comment, the deadline is March 11. There are no committee meetings in February, and the next board meeting isn't until the end of March. How will the CAB weigh in on the EA on this German fuel given these dates?

Spinelli: We could communicate through email, or draft a letter and circulate it. Maybe people who attend the February 4 meeting could give their thoughts on it.

Watson: It needs to be voted on by the entire CAB, and we will not have a board meeting until late March.

Maxted: Any comments that the public wants to make, they can be sent in, and they will be considered. The board can also do the same, and their comments will be considered.

Spinelli: If we write this as a position paper, does it have to go through the full board?

Watson: Yes.

Gil Allensworth, CAB Member: Do we have to take a position on the H option or the L option? Or, on the no option?

Maxted: Not necessarily. You have the right to comment on any of the NEPA document.

Parson: One option is to ask for an extension of the comment period.

Maxted: NEPA requires 45 days of EIS. We have allowed 45 days for a comment period.

Jim Folk, DOE-SR: This is an EA, and we are doing a public meeting on this. We are allowing for the 45 days. I understand that the CAB wants to do something on this. We've already said we will take the CAB comments after their meeting in late March. I don't think asking for an extension on the comment period is going to get us much further. We are doing more than we are required to do with this document. You can comment as a member of the public before that time. We are trying to accommodate as wide a range of comment as we can. This is more than we do for an EA in normal circumstances.

Art Domby, public: Footnote 13: the context of this EA is a national program to collect and secure fuel from around the world. So, there are proliferation concerns being addressed. "This program will have no impact to current site activities, current site remediation activities, or current site closures." So, I would suggest to the CAB that as you review the documents, that you consider if there are any site activities, remediation activities, or site closures that will be impacted by this program.

Also, the document has a very good 14-page summary of the concerns already expressed by the public, and the DOE has already been addressed. Take a look at those.

Spinelli: I don't think there is much anymore for this Draft Recommendation, since we already have the EA. I think we should move on to assessment.

Spinelli withdrew the Draft Recommendation, which was seconded by Larry Powell.

Harold Simon, CAB Chair: Larry, are you good to remove the recommendation from your committee?

Larry Powell: Yes.

Draft recommendation removed.

Waste Management Committee Update: Earl Sheppard, Chair
Mr. Sheppard welcomed everyone back to the New Ellenton Center, and he introduced the committee members. No open, pending, or draft recommendations. The next committee meeting will be held on Tuesday, April 12, time to be determined after the workshop.

Presentation: WM 2016 Work Plan Topics for Consideration: Jean Ridley, DOS-SR
Jean Ridley presented for Soni Blanco, who could not attend the meeting. The purpose of the presentation was to cover 2016 work plan topics. The 2015 work plan topics were completed, except for two (2). There are several new topics. The System Plan Revision 20 plan did not issue last year, but it will this year. They will continue to offer Regulatory Discussions related to tank closures. Also, they will be continuing discussions on NRC Monitoring activities. In the Solid Waste topic, they will talk about the status of WIPP and what they know at that time.

There are also CAB proposed topics: 1. The backup capabilities to the Saltstone Facility, 2. Commissioning of SDU 6 status, 3. The feasibility of maintaining ARP/MCU Past SWPF Startup, and 4. The reliability and redundancy for SDU Single Pathway.

The committee will meet in February to decide the final topics, prepare a timeline, gain approvals, and move forward.

Strategic & Legacy Management Committee: Bob Doerr, Chair
Mr. Doerr welcomed everyone to the SRS CAB and introduced the members of the committee.

Recommendation 323, "Safety Procedures and Emergency Preparedness and Response at SRS and Other DOE Sites," is open for information updates and continues to be updated.

Recommendation 331, "Improving Public Communication and Understanding of the Liquid Waste Program and Revisions to the 'Liquid Waste System Plan,'" has been closed at committee and presented to the board. The full board voted to approve the response from DOE, and the recommendation was closed.

Recommendation 333, "Timely CAB Notification of SRS Unusual Events and Issues," will be reviewed today.

The next committee meeting will be held on Wednesday, April 13, at a time to be determined. All are welcome to attend the meeting at the New Ellenton Community Center.

Doerr introduced the presenters and their topics.

Presentation: S&LM 2016 Work Plan Topics for Consideration: Rich Olsen, DOE-SR
The S&LM committee focuses in three (3) areas: planning and execution for the EM cleanup program; budgets, required authorizations in creating budgets, and budget approvals from Congress; and information areas that are not specifically covered in other committees.

For 2016, the DOE still wants to update the information on the lifecycle plan and performance metrics on where they are with meeting overall goals. They will continue updates on SRS National Resources Management (US Forest Service), Historical Preservation, Safety Procedures and Emergency Preparedness Update (Recommendation 323), SRNL Annual Update (Recommendation 316), and Land Use at SRS.

The CAB-proposed topics include the Biomass Plant update; SRS Emissions presentation from GA DNR; Health Studies done on SRS and the resulting data; DOE process for assessing contractor performance and award fees; contractor recruiting/sustainment plans for the next generation of scientists, engineers, and nuclear workers; DOE grants: the approval process, current level, and oversight responsibilities; and Section 106 of the National Historic Preservation Act of 1966 Consultation in C-Area.

The question is how to merge and prioritize these topics. I'm not sure they can do all of them in 2016. The committee will hold a meeting in February to generate an all-inclusive list for the year, approvals, and timelines.

Presentation: Integrated Priority List (IPL) Discussion: John Lopez, DOE-SR

The CAB has been tasked to provide input to the Integrated Priority List for the FY 2018 budget. The purpose of the presentation was to provide the CAB with an understanding of how Environmental Management work activities are prioritized in the budget development process, to request stakeholder input from CAB on the development of the DOE-SR budget for FY 2018, and to fulfill an S&LM committee work plan requirement.

DOE-SR is directed by the Principal Deputy Assistant Secretary for Environmental Management at HQ to solicit input to the budget process. It is their responsibility to include what the CAB priorities are for the site.

Lopez explained how the budget is managed. In 2016 \$1.3 billion was placed in Program Baseline Summary (PBS) individual buckets, and the money cannot be moved around between buckets. Each bucket is broken into four (4) distinct levels: Minimum Safe Operations and Essential Site Services (Min Safe), Operational Support, Cleanup Activities to meet Compliance Milestones and Commitments (Compliance), and Progress in other EM Mission Activities (Making Progress).

Operational Support includes Payment-in-Lieu of Taxes (PILT) payments to three counties on which the site resides. This is in lieu of real estate taxes, and it is based on the number of acres of the site that reside in each county. Seven million dollars (\$7M) is split between Aiken, Barnwell, and Allendale counties.

In the 2016 IPL review, not everything was funded for the year. The list was done with the financing targets provided by HQ.

Q & A Session

Bob Doerr, CAB Member: Tomorrow this board will spend some time formulating an IPL for 2018. So this was meant to be an educational session on how we can formulate an IPL. Is it our intent to create a priority list?

Lopez: Yes.

Doerr: Are we providing you with enough information to have this discussion?

Gil Allensworth, CAB Member: Can you explain the pensions and post retirement benefits?

Lopez: Pension is for pensions to retirees and the contribution for future retirees. Post retirement is for medical payments to retirees for health insurance payments. The pension is closed to new employees. This line item is PBS 11C, and in 2016 it is \$130 million. EM pays \$85 million of that total. They are required by law to pay into pension and post retirement benefits; it is the first thing that comes off the top of the budget. So that you know, the 2017 and 2018 payments are going up significantly. They should peak around 2022-23 and then start going down.

Allensworth: How does SRS compare to Hanford and other sites with pensions?

Lopez: The other sites are doing much better. Theirs were paid in the 1990s, and SRS did not do that. Instead, they used the funds to pay for remediation rather than fully funding the pension.

Dan Kaminski, CAB Member: Yes, Bob we are getting enough information.

David Hoel, CAB Member: For each PBS list, are they listed in order of DOE priority?

Lopez: Yes, DOE.

Hoel: Can you tell us where the target line falls for each PBS?

Lopez: Ok, the mechanics of DOE-SR priorities. They are given targets by HQ, and there is not a lot of discretion that the site has in prioritizing. In PBSs 14, 30, and 100, there is plenty

above Min Safe. How do they decide which one is first? In putting together processes and procedures, there is an overarching System Plan on how all of the gears come together. They have to take a look at how these are interconnected. What can be safely done is not necessarily in a silo. They look at how all of these things come together and how the priorities should be organized to prevent any disconnects.

Nina Spinelli, CAB Member: What is the target line for each PBS?

Lopez: For 2016, Congress gave them an additional \$27M, and they were able to buy back items that were not in the original funding target.

A detailed discussion of the target lines for each PBS and the individual items they support ensued (i.e., what is and is not funded).

Pat McGuire, DOE-SR: John, why don't you talk a little about within the targets? If they don't think they can do everything with that money, they let HQ know. They make HQ aware of so much of liquid waste, but they may not be able to avoid impacts given budget restrictions. They are obligated to let them know what can and cannot be done with compliance milestones within the budget range.

Dan Kaminski, CAB Member: When we set our priorities for last year, we set 14C as our most paramount effort. According to the list about three-quarters of those items were completed. Where's the funding priority with regards to the PBS level?

Lopez: \$783 million went to PBS 14. Unlike many other units, our money does not expire at the end of the fiscal year. We carry it over for work in the next fiscal year.

Marolyn Parson, public: Fuel from Germany; we know Germany is going to pay for that. It is naïve to think it's not going to impact this budget somehow. That project will be ongoing with current projects. How should we think about the site budget if this project goes forward?

Tom Clements, SRS Watch: I had a hard time with that. Canada is going to pay \$60 Million. There is also talk of UK fuel. Is Britain paying for that?

Maxcine Maxted, DOE-SR: The German project would be fully funded by Germany. The German fuels will be located completely independent from the cells that currently exist in H-Area. Completely separate. This project will occur over the course of 10-15 years. They have agreed to retention of the employees. This is not on the IPL. Only congressional funds are on IPL.

Clements: Do these monies cover long-term storage costs?

Maxted: Yes, the German fuels are a full-cost recovery, and storage is included in the costs.

Unknown speaker: How did you estimate the storage costs?

Maxted: I used the Yucca Mountain estimate.

Ginny Jones, CAB Member: Where are they going to put this stuff?

Pat McGuire, DOE-SR: Risk reduction on site is the priority. The German fuels may produce around 100 canisters compared to 7,000 that already exist. Once here, it will be SRS material in a glass form—the safest form there is for this material.

James Streeter, CAB Member: Percentage-wise are we at capacity for stacking?

Maxted: Building 1 is full; building 2 is one-half full. They have double-stacked 1.

Streeter: Percentage after double stacking?

Maxted: The buildings hold 4,000 canisters double stacked. We expect to produce 8,000 total. Over 8,000.

Jack Craig, DOE-SR: NNSA pays for bringing nonproliferation fuel to SRS.

Discussion of Response to Recommendation 333: "Timely CAB Notification of SRS Unusual Events": Bob Doerr, Chair

The committee met in December to review the DOE response to Recommendation 333. The response was accepted by the committee. Recommendation 333 closed.

Discussion of Position Statement: "Citizens Advisory Board View of SRS Cleanup" up for renewal and changes: Bob Doerr, Chair

Do we want to keep, modify, or close this position statement, "CAB View of SRS Cleanup"? Everyone on the committee received the request prior to committee meeting. It is now up for comment by the general public.

Dawn Gillas, who could not join us today, commented that DOE priorities under bullet 3, sub-bullet 2, "FY 13" should be replaced by "under current budget year."

Gil Allensworth, CAB Member: When did we adopt this position originally? 2012, 2013? Can we even update it? Would we have to take it down, rewrite, and then reopen for voting?

Unknown speaker: If we make any modifications that would change the intent of the position, we would have to let this one expire and write a new position statement.

Bob Doerr, CAB Member: We will vote on this tomorrow.

Harold Simon, CAB Chair: Today is the day to hash it out.

Ginny Jones, CAB Member: Let it expire. My reasoning is that there are multiple positions in here, not just a single position. It's time has lapsed; 2012 just doesn't apply anymore.

Unknown speaker: Progress is not timely.

Jones: Write one that is more reflective of the current position.

Simon: I've made notes on a number of items I think need to be changed. But we vote on it tomorrow.

David Hoel, CAB Member: I guess I agree that this should expire. Aren't they renewed every year?

Simon: Last year it was renewed, so it's up again this year.

Hoel: It needs a lot of editing, redundant with recommendations with the budget.

Nina Spinelli, CAB Member: I think the letter about the budget speaks to our priorities. And this position should be different from that.

McGuire: Agree with David and Nina. A lot looks redundant. Keep in mind the president's budget request will be out February 9.

Gil Allensworth, CAB Member: I think we have stepped outside our scope with the position statements. I don't see it as good use of our time.

Karen Patterson, public: Something is missing. HQ listens to what the CAB says. The deferred maintenance needs to be addressed. Maintenance needs to get done. Committee discussion closed.

Public Comment Period

Bernice Johnson Howard, GA WAND: Ms. Howard urged in reference to the Flint, MI, water crisis: "Do not become the Michigan of the south." There was a presentation on the environmental report on which the CAB commented. What scale was used to determine safety for women? Ms. Howard wanted to demonstrate to the CAB and others present how ineffective reference man is to designate safety for women. She has the entire room stand up. She had people sit down as she called out the requirements for reference man: 1. If you are not a man between twenty (20) and fifty (50) years old, if you are not a man, if you do not live in a 50-68 degree climate, if you weigh above 154 pounds, if you are 5 feet, 7 inches or taller. Ms. Howard said, "You will notice that no one is remaining standing. That is why the women from Georgia come here." She stated that there needs to be a new standard for absorption for the community. Ms. Howard noted that an emergency response drill was discussed in the last meeting. Has a new emergency response drill been done, and what was the result of that drill?

Pat McGuire, DOE-SR: An emergency response drill was conducted in November, and all critical elements were satisfactory, although some improvements are necessary. The next drill is planned for May.

Marolyn Parson, public: The online meeting capability application is not as good as the previous program. The audio-visual was not synced. It's not as easy to use, and it's excruciating to watch. The board needs to spend the money for a higher-quality application for A-V. The meeting minutes have not been posted in a timely manner this year. EA on the German spent nuclear fuel is a really big deal, and I hope the CAB prioritizes getting the comments to the right people. The 14-page summary up front is really fine. There is uncertainty with the technologies in this program. She urged the CAB to understand the uncertainties. The timeline is important, also.

Tom Clements, SRS Watch, responding to Marolyn Parson: Go to srswatch.org. There is a lot of information on the German deal, and other items. Clements underscored that there are three (3) different forms of waste slated to come into SRS—with nothing slated to leave. He referenced a December 2 supplemental analysis and a December 28 environmental assessment to argue that nuclear non-proliferation is being used to bring material into SRS with no clear exit path. Clements noted that the timelines are out of sync with the German decision-making process and don't fit with German law. And, the EA documents are based on highly speculative research and timelines.

Howard: What were some of the areas of the emergency response drill that did not go well?

McGuire: We will follow up on that.

Rose Hayes urged CAB members to come to the February 4 meeting. She stated that it is a historically proven fact that once the materials are at SRS, they do not leave SRS. She noted that the CAB is the conduit to DOE, and everyone should leverage them in communicating their concerns.

Karen Patterson added to Tom Clements' comments. NNSA decides what should come back here. SRS is considered the best place to put it. EM is tasked with getting rid of it. The board cannot talk to NNSA, but the EM team can.

Harold Simon, CAB Chair: On December 14, Pat McGuire of DOE-SR called him to relay an unusual event that occurred on December 8, so he believes that Recommendation 333 is working.

Simon thanked everyone for all of their hard work and formally adjourned meeting.
END OF DAY 1, JANUARY 25, 2016

Meeting Minutes
Savannah River Site Citizens Advisory Board (CAB) – Full Board Meeting
New Ellenton, South Carolina
January 26, 2016

Tuesday, January 26, 2016 Attendance:

<p><u>CAB</u> Gil Allensworth Tom Barnes Louis Chavis – <i>Absent</i> Susan Corbett Robert Doerr Murlene Ennis – <i>Absent</i> Dawn Gillas – <i>Absent</i> David Hoel Eleanor Hopson Virginia Jones Daniel Kaminski John McMichael Clint Nangle – <i>Absent</i> Larry Powell Bill Rhoten Earl Sheppard Harold Simon George Snyder Nina Spinelli James Streeter Ed Sturcken – <i>Absent</i> Christopher Timmers Louis Walters – <i>Absent</i> Mary Weber</p>	<p><u>DOE/Contractors/Others</u> Maxcine Maxted, DOE-SR Avery Hammett, DOE Rich Olsen, DOE T. Spears, DOE-SR Thomas Johnson, DOE-SR Susan Clizbe, DOE-SR Patrick McGuire, DOE-SR Jim Folk, DOE-SR Nolan Graf, DOE-SR Jasmin Selby, DOE-SR Carl Lanigan, DOE-SR Jim Giusti, DOE-SR Jeff Ross, DOE-SR Charles Comeau, DOE-SR de’Lisa Carrico, DOE-SR Kim Cauthen, SRNS Janet Griffin, SRNS Kristin Huber, SRNS Jeff Ross, SRNS Eleanor Prator, Time Solutions Tina Watson, Time Solutions James Tanner, Time Solutions</p>	<p><u>Agency Liaisons</u> Trey Reed, SCDHEC Sandra Snyder, SCDHEC Susan Fulmer, SCDHEC Heather Cathcart, SCDHEC</p> <p><u>Stakeholders</u> Tom Clements, SRS Watch Rose Hayes, Public Marolyn Parson, Public Bernice Johnson Howard, GA WAND Becky Rafter, GA WAND Che Long, GA WAND Nancy Bobbitt, US Senator Johnny Isakson Martha Ruthven, Congressman Joe Wilson, SC-02 Cheri McDaniel, Christ Central Church, New Ellenton Suzanne Rhodes, Public Jeff Allender, Public Kelly Hunter, WCS Ed Wannemaker, BWXT</p>
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Opening Ceremonies: Harold Simon, CAB Chair

Pledge of Allegiance and National Anthem.

No meetings minutes available for approval.

Who are our stakeholders? DOE-EM, DOE-SR, and the public. What we do is on their behalf. We must identify trends in the meeting process. We must seek clarification when we identify those trends, and seek advice from the DOE on those issues. With the addition of eight (8) new members of the CAB last year, we were able to work together as a team to work the plans that are in the scope of our mission. We must continue to work in a collaborative manner and respect each other as members of the CAB and to continue to respect the points of view of others. And, yes, compromise on issues where we can come together. But I will never ask you to compromise your values. Performance of the CAB for 2015, we successfully approved eight (8) recommendations to the DOE-SR, renewed one (1) position statement, and approved two (2) EMMSSAB newsletters that were sent to the Assistant Secretary for Environmental Management. The first was in September and received a response. The second is still pending. There will be a work plan meeting in February.

Simon reviewed the process for gaining approvals for work plans and amendments to previously approved work plans. He also reviewed the process for Recommendation changes and approvals. Simon noted that the CAB process is Observation and Improvement. Members lobbying other members to vote a certain way on recommendations is not acceptable.

To Jim Giusti, DOE-SR: Could you please update us on the education and process training and development program?

Jim Giusti, DOE-SR: The education and training development program budget was approved in December. There are two (2) scripts right now: SRS 101 and Liquid Waste. There are more in process that I am currently reviewing. One will be done, critiqued, and provided for the CAB to review the content. The videos are designed to be refreshers that give a very basic understanding of a topic. The plan is to keep them for three-to-four (3-4) years before they need to be redone. There are twelve (12) topics for videos, and the funding supports doing all of them. They plan to invest in the full six (6) years for training new CAB members.

They are also procuring equipment, so that the CAB meetings can go online, so people who can't attend in person can get online and follow online.

Harold Simon noted the position statement that was discussed yesterday is up for approval this morning. Simon made a motion to allow this position to expire. Seconded. Voted 17 Yes, 0 Opposed, 0 Abstentions. Motion carried. Simon then noted that any position statement not adopted can be reentered at a future date for review.

Meeting Rules & Agenda: Tina Watson, CAB Facilitator, Time Solutions

DOE Agency Update: Jack Craig, DOE-SR

Craig opened his remarks by thanking James Streeter for his service on the board, former Vice Chair of the Strategic and Legacy Management Committee, and Georgia representative.

Federal budget for fiscal year 2016 has been approved and is in good shape.

December announcements: DOE approved the acquisition strategy for an Advanced Chemical Manufacturing Collaborative (AMC), clearing the way for the pursuit of suitable space for SRNL, with industrial and academic partners, to collaborate to bring chemical and manufacturing technologies more fully into DOE missions. The collaborative would be located on non-DOE land. Multiple alternatives were reviewed, and the authorization to seek third-party financing for this endeavor was signed. The alternatives included the renovation of existing SNRL facilities and the construction of new facilities on federal land.

January announcements: 11th, released request for information on the optimal design of Saltstone Disposal Units (SDU) in support of the SRS Liquid Waste Program Mission. Seeking input from commercial industry to help identify the optimal system, structure, or component to safely contain and disposition low-level waste in the form of Saltstone. Goal: ascertain from industry experts the most cost-effective and timely way to design and construct SDUs with sufficient capacity to maintain uninterrupted Liquid Waste Processing (LWP) at SRS. January 28: Industry day.

15th, released draft Environmental Assessment (EA) for public comment evaluating the feasibility of accepting from Germany and dispositioning Irradiated Graphite Pebble Fuel elements containing thorium and US-origin highly enriched uranium (HEU). Public meeting: February 4, 6:30-9 pm, North Augusta Community Center, North Augusta, SC. Current 45-day public comment period ends March 11, 2016. Craig referred the meeting attendees to the DOE-SR website for more information on EA and the Award Performance Scorecards for SRNS, SRR, and Centerra.

Operational Pause: All SRNS organizations and facilities have exited the operational pause. Only H-Canyon, HB-Line, and K-Area remain in deliberate operations following the operational pause. Half-day sustainment pauses are being conducted monthly for the next six (6) months. Lessons Learned shared with other contractors on site and across the DOE complex.

Liquid Waste: DWPF poured the 4,000th canister of vitrified high-level waste on New Year's Eve. The canisters contain more than 15-million pounds of vitrified waste that immobilized 58 million curies of radioactivity. This is approximately one-half the volume of sludge that is contained in the Savannah River High Level Waste tanks.

Glass Waste Storage Building 1 (GWSB1): SRR initiated GWSB1 modifications to support canister double stack, could increase storage capacity from 2,254 slots to 4,508 slots, continuing safe interim storage while creating adequate canister storage through FY 2026. Postpones the \$74 million expense of another storage facility. Double-stacking to start in June.

DWPF: 20th Anniversary of DWPF represents more than 90 million work hours. In any 24-hour period there are around 400 individuals working directly in the DWPF operations.

Tank 12 Closure: January 19: SRR began grouting Tank 12, H-tank farm. Week earlier than the previously scheduled date of January 25. Grout additions lead to final Operational Closure. Projected to meet FFA commitment of May 31, 2016.

SWPF: On track to complete construction in May. More than 95 percent construction complete. Almost 21 percent complete with commission and start-up activities.

Nuclear Materials: H-Canyon target residue materials construction activities continue. Fire suppression system tie-ins complete. Electrical and mechanical equipment installation in Truckwell ongoing. Startup testing to begin in February. SRNS successfully initiated second uranium cycle operations in H-Canyon this month. HB-Line is expected to exit deliberate operations and resume processing in February. Work is proceeding in 235-F in cells 6 through 9. Deactivation activities: SRNL will conduct a more precise measurement of the amount of plutonium-238 present in the cells to characterize the hazard and implement proper controls.

SRNL: Signed an agreement with Clemson University to help shape future scientific endeavors of the national lab. Clemson will create, manage, and provide administrative support for an external review committee, composed of scientists from Clemson, The U of SC, and other organizations, charged with creating a strategy for SRNL's R&D and development and deployment of technologies for continued EM cleanup operations. December: Hosted an international team of robotics experts—a visit sponsored jointly by DOE-EM, the National Science Foundation, and Purdue University. Theme: "Robotics for Handling High Consequence Materials." The visit focused on the current use of robotic technology in the DOE complex, and on common issues and opportunities for deploying advanced robotics in a variety of national missions. Assisted the Mound, Ohio, site with a field demonstration utilizing edible oils to enhance natural attenuation processes, which resulted in a reduction in size and strength of the groundwater plume per design, and a 50 percent reduction of the parent products (i.e., PCE, TCE) in the first year.

FFA Milestones: On track to achieve all FY 2016 environmental FFA milestones and commitments. In the comment resolution process with EPA Region IV and SCDHEC for approval of the FFA Appendix E Long-Term Projections. Continuing progress on the D-Area Ash Project with ash consolidation activities. On track to complete construction activities of Phase II of the Biomass Co-Generation Facility by late spring.

Environmental Protection Agency Update: Rob Pope, EPA

The EPA has been expediting the document review for Tank 12 grouting, so that they can meet the new deadline of May. The proposed plan for Tank 16 has been approved. Grouting was finished in September, and now moves into the FFA area. The tank now goes into the monitoring and surveillance phase as provided for within CERCLA. There is a proposed plan and record of decision. Then there will be a public comment period. Tank closure is one of the EPA's and DOE's highest priorities, but the work is still not funded to the level they would like to see. They requested \$582 million but only received \$555 million from the Omnibus spending plan.

They continue to work on A-Area where an active monitoring system will be converted to a passive system, which will cause a new decision document to come out and to receive comments.

D-Area was experiencing some issues due to rainwater from the significant rainfall this fall and early winter, which has filled several basins. The rainwater is more acidic than the

groundwater, and it causes problems during testing when trying to release the rainwater and getting the basins cleared and capped. South Carolina, DOE, and EPA are working on the issue. This is not an unusual problem in coal ash cleanup.

The CAB committee meeting and online presence is cumbersome, and they are concerned that it is a one-way communication. The EPA is asking for an improved online meeting presence that allows two-way communication.

Q&A Session

Nina Spinelli, CAB Member: What is the date of the next EJ meeting? Pope replied that they are discussing doing one in the Spring.

Harold Simon, CAB Chair, recorded the scheduling of the EJ meeting as an action item.

David Hoel, CAB Member, commented on the renegotiation of the liquid waste tank closures. Pope replied that the DOE cannot meet the milestone at the end of the year and may likely miss milestones related to future closures. A solution to the total problem has not been negotiated. There have been discussions of strategies that would accelerate the saltwater processing. The chokepoint is the delay in getting the SWPF operational. Everyone is counting on it to be a workhorse. As for the ACT Tank treatment, they have not talked about changing all of the milestones. Right now they are approaching it in a tank-by-tank fashion. The DOE will get one tank cleaned out this year, but there are multiple activities in play, and EPA is not involved in all of them.

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

SCDHEC does independent monitoring of soil, air, sediment, milk, and a variety of media at SRS and around the site. The agency takes the samples themselves and does the independent testing. They are currently working on publishing a report of findings. The agency should be able to provide that in the first half of the year with 2015 data.

SCDHEC celebrated recent successes with Tank 16 being closed and Tank 12 on the brink of closure. Almost seven (7) total closures at the site. They have made incredible progress, but future milestones are in jeopardy from two (2) things: 1. The delay in the Salt Waste Processing Facility, and 2. The significantly decreased 2014-2016 budgets.

The Liquid Waste System Plan requires a funding level of \$687 million per year. It is imperative that the site get that same level of funding every year to meet established milestones. 2014-2016 funding was at the \$554-552 million level—a significant decline in dollars. The plan cannot move forward on pace with that deficit. The agency is looking for a total solution to get treatment back on track.

The startup of SDU-6 is significant to the entire operation. They received the Saltstone permit on October 31, 2015. The SCDHEC attached big penalties to missing the startup date. The penalties can range up to \$154 million. The state of South Carolina is looking for a treatment fix and is evaluating all options.

Q&A Session

Nina Spinelli, CAB Member, asked how the \$154 million will be paid. Wilson replied that the DOE would be owner of that information.

Jack Craig, DOE-SR, stated it would not be South Carolina taxpayers. Craig was not entirely sure how the money would be appropriated. Congress would have to separately approve that appropriation. The request would be outside of the regular budget process.

Ginny Jones, CAB Member, asked if the state ever receives the penalty money and where would it go. Wilson stated that they do receive penalty money from other entities in connection with enforcement actions. But, where it goes depends on the particular law that was violated.

Wilson stated that many will go to the state general fund, or sometimes go to the community, but it is dependent on the specific law.

Public Comment Period

Becky Rafter, GA WAND, asked if they were able to provide a report that shares all of the budget needs within EM for the entire SRS? Is there storage space that is available for HEU, such as the graphite balls? What other space is available at SRS for that? What is the price tag for that coming to the facility? Will NNSA provide information about current missions having to do with the stockpile and how the effluent and EM will manage that?

Tina Watson, CAB Facilitator, noted that there is a new form to submit questions on the back table to use for facilitating and expediting more than one or two questions.

Administrative and Outreach Committee: Eleanor Hopson, Chair

Hopson noted that the A&O is seeking new members. She urged attendees to visit the website for the latest information and to access the Fall 2015 *Board Beat* magazine.

Ballots for committee chair election were passed out, with results to be announced at end of day.

Jack Craig, DOE-SR, and Harold Simon, CAB Chair, thanked James Streeter on his retirement from the board.

Tina Wilson, CAB Facilitator, collected the ballots for tally and response.

Facilities Disposition & Site Remediation Committee: Tom Barnes, Chair

Mr. Barnes welcomed everyone and introduced the committee members. The committee has Recommendation 332, "Health Effects Reporting by the Savannah River Site," open. The next committee meeting will be April 13 at the New Ellenton Community Center, New Ellenton, SC. Time to be determined. Introduced today's speaker, Jeff Ross.

Presentation: Enhanced Attenuation of VOCs in South Sector Using Humate Amendment via a Recirculation Well: Jeff Ross, SRNS

Humate amendment is an innovative technology they will try for groundwater contamination at SRS. Ross introduced primary investigators Dennis Jackson and Brian Looney.

Page 2 of Ross' presentation offered a general way to depict how contamination typically flows at sites where there have been releases of contaminants in the environment. The area where the contaminant may have been released is the Source Zone. Over time, the contaminant spreads to larger areas known as the Primary Contaminant Zone and the Dilute/Distal Fringe. The Source Zone generally gets smaller and the Primary and Dilute Zones get larger over time.

The treatment methodology suggests addressing the Source Zone as aggressively as possible to prevent dissolved concentrations from expanding. Dynamic undergrounding has removed about ½ million pounds of solvent from sediment.

The primary contaminants in A- and M-Areas are trichloroethene (TCE) and tetrachloroethene (PCE), and the A/M-areas' largest concentrations of TCE and PCE contamination occurs over a fairly large area. The issue has been addressed since 1980 with extraction and air stripping. There are four (4) recovery wells in operation currently. In 2014, they submitted field scale treatability studies to the state of South Carolina and received permits for a Corrective Action Plan (CAP) in four (4) areas in the Southern and Western Sectors.

The Southern Sector contains a series of recirculation wells that have been treating groundwater for more than fifteen (15) years using air stripping. The aquifers in question are high-oxygen (aerobic) bodies of water, which makes implementing a low-oxygen (anaerobic) strategy difficult to manage. Anaerobic methodology can be stimulated with a food source for bacteria. Bacteria breaks down the contaminants. They looked to study whether the existing

aerobic bacteria could help breakdown TCE/PCE in groundwater. The process is slow and longer term—just the studies to evaluate the idea take a long time. The contaminant plumes may be present for many years, but time of impact could be altered using bacteria.

The new technology is a natural organic material called humate, which is used as a carbon source (food) to help bacteria grow. Ross showed a sample of humate. It looks like dirt. It is a fine grain material and dissolves in water. He then showed a sample of the dissolved humate. It looks like weak tea. Humate is a food source that lets bacteria grow. The bacteria generates enzymes that break down TCE in groundwater. The humate also makes the sediment and the TCE stick together so that the contaminant can't move farther into the water source. Aquifers are very organically poor, so the humate feeds the bacteria and grows the bacteria population. The larger population excretes more enzymes that act to keep the TCE from expanding the plume. TCE converts to solid aquifer soil, not toxic end products.

A new sampling device called a Biotrap is filled with tiny beads that are a combination of plastic and powdered carbon, which attracts bacteria and contaminants. The sampler sits in the recirculation well for 30-60 days and is then tested for the actual bacteria in the water. Natural bacteria exists in the aquifer that could be used for the aerobic process to destroy TCE. However, the tests could not detect the bacteria until humate was introduced.

Another test, microcosm testing, takes sediment out of the aquifer where they are going to do the study. The sediment was amended with humate at various concentrations to see how well it added to the sediment and bacteria samples to effect TCE concentrations over time. The question is how well does the TCE stick? Higher concentrations of humate result in lower TCE. Over a 1-year timeframe, the higher humate concentration, the lower TCE in soil and groundwater. The results are promising; they are looking at application in the field.

With the air stripping process, a device sucks in water, injects air, and the contaminants off-gas as Volatile Organic Compounds (VOCs). In this new process, instead of injecting air, they would inject humate solution without an air component. They presented test results, and in December received state of South Carolina approval for field testing. They will be submitting additional details to SCDHEC on specific operational tests.

Ross reiterated the longer timeframe: "It's like an IV drip over twenty-nine months, and then monitor for four years to support a larger-scale corrective action plan." They already have monitoring in several wells near the field study target. They are adding more near operating wells to see changes over time for both humate and TCE

Q&A Session

Susan Corbett, CAB Member: God Bless Bacteria! Can we eventually get the VOC off-gas stopped? Does all of the same testing support PCE as well?

Ross: Eventually, we would like to stop the air injection process, but it will be a while. No, not all of the bacteria will work the same on PCE. PCE can anaerobically convert to TCE. It can break down to a certain level, and then stall out. Or, convert to another toxic form.

Corbett: To the DOE, are they still creating more VOC gas?

Ross: Some activities still use these organic compounds, but they are not releasing them to the environment. The compounds are now very tightly controlled and safely disposed.

Bill Rhoten, CAB Member: How practical are high concentrations in the field?

Ross: They are getting up to one-hundred (100) gallons per milliliter, so it is going to be close. Large-scale remediation can be difficult and expensive. There is some level where it is practical and cost-effective, and they still get the overarching benefit. Over additional time, they will be able to see positive trends at lower concentrations.

Tom Barnes, CAB Member: TCE and PCE originated as liquids. What volumes are they talking about and how did it get there?

Ross: Volumes were like 2 million-ish pounds back in the 1950s and 1960s, early 1970s, at the M-Area settling basin and some also went through a drainage that goes to Tim's Branch

Creek to Upper Three Runs creek. There have been leaks from tanks and incidental spills. Those were standard practices at the time. They are no longer managing waste in that way.

Barnes: What are the consequences of doing nothing?

Ross: The presence and continued expansion of the groundwater plume in A- and M-Areas. The contaminants do not biologically degrade under natural circumstances. The effort will minimize the dissolved mass of the plume in the Primary Contaminant Zone and the Dilute/Distal Fringe. Regionally, some of the deeper aquifers are used as drinking water sources.

Earl Sheppard, CAB Member: Why not use a stripper system to remove water from the ground, strip it, and send it to an evaporation pond? Is this proposal a cheaper remedy?

Ross: The current systems are expensive to operate, and as they get older, they have to deal with long-term maintenance of the system. In addition, they don't have to remove water in the permeable portions of the aquifer; the contaminant may be in that and the lower-permeability portions. It is difficult to access the level of contaminants in the lower-permeable areas that are clay-rich. Humate can get to these lower-permeable areas and keep the contaminants in place. The contaminant will not be allowed to transport down flow.

Sheppard: Is the fifty (50)-foot circle the maximum treatment distance, or is this a test area?

Ross: That radius is just a design of a test: do a small area first and see how effective it is, then move to larger portions of the aquifer.

James Streeter, CAB Member: Solvents are the major source of contamination?

Ross: Yes.

Streeter: There are twelve (12) wells, and only four (4) are currently open. What was the criteria for closing other eight (8)?

Ross: It has to do with the concentration of mass that they are effectively taking out of the system. Once they get to a certain concentration, they petition the state to permit the area.

Susan Corbett, CAB Member: The EPA changed their position on TCE as a "possible" or "potential" carcinogenic, to a carcinogenic regardless of route of transmission. What is the difference between vapor intrusion and VOC off-gassing?

Ross: Vapor intrusion looks at a pathway into buildings that are built over ground contaminated with TCE.

Nina Spinelli, CAB Member: Does groundwater have access to local animal life?

Ross: No, the groundwater will discharge to surface water, and this process may be able to prevent that. They apply the same rules for drinking water and surface water. The groundwater is pretty far below ground, but has no accessibility at the surface.

Public Comments Period

Becky Rafter, GA Wand: What is your contact information?

Ross: j.ross@srs.gov

Rafter: Which aquifers does this process target? How big are they?

Ross: M-Area aquifer is the uppermost. It is very thin and does not produce a lot of water. Lost Lake is 60-feet thick and has the highest levels of dissolved contaminants. Crouch Branch is below that, is 100-150 feet thick, and is typically found 350-500 feet below the surface. Crouch Branch aquifer is a regional drinking water resource. McQueen Branch is below Crouch and is 600-700 feet deep. It is the last aquifer above basement material.

Rafter: They are building toward a larger-scale project? How large are you talking about? What levels are they looking at? How much would it take to clean entire area? Can people use the humate in their homes, for example, in wells? How quickly are the plumes advancing?

Ross: Target maximum concentration is 5 parts per billion (ppb) in water. It is a large area of coverage. They are looking at how the entire plume expands over time. The cleanup goal is 5 ppb. Use humate in the home? There are more convenient and effective commercial products available for home use. Granular activated carbon is more effective in the home. The

groundwater flow velocity is 100-200 feet per year; TCE is a little slower and lags behind the groundwater. There is always a risk of the plume combining with other plumes. The tritium plumes are in a different area, and there is no risk of those combining.

Rob Pope, EPA: This is covered under the South Carolina permit. The EPA does not really get involved. They decided in the early 1990s that they wanted South Carolina to be satisfied before the EPA came in. So, they just listen in on the discussions and note how it's going. I wanted to comment on groundwater generally, and how the EPA approaches it. Lost Lake aquifer is not used as drinking water currently, but it has potential for that. DOE is doing their best to remove the source. It is part of CERCLA. The state owns the aquifers; DOE does not own aquifers. The EPA is focused on restoring the aquifers to beneficial uses. South Carolina designates all aquifers as potential drinking water sources. The goal is maximizing safe levels of contaminants at 5 ppb to restore drinking water. The overriding EPA goal is drinkable water. The state is pushing SRNS to keep pursuing the groundwater and soil remediation. Otherwise, it is just running clean water over dirty soil.

Dan Kaminski, CAB Member, offered several alternate suggestions to the humate process: a funnel and gate process or a perimeter filter.

Nina Spinelli, CAB Member: All of this took place before FFA, and it is covered under the hazardous waste permit. It was capped, and Source Zone was controlled. It was capped under state authority, and groundwater remediation started immediately.

Public Comments Period

Tom Clements, SRS Watch: Other nuclear waste material is coming into the site. Payments for that material are coming into the site that were outside the congressional process. What is coming in that is not included in the IPL process?

Waste Management Committee: Earl Sheppard, Chair

Sheppard welcomed everyone and introduced the committee members. The committee has no open, pending, or draft recommendations. Next meeting is April 12, time to be determined, at the New Ellenton Community Center, New Ellenton, SC. Sheppard then introduced the presenters.

Presentation: Salt Disposition Integration: Carl Lanigan, DOE-SR

The SDI is nearing construction completion. Before SWPF starts operations, it must be connected to the SRS liquid waste system. This allows the organization to operate at design capacity. Anticipate December 2018 online status to handle SWPF for the tank blend and feed. They have to pump the waste and have the waste streams go where they are supposed to. The connections expand the entire liquid waste process capacity. Transfer lines for Saltstone and DWPF so those facilities can handle new capacities and dose rates. They are using a phased approach to connections. Lanigan played the SRR-SWPF-2016-00003_swpf_animation_111615 file, which was praised for its clarity. The facilities will be fully integrated at startup.

Q&A Session

Chris Timmers, CAB Member: Parsons is a contractor?

Lanigan: Yes, they are building the SWPF. SRR is managing the liquid waste program. There are two (2) different contractors for two (2) different work scopes.

Susan Corbett, CAB Member: How do these lines differ from regular pipelines?

Lanigan: A nuclear waste stream requires double pipe. There is a main transfer pipe with a jacket pipe around it. This type of pipe has a leak-detection system. All nuclear waste stream piping is sloped and goes into sump detective box, which pings the control system.

Corbett: How long does it take for the alarm to sound?

Lanigan: Timeframe? Since there are miles and miles piping, there are multiple leak-detection systems throughout the system. They do leak-tight testing. All the pipes are underground and earthquake rated.

David Hoel, CAB Member: The video makes it easy to understand. Would the MCU be disconnected?

Lanigan: The MCU would operate as long as possible and then be permanently disconnected.

Hoel: Can the MCU be restarted in case of accident?

Lanigan: The MCU would remain to be open for the first six (6) months of SDI operation. Is it possible? Is it easy? It is for us. The MCU is not a backup system for SWPF for the long term.

Dan Kaminski, CAB Member: I am curious on the timeline. What was the original target date and how far behind are they?

Lanigan: Original operational date was September 2011, but that was extended to 2015.

Jim Folk, DOE-SR: The current schedule is what they are working.

Nuclear Materials Committee: Larry Powell, Chair

Mr. Powell welcomed and introduced members of the committee. Introduced presenter.

Presentation: Update on NEPA Documents Regarding EM Nuclear Materials:
Maxcine Maxted, DOE-SR

Maxted announced that Tracy Williams has taken over for Drew Granger at the site. The facilities in the SRS EM Program includes: H-Canyon, HB-Line, K-Area, L-Area, F-Area, Tank Farms DWPF, SDI, SWPF, and 235-F. In addition to nuclear materials management and disposition and the High Level Waste Program, EM is responsible for environmental restoration and cleanup, waste management, and security.

The National Environmental Policy Act (NEPA) establishes a process for decision makers to use in considering the potential environmental impacts (both positive and negative) of major actions before making decisions. In other words, environmental impacts can be used as decision points. It requires the agency and its contractors to look at all the options of what can be impacted by a decision.

Maxted reviewed the most recent NEPA documents:

- EIS-0283-S2, "Surplus Plutonium Disposition Supplemental EIS (SPD SEIS)," finalized in December 2015, stated that the preferred alternative is for six (6) MT of surplus non-pit plutonium to be downblended for shipment to WIPP.
- EA-2024, "Gap Material Plutonium—Transport, Receipt, and Processing," which allows 900kg of US-origin HEU to be transported, received, and processed at SRS. A FONSI was issued. Details of this EA were not actually in the document because K-Area sensitive countries cannot be discussed. However, a detailed discussion of the shipping containers for the gap material ensued during Q&A (see below).
- EA-1977, "Acceptance and Disposition of Used Nuclear Fuel Containing US-Origin HEU from the FR of Germany," would allow the technology maturation to continue to a pilot scale process. If proven successful, it would allow the DOE to make a decision on acceptance of the German material if a FONSI is determined.
- EIS-0279-SA-03/EIS-0387-SA-01, "Supplemental Analysis for the Uranium Lease and Take Back Program for Production of Molybdenum-99 for Medical Use," also known as the ULTB program. The material is used for cancer treatments and diagnosis. If the SA is determined to support previous DOE decisions, then SRS would be responsible for receipt of SNF (all will be LEU) from Molybdenum-99 vendors that was no longer usable for Mo-99 production.

- EIS-0218-SA-07, “Supplemental Analysis for the Foreign Research Reactor Spent Nuclear Fuel Acceptance Program: HEU Target Residue Material Transportation,” reviewed the process for transport package certification in the US and Canada, explained a program for training first responders, and analyzed the potential impacts of transporting target residue material within Canada.
 - All material is shipped, not flown. This SA looked at the liquid form. Spent nuclear fuel comes in an LWT Cask with four (4) canisters that hold sixteen (16) gallons each.

Q&A Session

Nina Spinelli, CAB Member: What is the next step?

Maxted: LEU recycling has low benefit. Next step would be disposition. It can be processed or dry stored where it would go as a canister to a federal repository.

Mary Weber, CAB Member: What is non-pit plutonium?

Maxted: It refers to a shape.

Weber: What is gap material?

Maxted: Plutonium that is in foreign countries and considered a threat in its current form. It could be US or non-US origin, but it could potentially cause a threat in its current existence.

Weber: Was the FONSI issued to facilitate bringing the material to the site?

Maxted: No, to bring in 900 kg for downblending, disposition, and deposit at WIPP.

Weber: What is the timetable for bringing that in?

Maxted: It is an NNSA program, so I do not know timeframe.

Susan Corbett, CAB Member: This encompasses transportation, so there are expected radiological and non-radiological fatalities. Does this take into account accidents?

Maxted: It will be on a truck. It assumes no release of material; to get the class B permit for this type of transport, they must go through significant testing.

David Hoel, CAB Member: My concern is that there are a lot of EAs on a lot of different materials. I need help understanding the hierarchy of NEPA.

Harold Simon, CAB Chair: I have taken that as an action item

Potential Voting of Draft Recommendation: “Update on Environmental Assessment for German Highly Enriched Uranium”

Harold Simon, CAB Chair: We were scheduled for update on this EA, but that was resolved yesterday, so it is off the table.

Public Comments Period

Rose Hayes, public, gave a history of disposition plans at SRS through the years.

Suzanne Rhodes, public, read a statement that is attached to the minutes.

Strategic & Legacy Management Committee: Bob Doerr, Chair

Mr. Doerr welcome and introduced committee members. Recommendation 323, “Safety Procedures and Emergency Preparedness and Response at SRS and Other DOE Sites,” is open. Recommendation 331, “Improve Public Participation,” has been closed. Recommendation 333, “Timely CAB Notification of SRS Unusual Events and Issues,” has been closed. The next committee meeting is April 13 at time to be determined in the New Ellenton Community Center. Today’s discussion and work session was to establish budget priorities that the committee will recommend to SRS. Mr. Doerr referenced John Lopez’s presentation of the previous day. The board needs to come to a group consensus on what to communicate to DOE for FY 2018. He then opened the floor for discussion. The group was provided with the 2016 budget outcomes, EM budget by PBS, and dollar figures. A copy of the 2015 Budget Request letter was displayed.

Discussion and Board Work Session on IPL Letter

Mary Weber, CAB Member: Is there a way we can emphasize subcategories? I would like to also mention salt waste to put an emphasis on that. The priorities don't seem very different from last year. To Harold Simon: You will develop a letter once the group comes up with an integrated priorities list? The substance of the letter will change?

Harold Simon: I will format the letter, take today's priority decisions, and fit into the format. For example, liquid waste has been a priority for six years or so, but we will take today's actions forward.

Larry Powell, CAB Member: Three of the six items from last year refer to stability and disposition. I'm thinking those need to be higher on the priority list.

Bob Doerr, CAB Member: I agree that the IPL should identify fiscal issues in the PBSs. Money is being spent for EM at SRS. We are requesting DOE-SR spend the money this way. If we didn't identify by PBS, we really wouldn't be helping them prioritize.

David Hoel, CAB Member: The priorities are the same as last year, perhaps we could augment with suggestions that some of things in the IPL PBS fell behind the target line last year? To John Lopez: on PBS 11C, where did the line fall?

John Lopez, DOE-SR: From workforce sustainment on down was not funded.

Hoel: PBS 11c, DOE needs to work off its backlog of spent fuel. For example, the aluminum clad was not meant for long-term storage and should not be. That item should be within target, not outside.

Dan Kaminski, CAB Member: We can give direction within the IPLs, ranking the PBSs, then looking at the detail underneath the PBS.

John Lopez reviewed the below target items for each PBS.

Pat McGuire, DOE-SR: 11C is supported by funding from Canada, but they don't know if Canada will continue that funding beyond 2016.

Kaminski: I'm most concerned about cybersecurity.

Lopez: They are getting new requirements. The multifactor security identification is new, and it has to be implemented by September 30. Also, there will be new requirements for 2017. They are on target for the multifactor ID requirement, and it will be completed by the deadline.

Allensworth: So, Centerra is okay?

Lopez: Yes, they are fully funded.

Simon: For clarification, Dan, are you concerned about security above and beyond what it is now?

Kaminski: Yes, I'm very concerned.

Hoel: I support the same priorities from 2016 and would prefer to give additional guidance on 11C that spent fuel be above the target. Since we believe liquid waste is top priority, and we are all concerned that the program is slowing down and not speeding up. Additional tank closures need to be funded. In PBS 100, the CAB should be second in priority, not fourth.

Ginny Jones, CAB Member: I support last year's priorities, however, with the tank closures, seven (7) out of fifty-one (51) is not enough. I think the guidance should specifically mention those things. Cleaning up tank waste is a public priority.

Weber: In 11c, 12, and 13, infrastructure is not funded. It seems to be a low priority in three categories.

Tina Watson, CAB Facilitator, opened voting, and 14c was voted as the board's #1 priority on the list.

Jack Craig, DOE-SR: If you would like us to put more emphasis on a particular item under a PBS, I would have you look at relative priorities within the IPL. That would be helpful to us.

Maxcine Maxted: Infrastructure is a concern.

Watson: "Funding should be made available for infrastructure projects." Bob, David, I think you said "accelerate tank closures."

Hoel: Yes.

Susan Corbett: Aren't we delayed by the saltwater coming on line?

Craig: We can do something in parallel. Tank 15 closure activities would occur in 2018.

Tina Watson opened voting to keep PBS 11C and priority 2. Yes carried.

Corbett: I am concerned about 235-F.

Jones: On 235-F, I asked if they needed more money, and they said they were good with the level.

McGuire: The limit is \$7 million for the small space. They could get \$25 million, but they couldn't spend it. They will have the same level of funding. I suggest you sweep in concerns that cut across all categories. Overall themes could replace individual issues.

Bob Doerr: This is the budget for two years from now. A lot is going to go on in the next two years for soil and water remediation.

Corbett: I don't want to move soil and water remediation down.

Doerr: I'm more concerned about security.

Simon: Keep as is.

Susan Corbett stated that she would like to move PBS 20 to the #3 position and suggested switching PBS 20 and PBS 30 in the priorities.

Rob Pope, EPA: PBS 20 and PBS 30 are two very different categories. They don't compete with each other. They have state and FFA commitments that have to be met, plus DHEC fines they need to consider. Switching those may not be needed.

Jack Craig: The way the budget is allocated, the security budget comes in as one pot of money and does not compete with other PBSs. In security, they are competing with other sites, not within the SR site. The ARGUS project was a security upgrade; the electronic surveillance and detection for the tank farms will be a security upgrade.

Kaminski: What about security for EM? A lot more material is coming to SRS and not to other sites. Is there extra budget for that?

Craig: Yes, a very large budget.

Jones: Keep 2015, and add some sentences in there about security.

Tina Watson initiated a vote to keep 2015 priorities as is for the FY 2018 budget letter. Yes carried.

Hoel: To recap: all infrastructure projects, maintain all min safe categories, security funding, accelerated tank closure, and backlog of spent nuclear fuel.

Corbett: Aren't they adding more material to it?

Hoel: The aluminum clad was designed to be processed. It's more hazardous than adding additional fuel. The backlog needs to be worked off.

Susan Corbett abstained from the vote.

Bob Doerr: Ok, we will have a complete priority list and five additional statements to include. Harold, you'll be able to move forward with CAB support.

Letter to be voted on at March 28 meeting.

Motion made by David Hoel for CAB to be prioritized to #3 under PBS 100.

Tina Watson conducted the vote with, 7 Yes, 5 Opposed, and 1 Abstention.

Announcement of 2016 Committee Chairs: Tina Watson, CAB Facilitator
All committee chairs will remain the same as last year, and they were all unanimous votes.

Mary Weber, CAB Member: How many board vacancies are there?

Watson: There are two (2) vacancies, with two (2) new members starting on February 1. They will go through new member orientation on February 8.

Weber: Isn't there a February work meeting? Is that just committee heads?

Watson: The work plan sessions are for the chairs and vice chairs on February 8 in the afternoon. There is an education and process session for everyone on February 9.

Closing: Harold Simon, CAB Chair

The chair closed the meeting by thanking everyone. He felt there were great public comments this session. He once again thanked James Streeter for his service. Meeting adjourned.

Savannah River Site Citizens Advisory Board Tuesday JANUARY 26, 2016

My name is Suzanne Rhodes, and I am representing myself today. I wish to share my background and what I think is going on regarding nuclear waste. I thank you very much for the opportunity to speak, and also thank you for the many hours you have dedicated to this responsibility to protect the citizens of South Carolina from the legacy wastes at SRS.

Decades ago I wrote a thesis proposing state policy regarding Savannah River Site wastes, and it found its way to Governor Riley's kitchen cabinet. I ended up on the State's Crystalline Rock Project team. The purpose of this multi-state effort was to recommend three potential geologic repositories for high-level commercial and defense nuclear wastes. Initially I was enthusiastic about the goal, but the geologists on the team were not optimistic, and I became less so over the years. The political determination to establish Yucca Mountain was a result of buck passing and Congressional dithering over the Nuclear Waste Policy Act. Informally this decision was called "Screw Nevada."

From the beginning a series of Nevada Governors and Nevada Attorneys General have consistently opposed Yucca Mountain. This was before Harry Reid was a Senator. Nevada hired the smartest and most aggressive of the multi-state Crystalline Rock team, and Nevada proceeded to outwit the rest of us.

One of many Yucca Mountain problems was officially recognized by NRC last year - DOE lacks access to land to allow railroad tracks to transport spent fuel to Yucca Mountain in hostile Nevada. There are other issues, but this is a show stopper. If you have seen maps of rails to Yucca Mountain, they are just planning maps. The glorious photos of rails into the mouth of the site - they are light rail. They were designed to transport workers & equipment - and perhaps some of you. The original tunnel was to be 40 miles long - and if the repository was to be doubled in size, as Congress had suggested, it would have been 80 miles long. It is now 7 miles long, with a 2-mile spur to store equipment. As a result of years of study, there is also a last-minute attempt to protect water and wastes from each other - via a titanium drip shield to be somehow installed when the site is closed - \$3 Billion is one estimate.

There is a long list of congressional neglects of nuclear high-level waste policies, including exceedingly undependable appropriations to DOE for Yucca Mountain site development. These are shown in graphs in the Blue Ribbon Commission report, and duplicated in the LWVSC report.* These persistent Congressional appropriations problems led to exceedingly high staff resignations, subsequently leading to congressional accusations that DOE 'mismanaged' Yucca Mountain.

Years go by, and Congress continues to neglect nuclear waste issues.

We now find ourselves with SRS as the proposed recipient for commercial spent fuel from Germany (proposed by DOE), for Exelon spent fuel from Illinois (proposed by NRC and unsuccessful - thank you very much), and for international plutonium wastes which should rightfully go back to the UK & France. Headquarters offices of both the NRC and DOE have secretly suggested sending inappropriate wastes to SRS. Long-standing rules, public policies, and laws are now routinely ignored in the apparently steady effort to make SRS an international nuclear waste dump. If the German wastes are 'research' fuels, there are LOTS more in the world and in the US that might qualify. There are many public policy reasons to not open SRS to so-called research materials.

Keep in mind that Congress has broken funding agreements with SC to treat SRS legacy tanks, which will now require management for at least 20 more years. If any proposals to import and treat other wastes are successful, the tanks will be used, and cleanup will take longer. More waste treatment usually means using these nasty old tanks.

So Screw Nevada - has it evolved into Screw SC?? I think so.

What should be happening? I think it would be very productive if industry & our political leaders were working with NRC & Congress on a program to design and license much-needed, long-term, transportable, thick-walled casks for spent fuel. Germany, Japan (at Fukushima), and most other countries use casks up to 20" thick. They also store them in hardened buildings. To be most safe and fair, US casks would be stored at the site of generation until a repository has been developed. SRS wastes would be stored here at SRS. Some sort of transfer of ownership to the feds would need to be folded into the storage process for commercial spent fuel once the long-term transportable casks are licensable.

AND a repository needs to be developed. I have read credible reports that it could take 60 years to develop a repository.

I sincerely hope that some of you are concerned, and can somehow move the 'powers that be' to develop responsible nuclear waste storage policies that do not depend upon South Carolina. They are much needed.

Thank you very much. Suzanne Rhodes 803-546-5800 suzrhodes@juno.com *<http://lwvsc.org/files/nuclearwaste20140116.pdf>



Article V of CAB Charter

David Hoel to: michael.mikolanis, sandra.waisley
Cc: srscitizensadvisoryboard

01/20/2016 07:47 PM

History: This message has been forwarded.

I recently took a position working for Weirich Consulting Services, Inc. as a subcontractor for SRNS. Specifically, I assist the SRNS Area Completion Project Operations Support Section as a Senior Operations Technical Training Specialist developing training materials for operation and maintenance of remote facilities to support active and passive remediation of SRS closed waste sites.

Upon review of Article V of the CAB Standard Operating Procedures regarding conflicts of interest, I believe I should recuse myself from CAB discussions and recommendations of most matters pertaining to SRNS Area Completion Projects, which is the principal domain of the Facilities Disposition and Site Remediation Committee. Accordingly, I am confident that I can abide by the "Principles of Conduct" described in Section 5.2 concerning these matters with respect to my duties on the CAB.

If you have any concerns on this matter, please contact me.

Regards,

David F. Hoel