

**Meeting Minutes**  
**SRS Citizens Advisory Board – Combined Committees Meeting**  
**Charleston, SC**  
**September 24, 2012**

**Monday, September 24- Attendance:**

<p><b><u>CAB</u></b> Thomas Barnes Artisha Bolding Dr. Donald Bridges Ed Burke Louie Chavis Mary Davis Robert Doerr Kathe Golden Dr. Rose Hayes Nina Hazen Stanley Howard Travis Johnson-<i>Absent</i> Cleveland Latimore Clinton Nangle-<i>Absent</i> Dr. Marolyn Parson Dr. William Rhoten Dr. Paul Shieh-<i>Absent</i> Earl Sheppard Harold Simon John Snedeker George Snyder James Streeter Ed Sturcken-<i>Absent</i> Sarah Watson</p>	<p><b><u>Agency Liaisons/Regulators</u></b> Shelly Wilson, SCDHEC Kim Brinkley, SCDHEC Van Keisler, SCDHEC Heather Cathcart, SCDHEC David Williams, EPA Kyle Bryant, EPA Diedre Lloyd, EPA</p> <p><b><u>Contractors</u></b> Gregory Suber, NRC Jeff Griffin, SRNS Holt Moran, SRNS Ginger Dickert, SRR Larry Ling, SRR Steve Thomas, SRR Judith Greene-McLeod, SREL Ashley Whitaker, V3 James Tanner, V3 Erica Williams, V3 Kole Helvie, V3</p>	<p><b><u>DOE</u></b> Zack Thomas, DOE-SR Pat McGuire, DOE-SR Terry Spears, DOE-SR Doug Hintze, DOE-SR Karen Guevara, DOE-SR James Giusti, DOE-SR Bill Taylor, DOE-SR Rich Olsen, DOE-SR Wade Whitaker, DOE-SR David Hoel, DOE-SR Angelia Adams, DOE-SR Maxcine Maxted, DOE-SR Sonitza Blanco, DOE-SR Lucy Knowles, DOE-SR</p> <p><b><u>Stakeholders</u></b> Tom Clements Karen Patterson Steve Parson Robert Golden</p>
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Erica Williams, V3, worked as the CAB Facilitator. She reminded everyone to sign in, to state their names before making comments, and noted there would be six CAB Recommendations discussed that day.

CAB Chair Donald Bridges welcomed everyone to the meeting, and thanked the SRS CAB Support Team for the meeting arrangements. He reminded the CAB that members as individuals represent community members from affected areas near the Site; he asked them to look at issues from the viewpoint of these community members.

**Administrative & Outreach (A&O) Committee Overview- Kathe Golden, Chair**

CAB member Golden listed the A&O Committee members, and stated the committee met on August 24 to discuss the Speakers Bureau presentation; she added they incorporated many CAB edits into the presentation and it would be completed by the next time the CAB met. She reminded everyone that the CAB would be voting on the CAB Chair and Vice Chair at the next meeting, and told all CAB members to notify the CAB Support Team if they wanted to run for either office. She announced the next CAB Full Board meeting would be held on October 29-30 instead of in November. She asked everyone to think of ideas for the upcoming Board Beat newsletter. She stated the A&O Committee reviewed the CAB membership applicants during a meeting that day; she provided an overview of the number of applicants and then listed which CAB members were up for reappointment. She encouraged everyone to continue to tell his or her friends about CAB membership.

**Facilities Disposition & Site Remediation (FD&SR) Committee Overview- Marolyn Parson, Chair**

CAB member Parson listed the FD&SR Committee members, and reviewed what the committee addresses. She gave a recommendation status update, stating the committee has one open recommendation, 279; she reviewed what this

recommendation asks of the Department of Energy (DOE). She continued that there is one pending recommendation, 283; she reviewed what this recommendation asks of DOE and said although the recommendation has received a response from DOE, it is not ready to be closed. She said the FD&SR Committee has expressed dissatisfaction with the response to 283, and stated the committee has written a letter to Dr. David Moody, Site Manager, concerning the recommendation. She said they would address the letter later that day. She then spoke about FD&SR recommendations that had been recently closed, including 285, which is a joint recommendation with the Strategic & Legacy Management (S&LM) Committee.

She stated the last FD&SR Committee meeting was held on August 21, and listed the members who attended. She reviewed what was presented and discussed at this meeting. She said the next FD&SR Committee meeting would be on December 4, in Aiken, and then reviewed what would be discussed at that meeting.

### **PRESENTATION: Next Generation Cleanup- Karen Guevara, DOE-SR & Jeff Griffin, SRNL**

Karen Guevara, DOE-SR, began her presentation by stating when the SRS CAB proposed Recommendation 288, it indicated an interest in getting comprehensive information on the concept, status, and schedule of the Next Generation Clean-up Technologies E-SRS Initiative. She said her presentation would fulfill that request. She continued that she would be sharing with the CAB specific Site technology demonstration and deployment successes, and would show this initiative does not compromise the prime clean-up mission at SRS. She said they want her presentation to solicit feedback on “whether this initiative is in the best interest of, or can better serve, stakeholders and citizens.” She reviewed Enterprise SRS, stating it was a strategic vision from DOE, and it acknowledges that DOE-SR has shared many of its successes with several communities, including DOE communities, other clean-up sites, and within the region. She said Enterprise SRS tries to get the site proactively thinking about how else it can take successes and then best translate them into expanded outreach that can enable DOE-SR to get new knowledge, strengthen the viability of the Site, and make the nation, and world, a safer place.

Ms. Guevara continued by reviewing the Next Generation Clean-up Technologies, providing an excerpt from DOE’s response to Recommendation 288. She then provided an overview of the vision for the initiative, as well as four focus areas. She referred to a diagram over the development of deployment of Next Generation Clean-up Technologies.

She and Jeff Griffin, SRNL, reviewed the four focus areas, which included: 1.) Active-to-passive Clean-up Transition, 2.) In-Situ Decommissioning Science/Approaches, 3.) Long-term Monitoring Strategies, and 4.) Advanced Remediation Technology, and referred to handouts that were presented to the CAB. These handouts will be attached to this document.

### **FD&SR Recommendation Discussion**

#### **“Remedial Actions and Clean-up of 235-F”**

CAB member Parson spoke briefly about the proposed recommendation, stating it was written by CAB Chair Bridges. She noted she made some changes to the draft, and stated the FD&SR Committee waited to submit the recommendation until the CAB had a presentation on 235-F. She then turned the discussion over to CAB member Barnes, who worked as the Recommendation Manager for this recommendation. He read over the recommendation, which is attached to this document.

CAB member Hayes asked for a clarification on the type of containers involved. CAB member Parson said most of the plutonium contamination is in the “cells.” She asked if someone from DOE could describe the amount of plutonium that was there and the process involved with that. Mr. Pat McGuire, DOE-SR, stated there were no storage containers, or anything of that nature, but residual contamination that resides within “hot cells.” He explained that hot cells are large processing enclosures that are heavily shielded. He stated there are no active storage containers and all the vaults have been emptied of materials. He continued that the residual contamination is in relatively small commodity. He said hot cells are there to handle radioactive laboratory samples, pieces, and parts, and all hot cells are contaminated.

CAB member Parson commented that according to a presentation DOE-SR gave on 235-F, that while these are small contamination qualities, if there was a release due to seismic event or fire, the dose to adjacent workers could be lethal.

“Development of Environmental Review Roadmap and Document Listing”

CAB member Parson introduced this recommendation; however, CAB member Golden, the recommendation manager, presented the draft to the CAB. Karen Patterson, a member of the public, stated satisfaction with this recommendation and suggested DOE place it on the SRS website. CAB member Hayes suggested minimizing the use of acronyms throughout the recommendation. Tom Clements, Alliance for Nuclear Accountability, was not sure if this recommendation reflected that EM does update their list of outstanding NEPA documents, but stated interested individuals could receive monthly e-mail updates.

**Strategic & Legacy Management (S&LM) Committee Overview-George Snyder, Co-Vice Chair**

CAB member Snyder listed the S&LM Committee members and reviewed the committee purpose. He stated the S&LM Committee met on August 7, and listed the members in attendance. He gave a status update on recommendations 288 and 289, stating both moved from pending to open. He noted that the committee received a response pertaining to recommendation 292. He provided the date for the next meeting and reviewed topics to be discussed at this meeting.

**PRESENTATION: Enterprise SRS Update- Doug Hintze, DOE-SR**

Doug Hintze, DOE-SR, began his presentation with a brief background of how Enterprise SRS was introduced in 2011 as Savannah River Site’s (SRS) strategic vision and transformational strategy to extend future business at SRS. He described complex issues when it comes to creating safe energy, protecting nuclear materials, maintaining national security, a clean environment, and leveraging science. He referred to a diagram, that depicted ways Enterprise SRS could increase current SRS missions as national challenges arise in the future. He then described the five performance measures used to determine progress and success of Enterprise SRS. As far as strategy for Enterprise SRS, he mentioned that SRS’s core competencies remain in cleaning up the nuclear environment. He described the strategic initiatives which included: 1.) Center for Nuclear materials Research, 2.) Nuclear Fuel Cycle Initiatives, 3.) Liquid High Level Waste Dispositioning, 4.) Small Modular Reactors Deployment, 5.) Nuclear Materials Disposition and Reuse, 6.) Helium-3 Supply, 7.) Next Generation Cleanup Technologies, 8.) National Security Programs, 9.) Tritium Infrastructure, and 10.) National Radioecology Expansion. He summarized how successful Enterprise SRS has been so far. In closing, he mentioned SRS’s current Environmental Management (EM) and National Nuclear Security Administration (NNSA) missions are all included in Enterprise SRS while further development in Environmental Stewardship, National Security, and Clean Energy will benefit the nation.

After Mr. Hintze completed his presentation, Shelly Wilson, SCDHEC, asked for the reasoning behind dropping “Alternative Energy Projects” from the initial list of 12 strategic initiatives. He stated that one clean energy alternative is Small Modular Reactors (SMR). He said the program sponsor for SRS is Environmental Management (EM), SRS must carefully choose where to spend money since there are not enough resources to address all desired initiatives; therefore, it is a matter of prioritizing initiatives. Ms. Wilson asked Mr. Hintze if he could guarantee the resources being allocated towards SMRs were not hindering completion of EM milestones the state has towards cleanup. Mr. Hintze stated that DOE is doing the best it can to meet the requirements of all Site missions.

Karen Patterson, public, shared her appreciation for how Enterprise SRS rolled all the EM cleanup missions together and DOE continues to prioritize resources; however, she feels the priority should be cleaning up High-Level Waste plutonium and spent fuel; the greatest risk to South Carolina residents. She also mentioned any extra money should go towards cleaning up what is at SRS.

In regards to Karen Patterson’s comment, Mr. Zack Smith, DOE-SR, stated the leadership team in place at SRS and Headquarters (HQ) is committed to the cleanup; however, there may be situations when DOE does something inconsistent with Enterprise SRS, but only if it is consistent with the health and maintaining capabilities at SRS.

CAB Chair Bridges asked Mr. Hintze to rate DOE's performance with the implementation of Enterprise SRS. Mr. Hintze replied by rating DOE with a seven out of ten, admitting that improvement is needed for effective communication.

CAB member Hayes asked why SMR research was selected rather than another alternative renewable energy. Mr. Hintze allowed Helen Belencan, DOE-SR, to answer the question. Ms. Belencan stated that asset revitalization is no longer being highlighted as an individual initiative since it overlaps between clean energy and biofuels; however, clean energy focus is not limited only to SMRs. She explained new projects being done at the National Laboratory pertaining to clean energy, mentioning that asset revitalization is still under consideration at SRS.

CAB member Hayes stated the CAB was originally told that due to the interest and development of SMRs, there would be an exhibit to demonstrate the technology. Helen Belencan, DOE-SR mentioned that SRS is very open to businesses that have alternative energy focuses, and with the SMRs, there was talk about SRS becoming a place to demonstrate these first kind of SMRs. She said since these types of SMRs have not yet been constructed or are operating, DOE-SR is trying to get one of these facilities certified and licensed to see it constructed and operating at the SRS as a first of its kind. CAB member Hayes asked how focusing on SMRs addresses cleanup and the nuclear waste management problem. Mrs. Belencan stated that depending on the type of SMR developed at SRS, DOE-SR could potentially recover energy from used fuels located on site.

CAB Vice Chair Simon asked what methods are in use for informing employees of the Enterprise SRS process and how is it being determined whether employees are being receptive. Mr. Hintze pointed out that different individuals are receptive to different communication methods, so several different methods have been used, such as e-mails, videos, websites, and meetings. He said that employee receptiveness is being measured through successful communication methods.

### **Nuclear Materials (NM) Committee Overview-Rose Hayes, Chair**

CAB member Hayes listed the NM Committee members, and reviewed what the committee addresses. She gave a recommendation status update, stating recommendations 280, 281, and 282 were open. The committee has two pending recommendations: 286 and 287. She said the committee composed a draft recommendation jointly with the Waste Management (WM) Committee regarding preparations and strategies to dispose of High-Level nuclear waste from SRS. She then discussed the draft recommendations that would be discussed later in the meeting. Lastly, she announced the date for the next committee meeting.

CAB member Parson asked both the NM and WM committees whether the residual plutonium 238 in building 235-F was nuclear material or nuclear waste, and how should it be cleaned up. Mr. Patrick McGuire, DOE-SR, answered that the plutonium is nuclear material and once it is removed from the facility, it would likely be dispositioned as transuranic waste; however, once packaged into an appropriate certified waste container, it will be manifested as waste.

### **Recommendation Discussion**

#### “Implementation of Spent Nuclear Fuel Exchange Program with Idaho”

CAB member Hayes spoke briefly about the proposed recommendation, stating CAB Chair Bridges would further explain. CAB Chair Bridges provided a background of the recommendation, highlighting what it asked of DOE. As a suggestion regarding content, Ms. Shelly Wilson stated, “SCDHEC does not have a formal approval or agreement regarding the exchange and I really do not know of any other agreement held by any other level for a state office.” Ms. Maxine Maxted, DOE-SR, reiterated that Idaho has an agreement with their state on how they move their fuel; however, South Carolina does not have such an agreement. CAB Chair Bridges corrected the sentence within the draft recommendation. A copy of this recommendation has been attached to this document.

#### “SNF Processing Credit for H-Canyon Operations”

CAB member Hayes introduced the proposed recommendation, but then asked CAB Chair Bridges to begin discussion. After he read the recommendation, CAB member Hayes commented that this recommendation ties

directly with Doug Hintze's presentation, since several historical programs at SRS have not resulted in a return on investment and only contribute to national security. A copy of this recommendation has been attached to this document.

### **Waste Management (WM) Committee Overview-Ed Burke, Chair**

CAB member Burke listed the WM Committee members, and reviewed what the committee addresses. He provided a recommendation status update, stating that recommendations 269 and 290 were open. He said the committee had two draft recommendations to discuss in the meeting. He reviewed the presentations scheduled for tomorrow, and announced when the next committee WM meeting would be held before beginning recommendation discussions.

### **Recommendation Discussion**

#### “Concern the Salt Waste Processing Facility will not open according to Site Plan Rev. 17”

CAB member Sheppard introduced and read the recommendation. Ms. Shelly Wilson, SCDHEC, expressed her appreciation of the recommendation but had two comments. Her first suggestion was to eliminate the usage of “South Carolina” and change it to “South Carolina Department of Health and Environmental Control.” She then questioned why the recommendation discussed the “2014 and 2015 budget requests” when the 2013 budget had not yet been determined.

Mr. Terry Spears, DOE-SR, suggested changing “site plan rev 17” terminology to “liquid waste system plan.” He also suggested to delete “Small Column Ion Exchange” from the second paragraph since this process has not been deployed yet at SRS. He then asked the CAB members to recall in July that Dr. Dave Moody, DOE-SR, did inform the CAB of a potential issue, which could potentially delay the startup of Salt Waste Processing Facility (SWPF).

Mrs. Ginger Dickert, SRR stated “Modular Caustic Unit” is actually called “Modular Caustic Side Solvent Extraction Unit.” She also pointed out that for future reference, the correct usage for Small Column Ion Exchange is “SCIX” not “SCX.” A copy of this recommendation has been attached to this document.

#### “Trial Disposition for SRS High Level Waste Canisters”

CAB member Burke introduced and read the recommendation. Mr. Patrick McGuire, DOE-SR suggested a change in the labeling of “Spent Nuclear Fuel” in the background section of the recommendation. CAB Chair Bridges then offered Mr. McGuire clarification as to what exactly the recommendation was asking of DOE. Mr. McGuire deferred to Mr. Terry Spears, DOE-SR, who asked for the terminology “waste disposition program” in the background section to be more descriptive. Karen Guevara, DOE-SR, made grammatical suggestions, which CAB Chair Bridges accepted. CAB member Hayes suggested adding a statistical reference in the discussion section of the recommendation; however, CAB member Burke asked to review her suggestion later. A copy of this recommendation has been attached to this document.

### **Public Comments**

Karen Patterson commented that the last sentence in the background section of was true; however, she felt the more important issue was the slowdown of the tank closure program and a significant decrease disposition of high-level waste through the DWPF.

Tom Clements, Alliance for Nuclear Accountability (ANA), gave a brief background of how his company relates to SRS. He mentioned he was able to tour the Hanford site on a recent trip to Seattle. He feels Hanford has several problems that make issues at SRS look relatively small. He complemented the CAB for sending a letter to DOE requesting open communication. Concerning Enterprise SRS and SMRs, Mr. Clements received a phone call from an individual saying that very little money will be given to SRS. He continued that if any money is given, it will only be for development and licensing issues with the reactors, not for new jobs. Referencing the Plutonium Dispositioning of Mixed Oxide (MOX), at the hearing in North Augusta, Mr. Clements said he submitted some questions regarding the MOX Program, but they were unanswered. He said he feels as though NNSA is hurting its

case before Congress by remaining silent about costs to administer the program. He said he also anticipates, around the first of the year, there will be discussions concerning spent fuel management.

Mrs. Ginger Dickert, SRR, took a minute to mention the recent closure of tanks 18 and 19. She also thanked DOE, SCDHEC, and the Nuclear Regulatory Commission (NRC).

**~Meeting Adjourned**

**Meeting Minutes**  
**SSR Citizens Advisory Board-Full Board Meeting**  
**Charleston, SC**  
**September 25, 2012**

**Tuesday, September 25- Attendance:**

**CAB**

Thomas Barnes  
Artisha Bolding  
Dr. Donald Bridges  
Ed Burke-*Absent*  
Louie Chavis  
Mary Davis  
Robert Doerr  
Kathe Golden  
Dr. Rose Hayes  
Nina Hazen  
Stanley Howard  
Travis Johnson-*Absent*  
Cleveland Latimore  
Clinton Nangle-*Absent*  
Dr. Marolyn Parson  
Dr. William Rhoten  
Dr. Paul Shieh-*Absent*  
Earl Sheppard  
Harold Simon  
John Snedeker  
George Snyder  
James Streeter  
Ed Sturcken-*Absent*  
Sarah Watson

**Agency Liaisons/Regulators**

Shelly Wilson, SCDHEC  
Kim Brinkley, SCDHEC  
Van Keisler, SCDHEC  
Heather Cathcart, SCDHEC  
David Williams, EPA  
Kyle Bryant, EPA  
Diedre Lloyd, EPA

**Contractors**

Gregory Suber, NRC  
Jim Shaffner, NRC  
George Alexander, NRC  
Larry Camper, NRC  
Jeff Griffin, SRNS  
Holt Moran, SRNS  
Mike Swain, SRNS  
Ginger Dickert, SRR  
Larry Ling, SRR  
Steve Thomas, SRR  
Nancye Betherum, SRR  
Judith Greene-McLeod, SREL  
Ashley Whitaker, V3  
James Tanner, V3  
Erica Williams, V3  
Kole Helvie, V3

**DOE**

Zack Thomas, DOE-SR  
Pat McGuire, DOE-SR  
Terry Spears, DOE-SR  
Doug Hintze, DOE-SR  
Karen Guevara, DOE-SR  
James Giusti, DOE-SR  
Bill Taylor, DOE-SR  
Rich Olsen, DOE-SR  
Wade Whitaker, DOE-SR  
David Hoel, DOE-SR  
Angelia Adams, DOE-SR  
Maxcine Maxted, DOE-SR  
Sonitza Blanco, DOE-SR  
Lucy Knowles, DOE-SR

**Stakeholders**

Tom Clements  
Karen Patterson  
Steve Parson  
Bob Golden  
Hattie Smith

CAB Chair Bridges opened the meeting. CAB Facilitator Erica Williams, V3, led everyone in the Pledge of Allegiance, and informed meeting attendees of the public comment periods planned throughout the day. She reviewed the agenda, and invited CAB Chair Bridges to give his update.

**CAB Chair Update-Donald N. Bridges, CAB**

CAB Chair Bridges welcomed everyone to Charleston, South Carolina. He reviewed the most recent membership drive, which provided 22 applicants and 9 members seeking reappointment. He briefly provided background about the board membership and application processes. CAB member George Snyder was presented with a certificate and acknowledged as being the CAB's most productive membership recruiter. CAB Chair Bridges continued by reviewing the upcoming committee meeting schedule. He announced beginning in February 2013 there would be combined committee meetings.

He continued by speaking about the Site Specific Advisory Boards (SSABs), stating eight boards make up the SSABs. He said he attended a teleconference on August 15 where they discussed the budget and meeting scheduled to be held in Washington, D.C., on October 2-3. He mentioned the issues he would be presenting at the meeting on behalf of SRS. He continued by referring to the letter composed by the Northern New Mexico SSAB to Environmental Management (EM), stating its position on the use of WIPP for some of the wastes that are being suggested. He then proposed that WIPP personnel brief the CAB about procedures at WIPP.

CAB member Hayes asked if the extra materials WIPP is thinking about were defense materials or commercial materials. CAB Chair Bridges answered her by saying the material was “class C or civilian type stuff.” He then spoke about the Environmental Justice (EJ) Program, stating CAB Vice Chair Harold Simon attended and would provide his update later in the meeting. CAB Chair Bridges mentioned he hoped to receive more input from both the CAB and the public, while sending more recommendations to DOE.

CAB Chair Bridges called for discussion of the July Full Board meeting minutes. There were no suggestions or comments regarding the minutes. He opened the floor for a vote; the CAB, with no opposition and no abstentions, approved the minutes.

## **Agency Updates**

### **Zack Smith, SRS Deputy Manager-Department of Energy-Savannah River (DOE-SR)**

Mr. Zack Smith welcomed everyone to Charleston. He congratulated Savannah River Nuclear Solutions (SRNS) for completing remediation of 5,000 cubic meters of transuranic (TRU) waste, which he said is a major milestone with the American Reinvestment and Recovery Act (ARRA). He stated this will wrap up legacy TRU waste at SRS with the exception of the 200 cubic meters of waste. He said SRNS has already cleaned up approximately 50 of those 200 cubic meters, but expects the remaining 150 to be cleaned up by the end of the fiscal year. He also congratulated Savannah River Remediation (SRR), on closure of tanks 18 and 19, which are the first large waste tanks to be closed in the last 15 years within the department.

As requested by CAB Chair Bridges, Mr. Smith briefly discussed the Salt Waste Processing Facility (SWPF) emphasizing that the technology is “robust and proven.” Mr. Smith said a challenge the site recently overcame was the delivery and installation of the large American Society of Mechanical Engineers (ASME) Tanks; however, he wished the delivery of the tanks were on timely cost schedule so potential delays could be better understood. He said they are extremely close to having a baseline for cost and schedule but are still waiting on the funding profile from the Deputy Secretary. He reassured the CAB that the Department of Energy (DOE) is more determined than ever to complete construction of SWPF, which he said is being recognized as DOE’s most important project.

### **Terry Spears, DOE-SR: Co-Designated Deputy Federal Official (DDFO)**

Mr. Terry Spears mentioned DOE recently awarded a small business contract to NOVA Corporation for administrative and information technology services at SRS. He said this contract will replace eight small service support contracts, reduce overhead, and streamline contract administration for the federal staff. He stated that NOVA Corporation would replace V3 Technical Services and the CAB Support team would be losing Erica Williams, who chose to stay with V3 Technical Services.

Mr. Spears reiterated the successful grouting of tanks 18 and 19 by SRR, and provided statistical data for the closure process. He then expressed his appreciation to SRR, federal staff members, the CAB, and regulatory agencies involved with the completion. He stated attention now is towards closing tanks 5 and 6 in fiscal year 2013.

He said the Defense Waste Processing Facility (DWPF) recently completed pouring of 273 canisters and SRR is expected to exceed the canister production goal of 275. Mr. Spears stated that the Saltstone Facility restarted operations September 6, 2012 after an extended outage of incorporating improvements to make the facility more reliable, robust, and capable of keeping up with SWPF in the future.

He said the site continues to make great progress with TRU waste and in addition to completing remediation, it has received the fourth of six large shipping containers to transport TRU pack three shipments to WIPP in the future. He said SRS is the only site capable of handling these large containers. He stated even though they have completed remediation of all 5,000 cubic meters of TRU waste with the ARRA project, they still have approximately 1,500 cubic meters to ship to WIPP. He gave an update on Nuclear Materials Stabilization and Area Completion, specifically focusing on the decommissioning of building 235-F. He stated SRNS is currently working with DOE to evaluate alternatives for 235-F decommissioning, and that DOE will keep the CAB and regulators updated on any plans for the facility.

CAB Chair Bridges asked what kind of impact extending current interim processing facilities by several years would have if SWPF is delayed a number of years. Mr. Terry Spears replied that current interim processing facilities were designed to operate while DOE anticipates the completion of SWPF. He stated that currently, the Actinide Removal Process (ARP) and Modular Caustic Side Solvent Extraction Unit (MCU) are permitted by SCDHEC to operate through 2015. He continued that DOE would have to enter into discussions with SCDHEC to determine how it would extend the permit lifecycle. CAB Chair Bridges then asked if any consideration was given to increasing output on the interim facilities. Mr. Spears responded that the throughput of the facility is largely based on the amount of contactors, and it is very unlikely DOE could increase the outputs of the existing ARP MCU without a large investment.

CAB member Hayes asked if all the grouting procedures were standardized. Mr. Spears replied there are different grout mixtures that serve different purposes; there is not a single type of grout. CAB member Hayes then asked if SRS's goal was for everything grouted to last for 1,000 years. Mr. Spears replied that DOE evaluates based on several different regulations, but there is not one specific timetable it aims for.

#### **Environmental Protection Agency (EPA)-David Williams, EPA**

Mr. David Williams introduced himself and stated it would be his last time attending a CAB Full Board Meeting as he had accepted a position with the Department of Interior in Colorado. He stated EPA completed a final walk down of tanks 18 and 19 and issued a letter stating that the FFA milestone was reached ahead of schedule. He said SRS still has to complete a closure report per the SC Permit and Finished Process of Exiting South Carolina permit. He said all three parties to the Federal Facility Agreement (FFA) have agreed that SRS will take a decision document that allows tanks 18 and 19 to be monitored and maintained under the FFA. He said EPA hopes to finalize these steps in 2013. Mr. Williams mentioned the proposed plans for tanks 17 and 20 were available for public comment, resulting in the first decision document for F-Tank farm in early 2013. He explained that completion of the work on tanks 18 and 19 demonstrates that SRS is heading in the right direction regarding tank closure. He said EPA looks forward to continuing the work on the remaining tanks in the next several years, and DOE has an aggressive schedule for upcoming years that will beat FFA milestones and EPA is committed to assisting DOE in implementing this accelerated schedule.

He stated that recently, all three agencies signed a decision document, adding land use controls to Lower Three Runs Creek from where it exits the main part of SRS into where it joins the Savannah River. He said the CAB has received briefings of the work done to remove Cesium 137, contaminated soils, and make the creek area safer. He said the document finalizes the actions and provides the restrictions for future use. He stated that while SRS has completed several milestones and many projects are underway, significant clean-up efforts remain at SRS. He noted that EPA remains committed to working with DOE and South Carolina to complete the work while continue protecting human health and the environment. He said that in regards to the decommissioning of building 235-F, EPA Headquarters is revisiting the D&D policy and the CAB will be updated on any variations of EPA policy. He continued by stating Headquarters (HQ) has provided enough funding to have another EJ meeting with DOE in December of 2012.

#### **South Carolina Department of Health & Environmental Control (SCDHEC)-Shelly Wilson, SCDHEC**

Ms. Shelly Wilson introduced Mr. Van Keisler, SCDHEC, to provide his updates on the soil and groundwater activities. Mr. Keisler started by summarizing the meetings and discussions SCDHEC attended since the last CAB meeting in July; he then reported on the twelve document reviews SCDHEC recently performed. Ms. Wilson highlighted her appreciation and excitement on the closure of tanks 18 and 19. She said that on August 2, 2012, SCDHEC approved the general closure plan for the H tank farm.

Ms. Wilson then shared that the head of the Environmental division at SCDHEC would be retiring. CAB Chair Bridges asked if SRS is considered one of the more attractive facilities for SCDHEC in terms of environmental activity; Ms. Wilson answered "no."

## **Public Comment**

Mr. Larry Camper, Nuclear Regulatory Commission (NRC) stated Mr. Jim Shaffner would share recent observations from correspondence with DOE within his upcoming presentation. He echoed a comment made by Mr. Terry Spears, DOE-SR, stating he agreed that all agencies are working well with one another.

### **CAB Research Associate Report-Kole Helvie, V3 Technical Services**

Mr. Kole Helvie provided an update on the recommendation status report and Work Plan progress. He said currently there are seven open, six pending, and six draft recommendations. He provided an update of the CAB Work Plan and reviewed remaining committee topics.

### **Facilities Disposition & Site Remediation (FD&SR) Committee Overview-Marolyn Parson, Chair**

CAB member Parson listed the FD&SR Committee members and thanked them for their hard work. She then welcomed Paul Eisenstat, SRNS, to present on C-Area Project Progress.

### **PRESENTATION: C-Area Project Progress-Paul Eisenstat, SRNS**

Mr. Paul Eisenstat began his presentation by providing a status report on 105-C Reactor. He provided a brief background of 105-C Reactor and the cleanup actions performed. He mentioned that C-Area is a historically significant area, and it was preserved. CAB Chair Bridges asked if there were any significant differences in activities performed to preserve C-Reactor to prior activities at P and R Reactors. Mr. Eisenstat replied that the same preservation regulations were followed in preserving P and R Reactors. He then discussed four accelerated actions performed in C-Area, which included: 1.) Cask Car Railroad Tracks, 2.) 105-C Disassembly Basin Water Evaporation and Grouting, 3.) C Process Sewer Line as Abandoned, and 4.) C-Area Emergency Retention Basin Tank. He said several sample locations within the area had extensive contamination and high-risk levels. CAB Chair Bridges wanted to know the length of the restored railroad tracks, and Mr. Eisenstat told him it was about 80 feet. Mr. Eisenstat continued discussing the cleanup, grouting, and restoration processes behind each accelerated action. CAB member Hayes asked about the safety and life expectancy of the grout used in these facilities. Mr. Eisenstat discussed the composition of that particular grout and reiterated that grout mixes are designed for specific applications. He then addressed costs, and some savings, used to cleanup C-Area. He concluded his presentation by summarizing cleanup processes, the amount of risk removed, regulatory support, and the successful completion.

CAB member Artisha Bolding asked about the break down in costs for removal of the original railroad tracks and replacing the gravel and new tracks. She also asked if the tracks were replaced for aesthetic purposes. Mr. Eisenstat replied that the cost configuration for the project was not broken down that way and replacement of the track was for historical preservation purposes.

CAB member Parson asked about the type of contaminated materials removed and where were they taken. Mr. Eisenstat stated the waste was Cesium 137 and contaminated materials were taken to the slit trenches. She then asked how much sediment remains in the 105-C Disassembly Basin. He told her the remaining sediment was covered with grout and measures only a few inches in thickness. CAB member Hayes asked how many curies were in the pool before the evaporation process began. Mr. Eisenstat stated there were approximately 800 curies.

### **PRESENTATION: FFA Appendix E Projected Changes-Brian Hennessey, DOE-SR**

Mr. Brian Hennessey, DOE-SR, began by stating the purpose of his presentation, briefly discussed the background of the Federal Facility Agreement (FFA), and moved on to an overview of Appendix E. He discussed a diagram representing the schedule for the development, submittal, review, and approval of FFA Appendix E. He stated a briefing is scheduled for December to update the FD&SR committee on the draft Appendix E for fiscal year 2013. He discussed two major changes recently added to Appendix E, and gave an overview of when each milestone must be submitted. He said the second diagram within his presentation, SRS's Area Completion Plan, provided CAB members with a perspective of how milestones in Appendix E correspond with overall completion. CAB Chair Bridges asked why each revision of the area completion diagram is not labeled with a date. Mr. Hennessey stated

that next time he would provide a date in the title to clarify which milestones are being represented. CAB member Parson asked why the C-Area progress chart does not begin until 2015 when cleanup efforts are already underway. Mr. Hennessey responded by saying that the actions taking place in C-Area were removal early actions, whereas the diagram represents final actions. Paul Eisenstat, SRNS, stepped in and mentioned that they are unable to explain why early actions do not show up on this chart; however, a year from now the combined document will be submitted.

CAB member Hayes asked why the actions for Upper Three Runs and Lower Three Runs were included on the chart but Par Pond, the main source of the Cesium for those runs, was not listed. He stated that Par Pond is part of the Lower Three Runs Integrator Operable Unit (IOU), which means it is included on the chart.

CAB member Bolding asked how much consideration of possible federal funding adjustments was put forth when estimating milestones. Mr. Hennessey replied that generally those milestones reflect DOE's lifecycle baseline and expectation funding targets; however, for years that are farther into the future, a general baseline is used to calculate milestones.

CAB member Golden, asked if Congress is aware of what money will be used for when initial funding is requested. Mr. Zack Smith, DOE-SR, stated that everything is appropriated with the Assistant Secretary of Environmental Management and the Chief Financial Officer to establish a specific funding profile for a given year. Mr. Van Keisler, SCDHEC, asked the CAB to keep in mind that work currently being done constitutes for adjustments for future cleanup efforts.

Mr. Hennessey continued his presentation by listing upcoming Appendix E milestone submittal dates. CAB Chair Bridges questioned the practicality in comparing past charts to the current chart to determine if estimates were correct. Mr. Hennessey stated the chart had only been developed over the past few years as a way to help individuals understand the milestone process, but it might be interesting to compare data; he said it probably would not be extremely helpful for the future. Mr. Hennessey then conducted his presentation by explaining how to locate the 2012 Appendix E online.

CAB member Bolding asked if DOE anticipates being able to get a final approval earlier in the year. Mr. Hennessey stated regulators actually approved Appendix E in late February but it was a conditional approval. He said the normal process is for EPA and SCDHEC to comment by December 31, DOE submits a revised Appendix E by January 31, and then approval follows approximately one month later.

CAB member Parson asked Mr. Hennessey to explain what happened at Castor Creek and why it is significant. He explained that in 2011 as part of the Recovery Act portfolio, C-Area groundwater was highly investigated but was not expected to be finished until March 2020. He said the investigations found that one of the receiving streams exceeded the regulatory amount of tritium. Mr. Hennessey explained that reasonable alternatives and a cleanup schedule were developed. Mr. Zack Smith, DOE-SR, stated that the major driver to find out about the stream contamination was ARRA funding. CAB member Hayes asked whether the tritium in the creek came from groundwater around C-Reactor or from water inside the facility. Mr. Hennessey stated that the tritium is believed to have come from sources outside the reactor building. Van Keisler, SCDHEC, stated that accessing the Appendix E on the website may provide more information than the written chart.

Mr. David Williams, EPA, explained EPA's process of reporting milestones to Congress for all National Priority List (NPL) sites with facilities operating under Appendix E. He also mentioned what each facility is required to report to Congress. CAB member Parson reminded everyone that Mr. Hennessey's presentation in December would focus on the proposed changes.

### **Recommendation Discussion**

#### **“Remedial Actions and Clean-up of 235-F”**

CAB Chair Parson asked CAB member Barnes to address what the recommendation asks of DOE. CAB member Barnes stated the committee reviewed the draft the day before, and there were no changes made. He then turned the floor over to CAB Chair Bridges for the vote.

### **Recommendation Voting**

CAB Chair Bridges opened the floor for a vote. The CAB approved the recommendation with 19 votes of approvals with no oppositions or abstentions.

### **Recommendation Discussion**

“Development of Environmental Review Roadmap and Document Listing”

CAB member Golden reviewed the recommendation, noting only minor editorial adjustments were made.

### **Recommendation Voting**

CAB Chair Bridges called for a motion for the recommendation to be accepted. The CAB voted approved the recommendation with 19 votes of approval, with no oppositions or abstentions.

### **Nuclear Materials (NM) Committee Overview-Rose Hayes, Chair**

CAB member Hayes reviewed her presentation from the day before. She said the committee currently has three open recommendations, two pending recommendations, and three draft recommendations. She welcomed Mr. Mike Swain, SRNS, to present an update on H-Area operations.

### **PRESENTATION: Update on H-Area Operations-Mike Swain, SRNS**

Mr. Mike Swain, SRNS, stated his presentation focused mainly on reuse and disposition of nuclear materials applying to the Mixed Oxide Fuel Fabrication Facility (MFFF), Waste Isolation Pilot Plant (WIPP), and Disposition in H-Canyon. He described the status of operations and new campaigns planned for H-Canyon before addressing “remediating legacy TRU waste,” which is expected to conclude in spring 2013. He discussed disposition of “Vulnerable Fuels” from L-Basin. He then introduced a new mission to produce plutonium mixed oxide to feed MFFF through fiscal year 2017. He stated this repackaging process is ready to begin; however, changes for oxide production are pending DOE review and approval. Regarding this topic, he provided a diagram showing the production process for plutonium oxide. Mr. Swain addressed blending “Non-Moxable Plutonium with an inert agent,” moving it from K-Area to E-Area for WIPP certification, and then transporting it to WIPP. He briefly described other missions being discussed for H-Area, including the recovery of Americium-241, which he said was currently in short supply. CAB Chair Bridges asked about the difficulty of separating Americium-241 from plutonium. Mr. Swain replied it requires additional funding and several months for preparing the facility. Concluding his presentation, Mr. Swain summarized current operations in H-Area and new opportunities for Enterprise SRS team to develop new missions.

CAB member Golden asked if money from selling Americium-241 comes back to SRS or goes to the treasury. Mr. Swain said he believed work would potentially be performed under a work for others type of agreement, which allows the money to come back to SRS.

CAB member Hayes asked Mr. Swain to describe how production of feedstock for MFFF will be integrated with production of MOX fuel, since there is not a customer for MOX fuel. Mr. Swain described the close interactions with both EM and NNSA, and said that the planned production/storage is ahead of initial production for the MOX facility. Mr. Swain stated NNSA would have to decide what needed to be done if there were delays in locating a buyer for MOX fuel.

CAB member Parson asked how much it costs to ship materials to WIPP, how the price is determined, and who pays for it. Mr. Swain deferred to Mr. Terry Spears, DOE-SR, who stated expenses are shared between SRS and the Carlsbad Field Office. He said typically, SRS pays for processing the material and Carlsbad pays for transportation and emplacement in the repository. He said the price is determined by operating experience and estimates done in

preparation of the annual budget request. Mr. Pat McGuire, DOE-SR, added that plutonium shipments to WIPP cost approximately \$100,000 per kilogram for full recovery cost.

### **Recommendation Discussion**

#### **“Implementation of Spent Nuclear Fuel Exchange Program with Idaho”**

CAB Chair Bridges reviewed the recommendation. He pointed out the changes that were made from Ms. Shelly Wilson’s, SCDHEC, suggestions. Ms. Wilson recommended a few changes within the background section. She mentioned Idaho does have an agreement to ship waste out of there state but she believed Idaho officials have not approved the particular exchange mentioned within the recommendation. Ms. Wilson also mentioned that since SCDHEC does not have authority to discuss an agreement with DOE, the Department would typically not request an agreement from SCDHEC as stated within the recommendation. CAB member Hayes asked CAB Chair Bridges to remove the sentences causing the issues. Ms. Wilson agreed that eliminating those sentences would work.

### **Recommendation Voting**

CAB Chair Bridges called for a motion to accept the recommendation. The CAB voted to approve the recommendation with 18 votes of approval, one opposition, and no abstentions.

### **Recommendation Discussion**

#### **“SNF Processing Credit for H-Canyon Operations”**

CAB Chair Bridges presented this recommendation, which had no edits to be discussed.

### **Recommendation Voting**

CAB Chair Bridges called for a motion to accept the recommendation. The CAB had 19 votes for approval, no oppositions, and no abstentions.

### **Public Comments**

Karen Patterson, a member of the public, took a moment to thank DOE, SCDHEC, and the contractors, for achieving the completions at SRS; however, she pointed out that none of the completed projects could have been done without the support of the CAB. Next, she hopes the CAB strives to continue pushing recommendations to Headquarters.

### **Waste Management (WM) Committee Overview-Stan Howard, Vice Chair**

CAB member Howard briefly reviewed the upcoming presentation by Shelly Wilson, David Hoel, and Ross Shealy. He also stated that Jim Shaffner would present later with an update from the Nuclear Regulatory Commission, (NRC).

#### **PRESENTATION: History and Summary of Legislative Requirements and Federal Government Commitments for Bringing Waste into SRS and Removing Waste from SRS-Shelly Wilson, SCDHEC; David Hoel, DOE-SR; and Ross Shealy, Haynsworth Sinkler Boyd, P.A.**

Ms. Shelly Wilson, SCDHEC, began her presentation by discussing state principles and legal mechanisms for shipping waste to and from SRS. She provided a background of established laws and the necessary requirements needed to begin the removal process. As far as state principles, Ms. Wilson discussed a list composed by states on their thoughts to DOE. She said the list included states’ concern on topics such as prolonged storage, the ability to approve shipment schedules, reasoning for waste shipment, and equitable consideration. Ms. Wilson stated Consent Order 95-22-HW requires SRS to request approval for receipt of off-site mixed waste and includes several proposal

requirements. She said this process is followed up by a hazardous waste permit, which prohibits hazardous or mixed waste receipts at SRS unless approved under the Consent Order 95-22-HW and SCDHEC. She stated SCDHEC feels the process was successful and gave the state a strong voice. Ms. Wilson took a moment to point out a few examples of waste shipping that were unsuccessful.

CAB member Hayes asked if the state principles list was composed of regulatory input. Ms. Wilson confirmed it was. CAB member Hayes also asked if it was correct to say that if waste is developed, then there must be a way to store it or disposition it. Ms. Wilson confirmed this statement, stating that SCDHEC has mechanisms in place requiring DOE to complete and pay for those actions.

Mr. David Hoel, DOE-SR, began his portion of the presentation by providing an overview of Federal laws and DOE commitments governing radioactive waste management and removal of radioactive material from SRS. He provided a diagram of the facilities he would be referring to throughout the presentation. He then discussed principal federal laws governing radioactive waste, which include 1.) Atomic Energy Act, 2.) Nuclear Waste Policy Act, 3.) National Defense Authorization Act of 2005, 4.) Comprehensive Environmental Response and Liability Act, 5.) Resource Conservation & Recovery Act, and 6.) WIPP Land Withdrawal Act, and 7.) Federal Facility Agreement. For each federal law he listed, he provided explanations of what is allowed and not allowed. He provided a diagram presenting all the FFA milestones that include the tank closure program. He then described a principal commitment for the Site Treatment Plan (STP), which was required by the Federal Facility Compliance Act and SCDHEC Consent Order 95-22-HW. Next, he depicted on several diagrams each liquid and solid waste facility and the laws that directly apply to each facility. Mr. Hoel summarized his presentation by stating DOE is in fully compliance with laws and regulations for waste management while stating completion and progress of waste disposition is moving forward at SRS.

Mr. Ross Shealy, Haynsworth Sinker Boyd P.A., opened his portion of the presentation by reviewing Aiken County's efforts to enforce the requirements of the Nuclear Waste Policy Act (NWPA). He provided a few pictures of Yucca Mountain, Nevada, which is located 100 miles Northwest of Las Vegas, Nevada. The next diagram depicted how nuclear material would be stored in this repository, along with how far above the water table this location is. Mr. Shealy discussed the Nuclear Waste Policy Act, DOE and NRC actions since 2010, and efforts to enforce NWPA the in Washington, D.C., Circuit Court of Appeals, as well as the requirements to meet once a repository location is selected. He then reviewed the process behind closure of the Yucca Mountain program.

CAB member Golden asked what a "mandamus" was. He replied that this particular petition asks a court to tell an agency to do something. In this situation, he said they were trying to get the court to tell the NRC that the NWPA said something had to be done. He mentioned DOE has not withdrawn the Yucca Mountain license; DOE attempted to withdrawal but was not able to do so. Mr. Shealy asked Mr. Tom Guttrall, Haynsworth Sinker Boyd, to speak about the process behind filing against the NRC to move forward. Mr. Shealy began again discussing the court order telling both Aiken County and the NRC to update the court by December 14. He said the earliest update is that a six month continuing resolution passed, which continues appropriation of current federal money. He mentioned currently, the Yucca Mountain program was not appropriated any money; however, Mr. Shealy feels this is a positive situation since two of the three judges involved in the case feel they can get NRC back in compliance with the initial mandate from the NWPA.

CAB member Golden asked if anything could prevent the NRC from saying Yucca Mountain is inadequate. Mr. Shealy said there is no real prevention measure. CAB member Hazen asked if any groups have filed amicus briefs on behalf of Yucca Mountain. Mr. Shealy replied that the National Association of Regulatory Utility Commissioners filed an amicus on their side and even the county where Yucca Mountain is located in favor of starting back the process. CAB member John Snedeker asked what Senator Reid's role was in all of this is. Mr. Tom Guttrall replied that Senator Reid really has not played much of a role at all since he is gone.

CAB member Hayes asked if there were precedents for a federal agency throwing aside an act of Congress. Mr. Guttrall answered saying that it really has turned into a conflict and separation of powers issue.

**PRESENTATION: Nuclear Regulatory Commission Update-Jim Shaffner, NRC**

Mr. Jim Shaffner, NRC stated he was at the meeting to discuss NRC's role in monitoring activities at F tank farm. He discussed requirements and performance objectives the NRC must follow under NDAA along with elements of consultation and monitoring completed by the NRC. Mr. Shaffner then addressed NRCs monitoring plan including document reviews and site visits this process requires. He stated the NRC monitors areas "important to DOE's ability to meet performance objectives" while also monitoring factors, which are "specific implementation features." A list of monitoring areas was provided in his presentation, which included: 1.) inventory, 2.) waste release, 3.) cementitious material performance, 4.) natural system performance, 5.) closure cap performance, 6.) performance assessment maintenance, 7.) protection of workers during operations, and 8.) site stability. After listing each monitoring area for F tank farm, Mr. Shaffner provided an explanation of each one including information about amount of public impact, and long-term performance.

He then presented the CAB with an update on Saltstone activities, providing a timeline of recent progress between DOE and NRC. Mr. Larry Camper, NRC, took a few minutes to explain that the monitoring plan Mr. Shaffner mentioned is based on the new F-Tank Farm determination as well as the updated performance assessments for Saltstone. He focused on Mr. Shaffner's slide, "NRC Update on Saltstone Activities," to provide chronological data and reasoning behind NRC's decision to send a letters to DOE in April 2012. Mr. Camper read from the letter saying, "On April 30, 2012, NRC issued both the Technical Evaluation Report (TER) and a Type 4 Letter of Concern. The TER concluded that the NRC did not have reasonable assurance that saltstone disposal at the Saltstone Disposal Facility (SDF) meets the performance objectives. The Type 4 Letter of Concern formally communicated NRCs concern to DOE and SCDHEC." Mr. Camper addressed NRCs review standards along with the dosage regulations for DOE. Mr. Camper also explained when the NRC evaluated the updated performance assessment provided to them, the NRC no longer had reasonable assurance that such performance objectives could be met. Mr. Camper stated that DOE sent two letters in July stating they would provide additional research information regarding the technetium inventory along with NRC requests in the Type 4 Letter of Concern. He stated the NRC evaluated the new information for units of concern at the SDF and concluded that the information provided to the NRC was acceptable. He said a Type 2 Letter of Concern then was sent to Congress, DOE, and SCDHEC was not necessary at this time.

### **Recommendation Discussion**

"Concern the Salt Waste Processing Facility will not open according to Liquid Waste Plan Rev. 17"

CAB member Sheppard reviewed the recommendation. There was no discussion concerning this recommendation.

### **Recommendation Voting**

CAB Chair Bridges called for a motion. The CAB passed the recommendation with 18 votes of approval, no opposition, and one abstention.

### **Recommendation Discussion**

"Trial Disposition for SRS High Level Waste Canisters"

CAB Chair Bridges reviewed the recommendation. There was no discussion concerning this recommendation.

### **Recommendation Voting**

CAB Chair Bridges called for a motion. The CAB voted to pass the recommendation with 19 votes of approval, no oppositions, and no abstentions.

### **Administrative & Outreach (A&O) Committee Update-Kathe Golden, Chair**

CAB member Golden listed the members of her committee along with the purpose of the A&O Committee. She reminded the CAB of the next meeting time, October 29-30 at the Hilton Garden Inn in Augusta, Georgia. She also

stated voting for the CAB Chair and Vice Chair positions would be held at October's meeting. She reminded CAB members that at the January Full Board meeting, committee chair voting would take place. She stated membership packets were reviewed the day before and passed along but results would take time. She then listed the members who were eligible for reappointment.

CAB Vice Chair Simon spoke on his attendance of the Environmental Justice conference held on August 15-17 in Atlanta, Georgia, summarizing topics and presentations offered at the conference.

### **Strategic and Legacy Management (S&LM) Committee Update-George Snyder, Co-Vice Chair**

CAB member Snyder listed the S&LM members and committee focus. He stated the last committee meeting was held on August 7 and listed topics discussed. He said the committee has two open recommendations; however, additional research needs to be done before the statuses would be changed. He presented the response to recommendation 292, which was received August 15, 2012. He welcomed Mr. Holt Moran, SRNS, to begin his presentation.

### **PRESENTATION: Land Use and Facility Planning-Holt Moran, SRNS**

Mr. Holt Moran, SRNS, stated the purpose of his presentation was to provide an overview on the SRS Land Use and Facilities Planning Processes. Mr. Moran mentioned that in order to understand the planning for future use and physical development of SRS, one must understand the land, infrastructure, facilities, and natural resources. He then provided a slide with physical complexities at SRS and discussed how they relate to current missions and major tenants. He provided an overview of key land areas at SRS and steps to ensure the land remains protected. Within his presentation was a map depicting that the site of SRS is relative to the size of Atlanta, Georgia and Washington, D.C. Mr. Horan showed a video depicting SRS and site infrastructural systems showing the overlapping of the four environmental aspects. Lastly, Mr. Horan summarized how SRS will continue to support current missions but will transform through Enterprise SRS initiatives. CAB member Sheppard asked what happens to biological waste or domestic waste and if these types of waste are considered part of one of the waste units. Mr. Horan replied by saying that hazardous waste goes into a waste unit and sanitary waste goes to Three Rivers Landfill.

### **Public Comment**

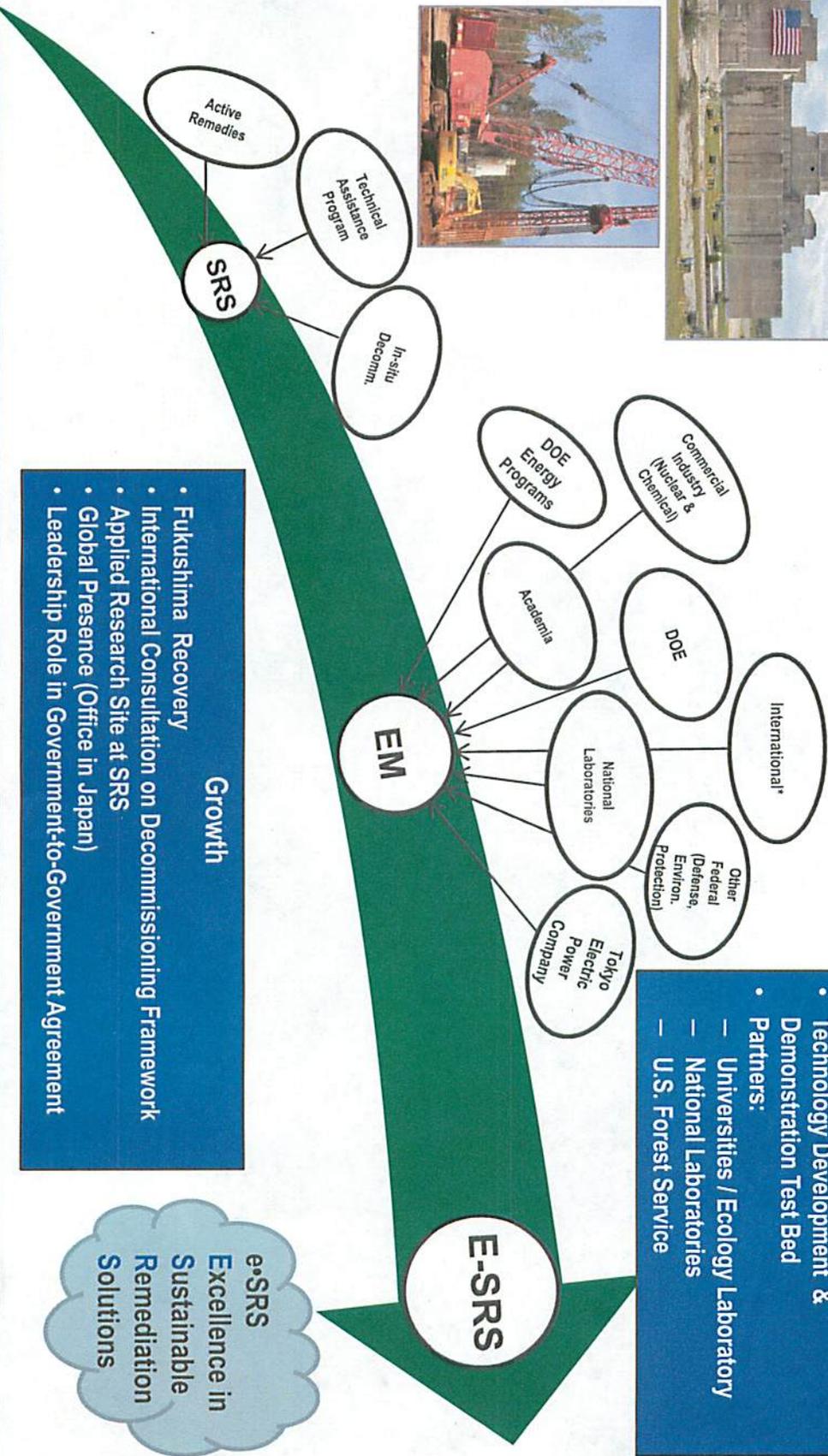
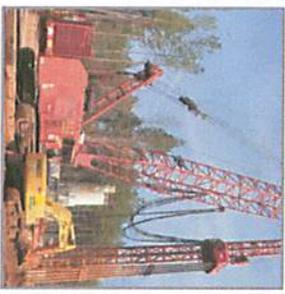
Helen Belencan, DOE-SR, responded to the question asked by CAB member Sheppard clarifying exactly how a waste unit is composed. She explained that when the initial Federal Facilities Agreement was established with SCDHEC and EPA, DOE did a survey at SRS to identify any potential locations that had potentially been contaminated from past operations. She said the survey found that 515 areas which are now referred to as "waste units." CAB member Sheppard asked how many biological waste treatment plants are at SRS. Mrs. Belencan responded by saying there is one central waste water treatment plant.

CAB Vice Chair Simon closed the meeting thanking DOE, agencies, contractors, CAB Support Team, and the public for their participation.

**~Meeting Adjourned**

# Strategic Initiative: Develop and Deploy Next Generation Clean-up Technologies

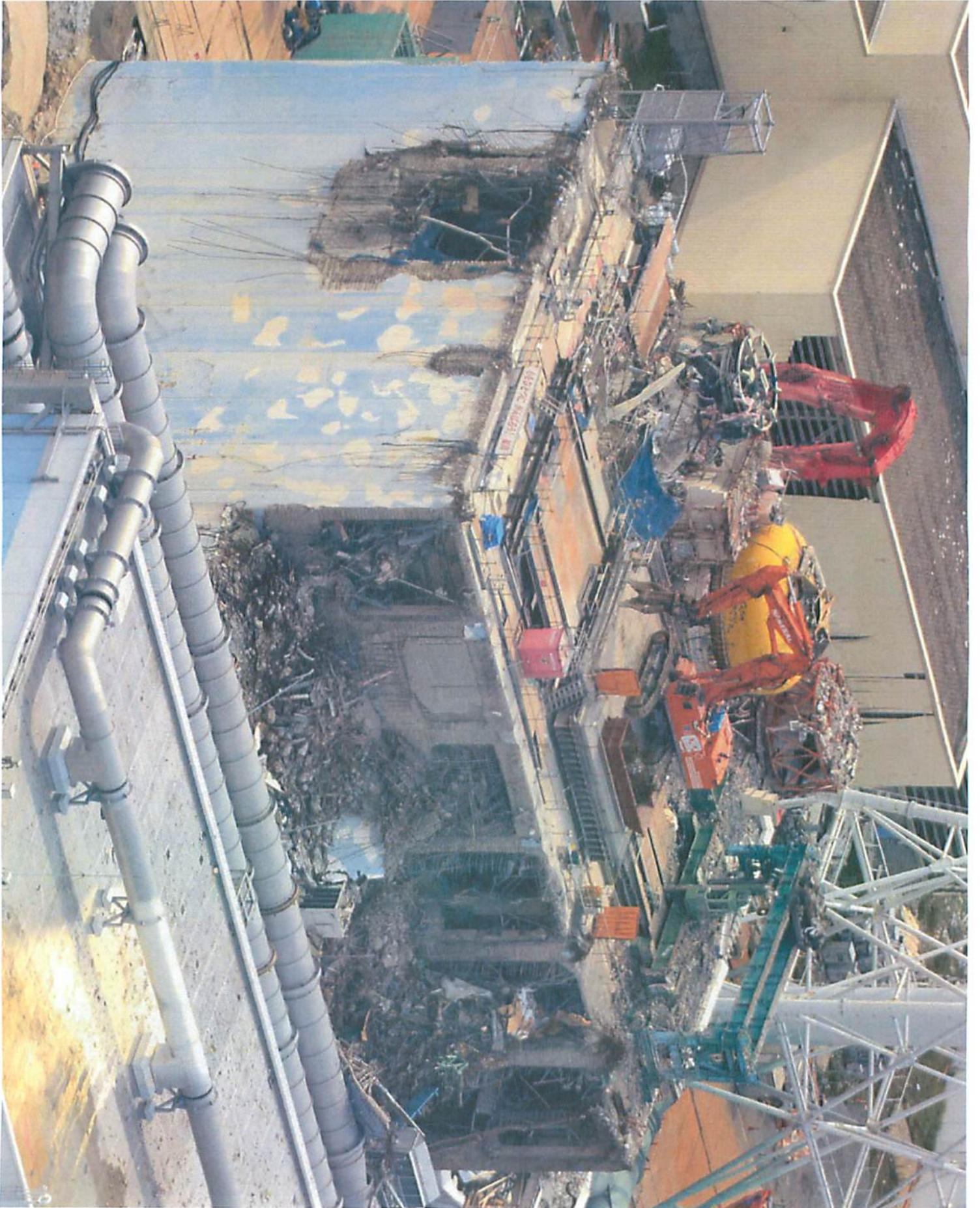
## Today



U.S. DEPARTMENT OF ENERGY



enterprise·SRS





**Finally: DOE to Answer Key Questions  
About the Plutonium Disposition  
and Plutonium Fuel (MOX) Program**

***Or Will the Obfuscation Continue?***



**Listen Carefully to the September 11 & 13 Presentations by DOE about the  
Plutonium Fuel (MOX) Program – Will Answers Finally be Given  
or Once Again Avoided?!**

- The *Draft Surplus Plutonium Disposition Supplement Environmental Impact Statement (Draft SEIS)* states in the “preferred alternative” (on page S-iv) that “The TVA does not have a preferred alternative at this time regarding whether to pursue irradiation of MOX fuel in TVA reactors and which reactors might be used for this purpose.” How is it possible that DOE can have a “preferred alternative” but TVA doesn’t have one and hasn’t even made a decision to consider MOX testing and use?
- How can any formal “Record of Decision” be made on the Draft SEIS when the “preferred alternatives” of DOE and TVA are in conflict?
- As “generic” reactors are mentioned in the Draft SEIS, what “generic” reactors are being sought to use MOX fuel? Please name the utilities besides TVA that have interest in MOX.
- Please confirm that Energy Northwest, a public utility located in the state of Washington that operates a GE Mark I reactor, has halted interest in using MOX.
- What is “Plan B” if neither the Tennessee Valley Authority (TVA) nor other utilities chose to pursue MOX or if MOX made from weapons-grade plutonium can’t be licensed by the Nuclear Regulatory Commission?
- MOX made from weapons-grade plutonium has never been tested in a boiling water reactor (BWR) nor used commercially in either a BWR or a “pressurized water reactor” (PWR), correct? What is the plan for lengthy MOX testing by TVA?
- In order that we know when plutonium will be removed from South Carolina, what is the anticipated production schedule for the MOX plant over its life-time? How long will the MOX plant operate and when will it be decommissioned? Where is the environmental analysis of MOX production?
- When will MOX be tested by TVA - so-called “lead use assemblies” (LUAs) - and when will TVA begin full commercial use of MOX? Global Nuclear Fuel, which makes uranium fuel for boiling water reactors (BWRs) such as Browns Ferry, gave a presentation on August 8, 2012 to the Nuclear Regulatory commission which stated that 16 LUAs would

be tested in a BWR from 2019-2025. (See presentation at:  
<http://www.ananuclear.org/Portals/0/GNF%20on%20MOX%20LUAs%20NRC%20meeting%208.8.2012.pdf>)

- Does NNSA agree with Global Nuclear Fuel schedule for testing “lead use assemblies” in Browns Ferry? Does NNSA agree with the NRC’s statement that weapons-grade MOX is a “new fuel form” which requires in-reactor testing?
- The 60-year licenses of the three Browns Ferry reactors expire in 2033, 2034 and 2036. If the MOX plant can’t even begin to produce BWR MOX before the LUA test is complete and evaluated - likely well after 2025 - please explain how there will be enough time to use MOX in the Browns Ferry BWRs before their 60-year licenses are up. And, how much will DOE pay TVA to test and use MOX?
- DOE said in the Fiscal Year 2012 budget request (on page 392 at <http://www.cfo.doe.gov/budget/12budget/Content/Volume1.pdf>) that “Supplying BWR MOX fuel to the Browns Ferry BWR’s would account for 50 percent of the MOX facility’s production.” Please explain how the operation of the MOX plant will be impacted if no BWR MOX can be made before the LUA test in Browns Ferry is completed, the LUAs analyzed and MOX use licensed by the NRC.
- As DOE has said in the Fiscal Year 2013 budget request (on page 461 at <http://www.cfo.doe.gov/budget/13budget/Content/Volume1.pdf>) that the MOX plant will cost \$499 million/year to operate, please explain the cost impact of not being able to produce BWR MOX until 2025 or later.
- What is the life-cycle cost of the overall MOX program and why won’t NNSA release this figure?
- Figures from DOE indicate that it is costing around \$80,000-\$10,000/kg to dispose of MOX in WIPP, which means that to dispose of 34 metric tons of plutonium would cost \$3.4 billion. What is the cost per kg of disposing of plutonium via MOX, including all associated costs? (ANA estimates that \$17.5 billion is yet to be spent on MOX!)
- What will it cost to redesign the MOX plant to place ovens in it to process weapons pits, in order to make MOX feedstock?
- What is the status of the intervention by public interest groups against issuance of an NRC license for operation of the MOX plant?
- And, most important from policy and programmatic perspectives, why did DOE refuse to answer key questions raised above in the *Draft Surplus Plutonium Disposition Supplement Environmental Impact Statement (Draft SEIS)*? If these questions won’t be answered in the final SEIS when will they be answered?

– These questions have been submitted for the record  
of the Surplus Plutonium Draft Supplemental EIS ---

# Hot waste at SRS opposed

By SAMMY FRETWELL  
sfretwell@thestate.com

Environmentalists spoke out Thursday against sending highly radioactive waste from commercial power plants to the Savannah River Site near Aiken for storage.

The federal government has been deciding what to do with spent fuel created by the nation's 104 atomic energy plants since President Barack Obama chose in 2009 to abandon the Yucca Mountain, Nev., disposal site.

One option is temporarily storing the toxic refuse at federal sites such as SRS, a sprawling nuclear weapons complex with limited public access, until a replacement to Yucca Mountain opens.

But environmentalists say interim disposal could too easily become permanent. At the very least, it could take decades before a replacement facility would open, they say. Planning for Yucca Mountain dates to the mid-80s. More than \$10 billion was spent on the project, much of the money coming

from utilities that would send radioactive spent fuel there. Utilities, which relied on ratepayers' money, now want to be reimbursed.

At Thursday's Governor's Nuclear Advisory Council meeting in Columbia, representatives of four conservation groups said South Carolina should resist any federal plan to use SRS for disposal, even if the plan is considered interim.

"For too long, South Carolina has shouldered a disproportionate share of our country's nuclear waste," said Debbie Parker, a representative of the Conservation Voters of South Carolina. "We cannot endorse any negotiations that imply consent ... for SRS to serve as an interim site for consolidation of commercial nuclear waste storage or for reprocessing."

Representatives from the state Sierra Club, the S.C. Coastal Conservation League and the Alliance for Nuclear Accountability also spoke out.

The alliance's Tom Clements said behind-the-scenes discussions now are occur-

ring among state leaders to allow the disposal in exchange for some type of jobs initiative. He did not name anyone, but said "it's time for those in on these discussions to reveal what they are up to" and tell the public.

Gov. Nikki Haley's spokesman said the final resting place for spent fuel should be Yucca Mountain. Republicans have been trying to reverse Obama's decision and open Yucca Mountain. The president canceled the Yucca Mountain project after years of complaints from Sen. Harry Reid, a Nevada Democrat, who said dumping waste in his state would hurt the environment.

Haley is "dedicated to keeping South Carolina from becoming a permanent home for this nation's unprocessed nuclear waste," spokesman Rob Godfrey said in an email to The State newspaper. "The solution to the waste problem we face is a mountain in Nevada. The experts at the Savannah River site can process and stabilize this waste, but its final home should be Yucca Mountain."

S.C. League of Women Voters also spoke against spent fuel storage and reprocessing at SRS.

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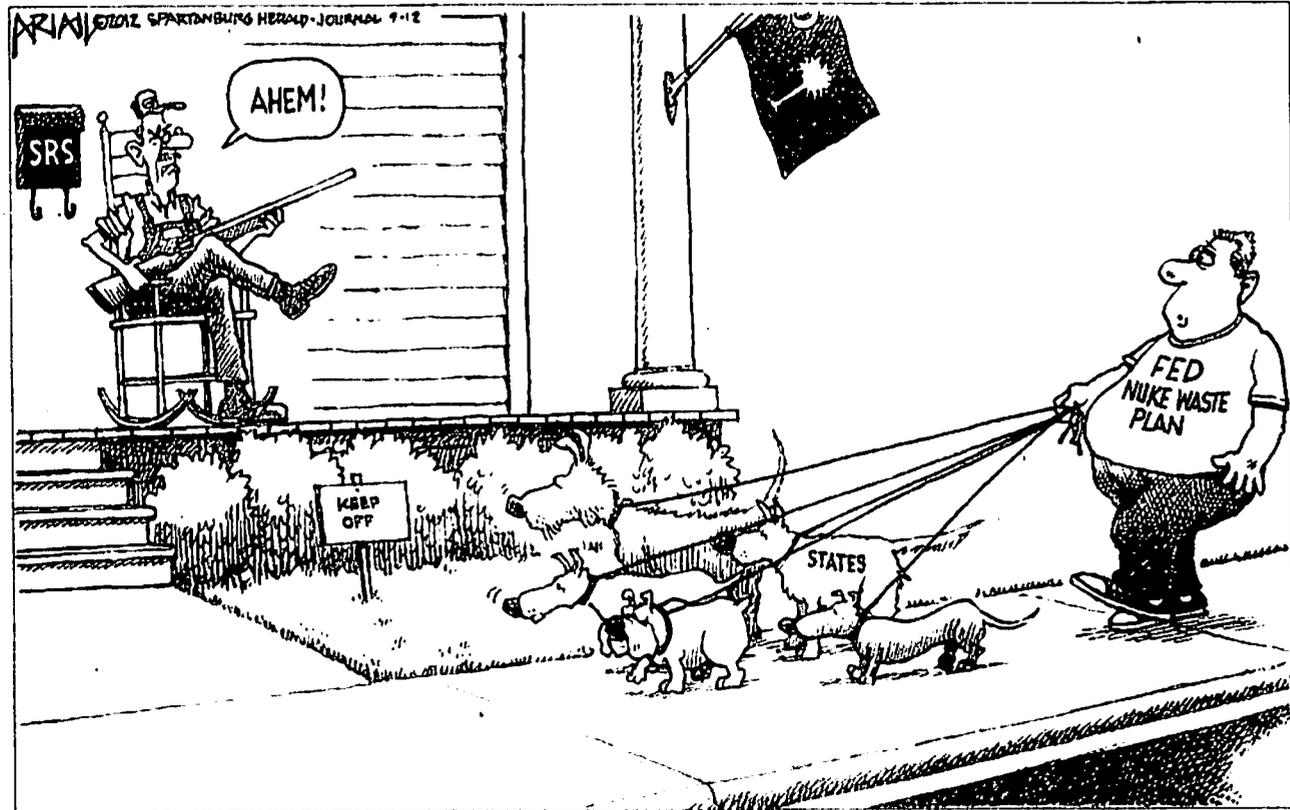
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## **SRS is not suitable for high-level radioactive waste**

### **No more nuclear waste**

*Published: Sunday, September 9, 2012 at 3:15 a.m.*

A coalition of environmental groups is correct in asking the state to resist any federal effort to send spent fuel from nuclear reactors to the Savannah River Site.

The federal government has no idea about what to do with high-level nuclear waste. It used to have a plan. In fact, it spent about \$10 billion of your money on that plan and then abandoned it. Now, it has no plan.

And when officials in Washington run out of ideas for where to put dangerous nuclear material, they usually fall back to the idea of storing it "temporarily" at the Savannah River Site. Much of the nation's plutonium from decommissioned nuclear weapons is stored at the site.

The fact that the site is located in a sensitive environment and near major population centers did not deter Washington. The fact that the facilities were not designed for long-term storage of this waste did not deter federal officials. They sent the dangerous material there, anyway.

They insisted it wouldn't stay long. They had two plans for permanent disposal of the waste. One of those plans was abandoned. The other is years behind schedule. Meanwhile, the waste sits there, posing an environmental hazard and a threat to the health of the people of this state.

And now, the federal government may want to ship spent fuel from nuclear power plants to the Savannah River Site. The state must object and do so strongly.

The truth is that there is no reason to send this waste to South Carolina. The nation has a perfect site for the disposal of this waste. It is ideally located, designed and built for the purpose. U.S. taxpayers have spent billions on its construction. It is the Yucca Mountain facility in Nevada.

But Senate Majority Leader Harry Reid doesn't want the site used. He'd rather the waste stay stored along the Savannah River. And President Barack Obama is his political ally, so Obama canceled plans to use the site.

The bottom line is that instead of using a site that is located, designed and built specifically for the purpose of storing this material, Washington may instead send it to the Savannah River Site, which is neither located, designed nor built for that purpose.

This is stupidity on a scale that only the federal government can achieve.

Gov. Nikki Haley and lawmakers must work with the state's congressional delegation to make sure that more dangerous nuclear material isn't sent to South Carolina. U.S. Rep James Clyburn should show that he is as important to the president as Reid. They must protect this state from Washington's willingness to sacrifice the health and safety of South Carolinians for petty political concerns.

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The State  
Columbia, SC  
Sept. 16, 2012

COMMENTARY

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## High-level waste

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## OUR VIEW

# Don't bring high-level nuclear waste to SRS in South Carolina

Published: September 15, 2012

S.C. must insist that high-level nuclear waste not be stored at SRS near Aiken.

If highly radioactive waste from the nation's nuclear power plants is sent to South Carolina, the probability is high that it will stay here, perhaps forever. That's why the state's residents and lawmakers need to insist that the federal government find somewhere else to store the waste.

Recently, a coalition of state environmental groups spoke out against a proposal to send spent fuel from the nation's 104 nuclear power plants to the Savannah River Site near Aiken. While the plan calls for using SRS as an "interim" storage site, past experience has shown how difficult it is to remove nuclear waste from the site once it is there.

Although SRS was not designed for long-term storage of nuclear waste, that didn't stop the federal government from sending weapons-grade nuclear materials there. In that case, the plan also was to use the facility only temporarily to house the waste, but it remains there after plans to reuse the nuclear material fell years behind schedule.

Fortunately, the U.S. has an ideal place to store the waste being kept on-site at many power plants nationwide. The nation has invested more than \$10 billion in developing a permanent storage site at Yucca Mountain, Nev.

Planning for the storage site there dates to the mid-80s. The project had been progressing on schedule when, for purely partisan political reasons, President Barack Obama chose in 2009 to abandon the site.

Obama was pressured by Senate Majority Leader Harry Reid of Nevada, who was facing a tough re-election campaign. Reid said dumping waste in his state would hurt the environment; more likely, it would have hurt his political fortune.

Politics aside, the site is ideal for the purpose. It sits in a barren part of the state north of Las Vegas where the government once conducted above-ground testing of nuclear bombs.

Rob Godfrey, spokesman for South Carolina Gov. Nikki Haley, issued a statement last week saying that Haley is "dedicated to keeping South Carolina from becoming a permanent home for this nation's processed nuclear waste."

He added that Haley believes Yucca Mountain should be the final resting place for the spent fuel.

That statement leaves wiggle room for making SRS a "temporary" storage site for the fuel with Yucca Mountain the preferred "final" resting place. But we hope the governor's office isn't playing word games and that she will oppose any plan to bring more nuclear waste to the state.

Opponents in the environmental community need to enlist state lawmakers as well as members of the state's congressional delegation to lobby against this plan.

Environmentalists last week said they believe behind-the-scenes discussions are occurring among state leaders to allow the disposal of waste here in exchange for some type of jobs initiative. Opponents challenged any leaders involved in such discussions "to reveal what they are up to" and tell the public.

The state should not be making any deals that might bring more hazardous waste to SRS. South Carolina has fought long and hard to reverse its reputation as the willing dumping ground for the rest of the nation's waste, nuclear and otherwise.

The message to Washington should be: No deals.

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# SAVANNAH RIVER SITE CITIZENS ADVISORY BOARD



P.O. Box A ♦ Building 730-B, Room 1184 ♦ Aiken, SC 29802

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September 27, 2012

Dr. David Moody, Site Manager  
U.S. Department of Energy  
Savannah River Operations Office  
P. O. Box A  
Aiken, SC 29802

Dear Dr. Moody,

On behalf of the SRS Citizens Advisory Board, I am pleased to forward to you the following recommendations adopted at our September 25, 2012 Board meeting:

- Recommendation # 293 - Remedial Actions and Clean-up of 235-F
- Recommendation # 294 - Development of Environmental Review Roadmap and Document Listing
- Recommendation # 295 - Implementation of Spent Nuclear Fuel Exchange Program with Idaho
- Recommendation # 296 - SNF Processing Credit for H-Canyon Operations
- Recommendation # 297 - Concern the Salt Waste Processing Facility Will Not Open According to the Schedule of Liquid Waste System Plan Rev. 17
- Recommendation # 298 - Trial Disposition Program for SRS High Level Waste Canisters

We anticipate a written response to these recommendations prior to our January 2013 Full Board Meeting.

Our appreciation to you and your staff for the support, information, and briefings provided that assisted us in the development of these recommendations.

Sincerely,

A handwritten signature in blue ink, appearing to read "Donald Bridges".

Dr. Donald Bridges, Chairperson  
SRS Citizens Advisory Board

Enclosures:  
Recommendations # 293-298

cc:  
Melissa Nielson, EM-3.2, DOE-HQ  
Catherine Alexander, EM-3.2, DOE-HQ  
Zack Smith, Deputy Manager, DOE-SR  
Patrick McGuire, DDFO, DOE-SR  
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The CAB's purpose is to provide advice and recommendations on environmental restoration, waste management, and related activities to DOE.

If you have questions or comments, please contact us at:  
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For more information about the CAB, visit us at <http://cab.srs.gov>

**Recommendation # 293**  
Remedial Actions and Clean-up of 235-F

**Background**

Building 235-F is a former process building at SRS primarily associated with Pu-238 processing and storage along with other isotopes of plutonium processing to a lesser extent. In recent years Building 235-F has been a low priority concern for cleanup since no process operations occur in 235-F, the building is normally unoccupied, all accountable inventory quantities of plutonium have been removed from the building, and the building is essentially “dark and dry.”

As a result of this status the Citizens Advisory Board has had little interest or involvement in cleanup plans for 235-F. However, it has recently come to light that 235-F poses a more significant risk to both off-site public and on-site workers than the CAB had an understanding and appreciation of. The heightened concern and emphasis have come as a result of Defense Nuclear Facility Safety Board) Recommendation 2012-1 dated May 9, 2012. As stated in the Safety Board’s recommendation, there are significant residual quantities of Pu-238 in the building, and this material is in a form susceptible to dispersal if subjected to a certain seismic event and a resultant fire stemming from an energized electrical line and a large combustible loading in the building.

The Safety Board’s Recommendation is summarized below:

- Immobilize and/or remove the residual Pu-238.
- Remove all transient and fixed combustibles that are not directly necessary for activities.
- Ensure all necessary electrical equipment are in a safe configuration.
- Evaluate operability of early detection and alarm systems.
- Ensure that an integrated emergency response plan is in place.
- Ensure that periodic coordinated drills in response to a simulated event at 235-F are conducted & that the drills include appropriate response actions by personnel in the adjacent facilities and construction sites.

DOE formally accepted the Safety Board’s Recommendation in a letter from Secretary Steven Chu dated July 12, 2012.

**Discussion**

While admittedly all of these events are low probability events, the substance of the Recommendation seems to suggest that this issue be dealt with more urgency perhaps than the CAB was aware of. Since this matter could impact the public and raise safety

concerns, the CAB believes that DOE needs to take a comprehensive look at the existing plans for decontamination and decommissioning of the building and reassess the present schedule for 235-F cleanup. Further, in view of comments made in the Safety Board's Recommendation, it seems prudent to take near-term immediate actions to remediate the situation.

**Recommendations:**

The Savannah River Site Citizens Advisory Board recommends that DOE reassess plans for cleanup of 235-F and place more emphasis on cleanup of the building. Specifically, it is requested that DOE:

1. Identify and implement plans for short term measures that could reduce the hazards identified in the Safety Board's Recommendation 2012-1.
2. Reassess the plans for decontamination & decommissioning of 235-F with more emphasis placed on earlier decontamination & decommissioning of 235- F.
3. Advise the CAB of other measures that could be taken to address concerns addressed in the Safety Board's Recommendation 2012-1.
4. Advise the CAB, no later than the January 2013 CAB meeting of the cost and timeline of implementing the Safety Board's Recommendation 2012-1 and how other projects will be impacted by the implementation of said Recommendation.

**Recommendation #294**

Development of Environmental Review Roadmap and Document Listing

**Background**

The environmental cleanup at SRS is a massive program estimated to cost in excess of \$60 Billion and is scheduled to last 40 years or longer. The cleanup program has been described as one of the most daunting cleanup efforts ever undertaken. The extent of the cleanup covers a wide spectrum ranging from remediation of such relatively simple matters as coal pile runoff areas to the very complex matters such as closure of waste tanks containing high level waste. The environmental documentation and review of these activities are equally complex.

The SRS staff has done a very good job of explaining the various requirements, review processes, and opportunities for public input. However, the process is still difficult to comprehend, stay informed and aware. During certain intense review periods there may be up to 10 or so topics that are being offered up for public comment. During some of the closure actions on the high level waste tanks there are numerous opportunities for public input on such topics as National Environmental Policy Act (NEPA) documents, DOE Order documents, SC Pollution Control Act, etc.

Most of the NEPA documents and hearings are related to SRS-intensive programs such as the Draft Surplus Plutonium Supplemental Environmental Impact Statement. However, this review process is exacerbated by many other documents that involve activities from other than SRS that we need to be mindful of. An example of this includes a review and input for Greater Than Class C Radioactive Waste that was offered up as possibly being disposed of at SRS. Another recent example is a NEPA review and hearing on Storage of Surplus Mercury at SRS and other sites.

**Comments**

With the complexity of the environmental review process it would be extremely useful for the public to have a roadmap of whereby upcoming environmental reviews, hearings, solicitation for input, etc. could be listed in a table and understood at a glance. Such a table could list the scope of the review, a synopsis of the effort involved, the dates for hearings and input, and the projected dates for NEPA program completion. Such a document should be issued on a periodic basis. It may be useful to issue such information on either a quarterly or a semi-annual basis. The periodic nature of the report can be determined after one or two reports have been developed.

Further, as an addendum to this table, it would be useful for the public to have a list of upcoming environmental reports that have wide interest such as annual environmental monitoring reports, Records of Decisions recently completed, etc.

The overall idea is to see the “big picture” on review topics, due dates, and what may be coming next which is of significant interest to public groups such as the CAB.

**Recommendations:**

The Savannah River Site Citizens Advisory Board recommends that DOE:

1. Develop a periodic report, with input from the CAB and the regulators as to the format, content and frequency that provides an overview of upcoming environmental reviews and provides relevant information on the particulars of each review process.
2. Develop a list of upcoming environmental reports and information soon to be issued that would be of interest to the public at large.
3. Assess if the information developed above could be used as a tool to inform the public at large.
4. Review the report on an annual basis, in conjunction with the CAB, and determine if any changes need to be made to maintain its usefulness.
5. We would ask that this would be easily accessible on the SRS website with minimal acronyms.

**Recommendation #295**  
Implementation of Spent Nuclear Fuel Exchange Program with Idaho

Background

The receipt of spent nuclear fuel (SNF) from foreign and domestic reactors is an ongoing program at SRS and has been for many years. Current planning indicates that such shipments will continue for a number of years in the future. Much of the spent nuclear fuel has highly enriched uranium (HEU).

These HEU material receipts will be stored in the L Basin pool, built in 1956, along with some existing used fuel assemblies that began arriving in the facility in 1996 as part of the National Nuclear Security Administration's Global Threat Reduction Initiative. At this point approximately 22,000 positions will be ultimately filled and awaiting disposition when disposition decisions and implementation are carried out. Most (approximately 90%) of the spent nuclear fuel (SNF) which will ultimately come to SRS (or is already here at SRS) has aluminum cladding and is considered aluminum-based fuel and can be processed in the SRS H-Canyon with the HEU recovered for reuse and the waste sent to the Defense Waste Processing Facility for disposition in the SRS Waste Canisters.

However, approximately 10% of the SNF in the SRS Storage Basins is not amenable for processing in H-Canyon and must be processed in a different manner for ultimate disposal. At one time DOE had considered the concept of removing non-aluminum based spent nuclear fuel from SRS to the Idaho DOE Site. The Idaho Site was, in turn, to send aluminum based spent nuclear fuel to SRS. This concept offers the advantage of removing from SRS SNF that cannot be processed in H-Canyon. It also offers the advantage of bringing in its place SNF that can be processed at SRS. Further, the political issues of waste location and movement have been partially addressed, and does result in "waste-neutral" exchanges between the two states.

It is not clear at this point how this SNF will be ultimately dealt with from a disposition standpoint. The decision on how to proceed in this matter is part of the larger picture on how DOE will dispose of such SNF in light of the Blue Ribbon Committee Report recommendations issued in January 2012. The Citizens Advisory Board has expressed strong support for processing the SNF through H-Canyon to recapture the remaining HEU for reuse in nuclear power plants and processing the waste in the Site Liquid Radioactive Waste Program, which is a well-established and controlled disposition pathway.

Discussion

While at this point there is still no approved disposition path for the SRS spent nuclear fuel. However, having the SNF at SRS be 100% aluminum clad strengthens the case for processing of

SNF through H-Canyon since all of the SNF would be aluminum based. In the past the CAB has strongly supported processing of the aluminum-based SNF (approximately 90%) through the H-Canyon. The increased HEU from this additional 10% increase would improve the economy of scale. It would also make less necessary considerations for extended storage using the dry storage concept.

From the standpoint of DOE this would make possible the disposition of all aluminum based SNF in an acceptable, proven manner using H-Canyon processing capability. It would permit removal of all SNF from SRS in timely, economical manner.

### **Recommendations:**

The Savannah River Site Citizens Advisory Board recommends that DOE:

1. Conduct an economic study to determine the feasibility of reinstating the Spent Nuclear Fuel Exchange Program with Idaho to include:
  - a. Evaluating both the upfront and overall costs of transportation and processing in H-Canyon vs. extended storage and disposition of SNF by some other means.
  - b. Assessing other challenges such as gaining political approval, capital funding for needed shipping facilities and containers, etc.
2. Re-examine the economy of processing SNF through H-Canyon considering that additional HEU will be recovered and made available for reuse by the commercial power industry.
3. Re-examine the advantage of having all SNF processed at SRS and not held for extended storage at SRS.
4. Provide the information developed from this study to HQ and attempt to have this information factored into the HQ evaluation of processing SNF as a disposition option for SNF.

**Recommendation #296**  
SNF Processing Credit for H-Canyon Operations

**Background**

The receipt of spent nuclear fuel (SNF) from foreign and domestic reactors is an ongoing program at SRS and has been for many years. Current planning indicates that such shipments will continue for a number of years in the future. Much of the spent nuclear fuel has highly enriched uranium (HEU).

While there has been continued uncertainty about DOE's plan for disposition of SNF, it has been the position of the CAB that Research Reactor SNF should be processed through H-Canyon with the useable HEU blended down and used in the light water power reactor program and the nuclear waste processed for disposition in the Defense Waste Processing Facility. The budgetary situation has tended to impact operational decisions. For example, maintaining H-Canyon in a safe, standby condition is projected to cost on the order of \$150 M per year, while operating H-Canyon at full capacity is projected to cost about \$170 M per year. The extra incremental cost of \$20 M per year (potential cost savings) seems to be a major factor in not fully committing to SNF processing in H-Canyon.

**Discussion**

It is not clear at this point how this Research Reactor SNF will be ultimately dealt with from a disposition standpoint. The decision on how to proceed in this matter is part of the larger picture on how DOE will dispose of such Research Reactor SNF in light of the Blue Ribbon Committee Report recommendations issued in January 2012. As noted above the Citizens Advisory Board has expressed strong support for processing the Research Reactor SNF through H-Canyon to recapture the remaining HEU for reuse in nuclear power plants and processing the waste in the DWPF, which is a well-established and controlled disposition pathway.

While other considerations may impact the Research Reactor SNF decision, there is one further option available that should be deliberated and pursued in earnest. That is considering the revenue generated from the sale of the processed and blended-down HEU and applying that funding to support the additional expenses of operating H-Canyon at full capacity.

As we understand it the money generated from the sale of blended down HEU to the power industry is returned jointly to electrical power consumers and the US Treasury "General Receipts." If, however, some of the generated revenue were applied to funding the incremental cost of operating H-Canyon it may be possible for H-Canyon to operate in such a manner that H-Canyon could pay its own way and have minimal impact DOE- EM funding picture. While such an approach will require congressional approval and will present some administrative difficulties it should still be pursued since it makes a lot of common sense.

From a practical standpoint the only available disposition pathway for this fuel is processing in the SRS H Canyon. H Canyon has adequate processing capacity and can process the fuel at essentially no incremental cost to the federal government, after sale of recovered uranium is considered.

DOE planning was to begin processing these fuels in 2010, but “administration proliferation policy concerns” cancelled processing at the last minute- with no alternate means of safe disposition being offered. The situation is unacceptable for at least three reasons:

1. Research reactor fuel continues to deteriorate and a pathway to final disposition must be addressed at an early time.
2. H-Canyon has a limited lifetime, and it will take approximately ten years to process all the fuel using H-Canyon. In the future if H-Canyon is not available, there will be no ready means for disposing of the Research Reactor SNF- resulting in an undesirable situation at SRS.
3. The L-Basin is reaching its capacity for storing research reactor Research Reactor SNF. DOE will likely request funds to expand L-Basin. These funds would be better spent by processing the SNF in H-Canyon.

Permitting the HEU-Blend down sale receipts to pay for incremental operating costs, while making good use of the processed HEU, allowing prompt and efficient disposition of the Research Reactor SNF, and providing further employment for citizens around SRS is a definite positive step forward. It should be implemented.

**Recommendations:**

The Savannah River Site Citizens Advisory Board recommends that DOE:

1. Reevaluate the desirability and economics of processing of SNF in H-Canyon considering that revenue generated could be used to offset increased operating costs.
2. Present such an option to HQ and strongly represent the schedule improvements, the saved storage costs, and the potential improved health and safety impacts.
3. Make an appeal to HQ to allow increased cost of H-Canyon full operations be funded in part by the revenues generated from the recovered uranium sales.

**Recommendation #297**

Concern the Salt Waste Processing Facility will not open according to the schedule of Liquid Waste System Plan Rev. 17

**Background**

The Savannah River Site is currently in the process of closing tanks and equipment used for earlier missions of the site. The tanks are contaminated with a variety of nuclear constituents that are remnants from the earlier uses.

The process for cleaning wastes from the tanks requires the separation of the high activity nuclear constituents from the aqueous and other contaminants. The high activity nuclear constituents are then fixed into a glass matrix in the Defense Waste Processing Facility (DWPF) and residue is encapsulated as part of the grout in the Salt Stone Facility.

The current process for separating the aqueous and nuclear materials consists of an Actinide Removal Process (ARP) and a Modular Caustic Side Solvent Extraction Unit (MCU). This facility has provided the ability to process materials from tank cleanup and provides the ability to demonstrate, refine and improve the technology. The existing processes do not have the capacity to handle the volume of cleanup materials to be generated according to the Liquid Waste System Plan Rev. 17.

In order to provide sufficient capacity to handle the required volumes a larger facility, the Salt Waste Processing Facility (SWPF) has been approved and is currently in the construction phase. Completion of the SWPF facility on time is the subject of an enforceable agreement between the Department of Energy and the State of South Carolina Department of Health and Environmental Control involving the Solid Waste Permit for Saltstone. The agreed to start-up date for SWPF is October 2015.

The CAB is concerned that technical; construction, staffing or funding issues could result in the delay of the SWPF. This would result in the failure of the DOE to meet its commitments to South Carolina and to comply with Liquid Waste System Plan Rev. 17 and slow down the disposition of high level waste.

**Recommendations:**

The Savannah River Site Citizens Advisory Board recommends that DOE:

1. Inform the CAB of any issues that could delay the startup of SWPF in accordance with Liquid Waste System Plan Rev. 17 and the agreements with the state of South Carolina
2. Include all funding required to meet the October 2015 deadline for SWPF construction, DWPF and HLW tank closure in its FY 2013, 2014, & 2015 budget requests

**Savannah River Site  
Citizens Advisory Board**

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**Recommendation #298**

Trial Disposition Program for SRS High Level Waste Canisters

**Background**

The DOE program for ultimate disposition of SRS's high level waste is at this point uncertain. The SRS canisters consisting of vitrified liquid waste in stainless steel containers are in a stable configuration; however, the next step of shipping these canisters to a federal repository is ill-defined.

The lack of a federal repository has created a need for extended storage for these canisters far beyond earlier plans and projections. This extended storage has raised concerns with the local populace and with local political leaders that SRS is becoming a "nuclear waste dump site."

Federal planning for further actions relative to disposition of both the SRS waste canisters and the SNF is awaiting a path forward to be developed primarily from a report issued by the Blue Ribbon Committee (BRC) on America's Nuclear Future in January 2012. Definitive plans by DOE, NRC, EPA and perhaps others are likely to be developed in the 2012-13 timeframe. All estimates seem to indicate that actual ultimate disposition in a repository could take many decades (some estimate on the order of 50 years).

As discussed in the report the general approach seems to be development of interim storage facilities for consolidation of SNF followed by expedited work on a final disposition repository.

There is one interesting aspect to the waste disposition program- both commercial nuclear waste and defense-related nuclear waste is addressed in the same program which will ultimately result in geological disposal.

**Discussion**

As noted many times in the BRC report there are numerous examples pointed out where considerable research and development will be needed to address a plethora of issues related to storage, shipping, potential reuse, preparation for disposition, and disposition in a federal repository.

The fact that there are two basic types of nuclear wastes (defense waste and commercial waste) offers in the view of the CAB a unique opportunity for the waste disposition planners and decision makers. Discussion on this opportunity is as follows:

- Defense waste is considerably smaller than commercial waste in quantity. Defense waste volume is approximately 10% of the commercial waste volume.
- Defense waste (particularly the waste canisters) is well prepared for ready disposition relative to the outer container (durable stainless steel cylinder), the waste form is stable (borosilicate glass), and the constituents are well-known and understood. (meets all known specifications).

- Since the Defense waste seems to be in an advanced state of preparation for disposition in a repository many of the lingering technical questions for commercial fuel do not apply to much of the Defense waste.
- The unique opportunity is that the Defense Waste with its advanced waste forms could be dispositioned at the Waste Isolation Pilot Plant (WIPP) in advance of the commercial waste forms which will require much more study and understanding.
- A Trial Disposition Program for the DWPF canisters where the canisters are placed in final disposition could serve as real learning tool in dealing with issues related to remaining wastes.
  - i. For example, approval for the canisters disposition in the WIPP could be one aspect of learning how to implement “consent-based” approval.
  - ii. Issues on shipping and transportation could be understood and addressed better.
  - iii. Numerous related technical issues could be addressed using the more advanced waste forms and applied to the lesser known waste forms.
- Such an approach offers the advantage of showing real progress on a much earlier timescale than would otherwise be possible.

In view of the uncertainties surrounding canister removal from SRS it would be a dramatic and positive measure for the DOE to develop plans for the removal of the DWPF canisters to the WIPP rather than another 30- 50 year wait for a federal repository. Further, the Trial Program would provide useful information to be applied to the more problematic waste forms and provide much earlier scheduler progress on a significant national issue.

**Recommendations:**

The Savannah River Site Citizens Advisory Board recommends that DOE:

1. Plan and execute a program for the ultimate disposition of the SRS canisters to the Waste Isolation Pilot Plant.
2. Use this program as a pilot for the overall DOE national nuclear waste disposition program to address such issues as:
  - a. Consent based siting issues
  - b. Shipping container and transportation issues.