

**Meeting Minutes**  
**Savannah River Site Citizens Advisory Board – Combined Committees Meeting**  
**North Augusta, SC**  
**July 22, 2013**

**Monday, July 22, 2013 Attendance:**

**CAB**

Thomas Barnes  
Artisha Bolding  
Dr. Donald Bridges  
Ed Burke  
William Calhoun  
Louie Chavis  
Robert Doerr  
Kathe Golden  
Jessica Grainger  
Dr. Rose Hayes- *Absent*  
Dr. Virginia Jones  
Cleveland Latimore  
Clint Nangle  
Dr. Marolyn Parson  
Larry Powell  
Dr. William Rhoten  
Earl Sheppard  
Harold Simon  
John Snedeker  
George Snyder  
Nina Spinelli  
James Streeter  
Ed Sturcken  
Christopher Timmers  
Louis Walters

**DOE**

Zack Smith, DOE-SR  
Pat McGuire, DOE-SR  
Terry Spears, DOE-SR  
Karen Guevara, DOE-SR  
Maxcine Maxted, DOE-SR  
Avery Hammett, DOE-SR  
Angelia Adams, DOE-SR  
Gerri Flemming, DOE-SR  
Doug Hintze, DOE-SR  
Jennifer Nelson, DOE-SR  
Rich Olsen, DOE-SR  
Soni Blanco, DOE-SR  
Gail Whitney, DOE-SR

**Agency Liaisons/Regulators**

Shelly Wilson, SCDHEC  
Van Keisler, SCDHEC  
Leigh Beatty, SCDHEC  
Trey Reed, SCDHEC  
Gregory O'Quinn, SCDHEC  
Rob Pope, EPA  
Kyle Bryant, EPA

**Contractors**

Amy Meyer, SRNS  
Ashley Whitaker, NOVA  
James Tanner, NOVA  
Jesslyn Anderson, NOVA

**Stakeholders**

Chuck Goergen  
Dianne Valentin  
Joe Ortaldo  
Pete LaBerge  
Tim Worrell  
Susan Wood  
Wayne Rickman  
Lehr Brisbin  
Pamela Greenlaw  
Elaine Cooper  
David Matos  
Susan Corbett  
Elke Brandes  
Laura Lance  
Sam Booher  
Clint Wolfe  
Tom Clements  
Courtney Hanson  
Susan Brooks  
Robert Gramaia  
Jill O'Donnell  
Bobbie Paul  
Annie Stephens  
Becky Rafter  
Karen Patterson  
Charles Utley  
Susan Corbett  
Michael Aiken  
David Hutchins  
Kathy Hutchins  
Liz Goodson  
Nancy Bobbitt  
Chris Hall  
Barty Simonton  
William Pirkle

CAB Facilitator, Ashley Whitaker, NOVA, welcomed everyone to the meeting. She reviewed the Meeting Rules of Conduct and reviewed the day's agenda. She reminded everyone how to access electronic copies of meeting materials through the CABNET meeting feature. She stated there were planned public comment periods throughout the meeting before welcoming CAB Chair Donald Bridges to open the meeting.

CAB Chair Bridges welcomed everyone to North Augusta, South Carolina. He briefly reminded everyone that the CAB would vote the next day on the Position Statements regarding spent nuclear fuel (SNF) and the President's 2014 budget proposal before he opened the meeting.

**PRESENTATION: Recommendation & Work Plan Update- Jesslyn Anderson, NOVA Corporation**

Ms. Jesslyn Anderson, NOVA, provided an update on the recommendation status report and Work Plan progress. She stated recommendations 304, 305, and 306 were currently open. She provided an update of the CAB Work Plan and highlighted each committee's progress so far for the year.

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

CAB member Marolyn Parson listed the FD&SR Committee members and reviewed the committee's objectives. She provided a recommendation status update, stating that recommendations 293 and 294 were open. She reviewed each recommendation before discussing key points from the June 11, 2013, FD&SR Committee meeting. She said at the meeting the FD&SR Committee discussed the Government Accountability Office (GAO) "Emergency Preparedness Report" and the "SRS Community Preparedness Information Document." CAB member Parson stated the FD&SR Committee requested a presentation concerning the "SRS Community Preparedness Information Document." She discussed the SRS external website and encouraged CAB members to continue providing input to DOE-SR on the content and functionality of the website. She mentioned that DOE-SR informed the CAB of plans to unveil a new external website; however, the website was not available at that time. She announced the next FD&SR Committee meeting would be held on August 13, 2013, and reviewed presentations scheduled for that meeting. She then introduced Ms. Gail Whitney, DOE-SR, to begin her presentation.

**PRESENTATION: Sampling and Monitoring in the Central Savannah River Area (CSRA) - Gail Whitney, DOE-SR**

Ms. Whitney, DOE-SR, said the purpose of her presentation was to fulfill a FD&SR Committee Work Plan topic by providing an overview of environmental monitoring impacts. She explained that the environmental monitoring program was comprised of two components: "effluent monitoring" and "environmental surveillance." She said effluent monitoring was the "first line of defense" to measure liquid or gas releases from stacks, pipes, or vents near or inside SRS facilities; however, environmental surveillance involved the collection of environmental samples to quantify whether the contaminants found in the effluent program had an impact on the public or environment. She stated environmental monitoring was conducted to categorize and quantify contaminants released from a facility, assess the effects, if any, to the public and the environment, and to comply with applicable regulatory standards established by EPA, SCDHEC, and DOE. Ms. Whitney explained that determining where, when, and how samples were monitored was based on contaminant characteristics, mobility, and pathways. She said contaminants could be incidentally released to the environment either through atmospheric or liquid pathways from facility operations; however, inhalation, skin absorption, ingestion, and external exposure are the principal pathways by which individuals become exposed to releases of radioactivity. She provided a diagram, which showed how individuals encounter internal and external pathways and contaminant mobility. Ms. Whitney explained that a hypothetical member of the public who potentially could receive the largest radiation dose from a facility's operations was known as a "Maximally Exposed Individual (MEI)." She explained how the MEI was calculated before she provided a diagram to represent how the MEI encountered contaminants from the air or liquid. She listed various agencies, departments, and companies who conducted monitoring in the CSRA and along the Savannah River. She displayed a composite chart for all the locations in South Carolina (SC) and Georgia (GA), where SCDHEC, Plant Vogtle, and SRS collected samples. She provided several maps to indicate specific locations where air, water, fish, sediment, and Thermoluminescent Dosimeter (TLD) monitoring samples were collected. Ms. Whitney stated non-radiological surveillance water quality parameters were analyzed in all streams, river surveillance areas, and fish samples; however, she said fish were collected and analyzed from the Savannah River to determine concentrations of non-radiological contaminants. She said the information within her presentation was located on EPA, NRC, GDNR, SCDHEC, and DOE websites. She announced that the SRS Annual Site Environmental Report (AESR) and Summary, which offered an in-depth review of SRS operations and monitoring activities, data, and results, would be available online on October 1, 2013. Ms. Whitney said SRS conducted comprehensive environmental monitoring programs in GA and SC. She said in order to quantify impacts, if any, of SRS operations on the public and environment, the SRS environmental monitoring program was reviewed annually to ensure adequate monitoring was being conducted.

CAB Vice Chair Harold Simon asked what extent Plant Vogtle monitored outside its 10 mile radius. Ms. Whitney said there were similarities and differences between SRS and Plant Vogtle's environmental monitoring programs. She said she did not want to address Plant Vogtle's responsibilities, but she explained that Plant Vogtle, like SRS, also had to quantify impacts for their operations.

CAB member Parson asked if any of the monitoring and sampling activities conducted at SRS were not required by EPA, SCDHEC, or GDNR. Ms. Whitney stated EPA and SCDHEC required the effluent monitoring program; however, the surveillance program was driven by a DOE Order.

CAB member Bill Calhoun asked if drinking water samples were collected from wells. Ms. Whitney replied "Yes."

Ms. Becky Rafter, Georgia Women's Action for New Directions (GAWAND), asked Ms. Whitney about the demographic composition of the MEI. Ms. Whitney said the MEI was a hypothetical person. Ms. Rafter asked why the comprehensive data collected in GA was significantly less than the amount of data collected in SC. Ms. Whitney said SCDHEC was responsible for conducting a program in SC, which increased the total amount of sampling. Ms. Whitney explained if SRS was moved to another state, the amount of data points would remain significantly higher because several monitoring activities were required to be conducted onsite. Ms. Rafter asked why well water was being tested in GA and not in SC. Ms. Whitney explained that SCDHEC conducted well water monitoring for SC.

CAB member Parson asked if budget constraints negatively affected the environmental monitoring program. Ms. Whitney stated that in April, some sampling efforts were suspended for a short period due to the budget; however, most of those efforts had resumed. Ms. Whitney said DOE was currently evaluating the future situation.

**PRESENTATION: Georgia Department of Natural Resources (GADNR) Update- Barty Simonton, GADNR**

Mr. Simonton, GADNR, provided a brief overview of the Environmental Radiation Program. He said the program maintained environmental radiation monitoring networks around nuclear facilities in or around GA. He also said GADNR was the lead state agency for radiological emergency response. He discussed the original composition of employees involved in the Environmental Radiation Program; however, he said currently there were four employees working with the Drinking Water Program in Atlanta and one staff member in Augusta. Mr. Simonton listed several locations where GADNR conducted monitoring efforts before he focused specifically on the Savannah River. He listed five counties in GA that were monitored before he discussed aspects of radiation monitoring with TLD's. He said there were 58 TLD monitoring stations, but in 2010, all stations were discontinued due to funding issues. He provided a picture of a cabinet, which was used to monitor air and rainwater before he said the amount of air monitoring stations were reduced to four since that was the amount that could be counted in the Mobile Radiation Laboratory. He discussed groundwater monitoring locations, which were also discontinued in 2010. Mr. Simonton stated surface water monitoring activities still occurred in Augusta and "301" locations. He provided images of a Ponar sledge, which was how river sediments were collected; however, in 2010 all sediment monitoring locations were discontinued. He discussed soil and vegetation sampling efforts, which he said were also discontinued in 2010. He said the amount of milk monitoring that was conducted after 1993, which ended in 2010. Mr. Simonton said the type, locations, and length of time sampling was conducted on deer, crops, fish, and seafood before all the monitoring types were discontinued in 2004. He explained the only monitoring conducted by GADNR around Plant Vogtle and SRS were four air samples, two rainwater samples, and two surface water samples; however, no additional samples were collected related to SRS.

CAB member Kathe Golden asked if monitoring units were still being installed at rest areas to monitor radiation. Mr. Simonton explained there were only two units at the Columbia County truck weigh station; however, the monitoring was a program for Homeland Security not SRS.

Ms. CeeCee Anderson, public, asked if GADNR performed any monitoring from the year 2010 to 2013. Mr. Simonton said air samples from the four air cabinets and rainwater samples were the only samples collected from 2010 to 2013. Ms. Anderson asked how many employees performed monitoring efforts. Mr. Simonton said there were a total of five individuals, but only three did the type of monitoring he discussed within his presentation.

CAB member Nina Spinelli asked if GADNR had contacted any public groups or organizations to help supplement funding for monitoring efforts. Mr. Simonton said no groups had been contacted.

Mr. Charles Utley, public, asked if there were any significant differences when monitoring efforts were split. Mr. Simonton said several types of

CAB member Artisha Bolding asked if anyone in management had worked to seek governmental partnerships or private foundations. Mr. Simonton replied said he was unaware of any activities at that time.

Ms. Bobbie Paul, GAWAND, thanked Mr. Simonton for his presentation. She asked if tritium was leaking downstream, how anyone would be able to tell whether the material was coming from SRS or Plant Vogtle. Mr. Simonton said GADNR could no longer differentiate; however, he said SRS and Plant Vogtle both collect sample and were able to differentiate where the material came from.

Ms. Dianne Valentin, GAWAND, asked Mr. Simonton if he felt the monitoring from the year 2005 to 2010 was sufficient enough to share with the public. Mr. Simonton said he would check about getting the materials online for the public to view. Ms. Valentin stated she understood there was an uphill battle to request funding for monitoring activities. Mr. Simonton explained that there was not a state mandate that required the monitoring to be done; however, when budget cuts occurred, value added monitoring activities were cut.

Ms. Becky Rafter, GAWAND, thanked Mr. Simonton for his presentation. She asked what percentage of the GADNR budget covered monitoring efforts. Mr. Simonton said approximately 75 to 80 percent of the budget covered monitoring efforts. Ms. Rafter asked if he knew of an Agreement in Principle (AIP) with SCDHEC for their monitoring. Mr. Simonton said as far as he knew there was an AIP between DOE and SCDHEC.

### **Administrative & Outreach (A&O) Committee Overview, Nina Spinelli, Chair**

CAB member Spinelli listed the A&O Committee members. She encouraged everyone to visit the CAB website and Facebook page before she discussed recent CAB outreach efforts. She thanked CAB Chair Bridges for presenting an overview of the CAB to the Aiken City Council and North Augusta Lions Club. She encouraged CAB members to provide the A&O Committee with contact information for organizations that may be interested to learn about the CAB. CAB member Spinelli explained the A&O Committee currently had two versions of presentations for CAB members to use when presenting to public organizations. She mentioned the CAB was accepting applications for the 2014 Membership Campaign. She reminded CAB members who were approaching their two-year term limit to reapply by sending their application to the CAB Support Team by August 16, 2013. She introduced Ms. Courtney Hanson, GAWAND, to begin her presentation.

### **PRESENTATION: Community Presentation- Courtney Hanson, GAWAND**

Ms. Hanson, GAWAND, stated the purpose of her presentation was environmental monitoring, access to information, and safe and healthy communities. She provided a map of the CSRA and focused on the GA communities surrounding SRS. She mentioned that local communities were concerned with environmental monitoring efforts, water quality, economic stability, access to information, and having a voice in decision-making processes. Ms. Hanson provided a timeline for environmental monitoring efforts that occurred from the year 1989 to 2004; however, she said GA had not received environmental monitoring funding since 2004. She said environmental monitoring provided citizens with answers regarding fish contamination, vegetation dose levels, residential wells, and tritium. She said the community was concerned with the amount of pathway exposure rates before she discussed future efforts of GAWAND. Ms. Hanson said GAWAND was working towards providing the community with a comprehensive independent environmental monitoring program for GA, easily accessible information, an epidemiological study, and answers about the impacts of more nuclear waste. Ms. Hanson said GAWAND looked forward to working with the CAB and all the communities in the CSRA around SRS.

CAB member Golden asked if GAWAND was lobbying in Atlanta to receive more state funding for monitoring efforts in GA. Ms. Hanson replied, "We work mostly with DOE within their budget in the Office of Environmental Management," but she said GAWAND was open to pursuing creative funding efforts.

CAB member Calhoun asked Ms. Hanson how much funding was necessary for annual monitoring in GA. Ms. Hanson said the last year Mr. Simonton's program was funded, it cost approximately \$300,000 dollars, but it would take much more money to provide a complete environmental monitoring program.

CAB member Louis Walters commented that perspectives of community-based organizations should be included in GAWAND outreach efforts. He asked Ms. Hanson what collaborative efforts she felt could fill the funding void. Ms. Hanson said she understood the need for community-based organizations to be included, but individuals seemed to trust independent programs better when dealing with funding.

Mr. Pat McGuire, DOE-SR, said he understood monitoring efforts had decreased in GA, but he referred to Ms. Whitney's presentation, which showed monitoring was performed in SC and GA. He said the monitoring conducted by SRS or SCDHEC showed the doses were very low. Mr. McGuire said he understood how additional monitoring could be beneficial, but overall the risk from SRS activities was low compared to other risks individuals were exposed to on a normal basis.

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

#### "The Savannah River Site Citizen's Advisory Board's Position on The President's 2014 Budget Proposal"

CAB member Ed Burke said he planned to review two Position Statements that day before he reviewed the first draft Position Statement. He explained the CAB was proposing that full funding be restored back to the Liquid Waste (LW) Cleanup Program in order to ensure safety and risk reduction.

CAB Chair Bridges asked Mr. Terry Spears, DOE-SR, if the information within the draft Position Statement was accurate. Mr. Spears replied that the information with the document seemed to be correct.

Ms. Karen Patterson, Governors Nuclear Advisory Council (GNAC), stated "We are back to ground one" regarding the budget letter GNAC sent to congressional delegations in May. She explained that Senator Lindsey Graham and Congressman Joe Wilson had both put money back into the Senate and House budgets; however, the money did not stay very long. Ms. Patterson said GNAC planned to write another letter and she encouraged everyone to write their congressmen since Congress would make the final funding decision.

#### "Position Paper for the Savannah River Site's Citizens Advisory Board On Using SRS for Interim Storage of Spent Nuclear Fuel"

CAB member Burke said the draft Position Statement was discussed at the May Full Board meeting; however, a second version of the Position Statement was drafted. He stated the WM Committee meeting held a meeting on July 15, 2013, to determine which version of the Position Statement the CAB would vote on at the July Full Board meeting. He listed various ideas he used to develop the draft Position Statement. He said since the federal government cut funding for SRS cleanup, worse funding restrictions would possibly occur in the future. He noted that the Blue Ribbon Commission (BRC) supported the idea of building an interim facility, but remained unclear about a long-term repository. CAB member Burke explained that Yucca Mountain was originally selected as the nation's repository; however, the licensing process was shut down and an alternative location was never located. He said he felt the use of a consent-based process would slow down efforts to locate a repository site, especially when DOE had been in situations where the agency was unable to complete projects on time and within the budget. He commented that DOE had become more politically driven, lacked transparency, and acted as if enforceable agreements were not enforceable. He stated he felt the amount of potential jobs created to store the nuclear fuel would be nominal and he could not imagine DOE opening any long-term programs solely for providing an incentive for storing material at SRS. He said he felt that if the commercial spent nuclear fuel was stored at SRS it would be there for several years; however, he was confident that DOE would safely execute any task it was given. CAB member Burke briefly clarified that the CAB was not opposing nuclear energy by writing the draft Position Statement. He explained when the formal vote occurred the next day, the CAB would be voting to accept the draft Position Paper or not take a position on the storage of commercial nuclear fuel at SRS. He thanked the CAB members and the public for providing their input before opening the floor for comments.

CAB member Golden stated she was scared of the risk associated with commercial SNF coming to SRS; however, because of the remarkable job DOE-SR already did safely managing nuclear materials, she felt the material would be handled as safely as possible. She said she agreed with everything CAB member Burke said within the draft Position Statement.

CAB member Parson suggested changing a sentence on the third page, which said, “The CAB is not opposed to commercial nuclear power generation.” She said she felt the sentence should be changed since the CAB had never discussed its opinion on commercial nuclear fuel. CAB member Burke appreciated her input and he suggested changing the wording to “The CAB is not taking any position on nuclear power generation.”

CAB member Clint Nangle stated he did not want SRS to be a possible “nuclear storage dump;” however, if new enterprises were not created, the future job situation would greatly decrease at SRS. He commended CAB member Burke on the amount of work placed into developing the draft Position Statement, but asked if there was a way to leave the draft Position Statement open in order for the CAB to determine what DOE or Congress had planned.

CAB Chair Bridges encouraged everyone to vote “no” on the draft Position Statement because he said it was too premature to make a final decision. He explained that the CAB could continue being actively engaged in the process if it chose not to take a position. He said he was convinced that the community would find incentives acceptable; however, he did not know what the incentives were. He said he felt the CAB should not take a position since they could potentially help with the consent-based process. He encouraged the CAB to be cooperative since not all the details had been revealed. He encouraged citizens to understand that possible storage of commercial nuclear fuel would not necessarily be a “waste dump.” He said the storage facility would be a contamination-free engineered facility that would be designed to handle potential spent fuel storage accidents and security threats. He explained he understood how different individuals had differing opinions about nuclear fuel storage, but explained that SRS had operated for 63 years, with approximately 14, 000 employees, and there had never been a nuclear related death or criticality event.

CAB member Bolding mentioned that members of the public had commented that discussing the storage of commercial SNF was not within the purview of the CAB. She asked CAB member Burke whether the concerns should be addressed. CAB member Burke explained that storage of commercial nuclear fuel was part of the CAB mission. He said any additional waste coming into SRS directly applied to the CAB, since the CAB focused on the cleanup of waste at SRS. He said he was comfortable with the CAB taking a position on the issue and encouraged the CAB to act fast since legislation was underway to begin locating interim storage locations.

CAB Chair Bridges explained if commercial SNF was brought to SRS, the current cleanup schedule and future missions could be impacted, which both topics found within the CAB mission.

CAB member Bolding agreed with CAB member Burke and CAB Chair Bridges. She encouraged members of the public to look at the CAB mission statement, particularly the line that stated, “Future land use and long-term stewardship.” CAB member Bolding also suggested a few grammatical corrections for the draft Position Statement, which CAB member Burke accepted.

CAB Chair Bridges asked CAB member Burke to consider adding a phrase to the draft Position Statement that said, “At the present time and based on available information.” CAB Chair Bridges said that adding the statement clarified why the CAB opposed storage of commercial nuclear fuel at SRS. CAB member Calhoun said he felt adding the phrase to the Position Statement meant the CAB did not take a strong position against storing commercial nuclear fuel at SRS. CAB member Burke stated he did not want to incorporate the phrase suggestion from CAB Chair Bridges.

CAB member Parson mentioned the CAB must review approved Position Statements every year. She said if the CAB voted to approve the Position Statement the next day, then the Position Statement would simply be posted to the CAB website, not sent to DOE.

Mr. Tom Clements, Friends of the Earth (FOE), said since the July 15 WM meeting, the Senate “Energy and Natural Resources Committee” scheduled a hearing for July 30, 2013, regarding the “Nuclear Waste Act of 2013.” He said even though discussions were occurring in the Senate, he was uncertain of the discussions occurring in the House.

He stated the legislation included language that would establish one or more interim storage locations; however, the legislation did not state a connection between the possible interim locations and a long-term disposal location. Mr. Clements felt the lack of an exit strategy in the legislation was a fatal flaw, which might result in the commercial SNF coming to SRS. He mentioned there was an independent spent fuel storage location in Utah, which had a license; however, regarding future long-term job creation, Mr. Clements explained that if commercial SNF came to SRS there would not be a significant increase in job creation.

### **Strategic & Legacy Management (S&LM) Committee Overview, Clint Nangle, Chair**

CAB member Nangle listed the S&LM Committee members before reviewing the committee's purpose. He provided a recommendation status update, stating that recommendation 288 was open; however, he mentioned that he and CAB member Rose Hayes had decided to close joint recommendation 302. He reviewed key points from the last S&LM Committee meeting. He mentioned the S&LM Committee planned to develop two recommendations about the importance of national laboratories and the construction of an SRS museum in Aiken. He announced the next S&LM Committee meeting was scheduled for August 13, 2013, at the DOE Meeting Center before introducing Mr. Doug Hintze, DOE-SR, to begin his presentation.

### **PRESENTATION: Budget Update- Doug Hintze, DOE-SR**

Mr. Hintze, DOE-SR, said the purpose of his presentation was to discuss the SRS budget environment and planned accomplishments for fiscal year (FY) 2013 and 2014. He said he would discuss the budget challenges for FY 2013 and anticipated challenges for FY 2014. He said the last time DOE-SR had appropriations before the start of the FY was 14 years ago. He explained even though DOE had appropriations throughout the year, if DOE did not receive appropriations, a continuing resolution (CR) would occur. He said a CR could be either short-term or long-term for the entire year; however, a CR meant Congress expected DOE-SR to operate under the budget received in FY 2012. He explained at first, it was not too bad, because FY 2012 and FY 2013 budgets were almost identical; however, due to the President's FY 2013 budget request, Senate and House markups, and sequestration, DOE-SR was unable to operate at the FY 2012 funding level at the beginning of the year. He also explained that DOE-SR received funding in the wrong "buckets" which meant DOE had to submit a reprogramming request to the Office of Management and Budget (OMB) in order for money to be shifted into the correct "buckets." He said on March 26, 2013, DOE-SR received a full year CR, but since sequestration occurred on March 1, 2013, the amount of money was reduced by 7.7 percent. He said SRS had to furlough 2500 employees for two months because it took two months to reprogram funding until the end of May. Mr. Hintze said at the end of May, based on the amount of funding received, DOE-SR determined the activities that could be accomplished throughout the remainder of the year. He said if a CR was enacted for FY 2014, it could be worse than FY 2013.

Mr. Hintze described a chart titled, "Savannah River Operations Office Environmental Management Budget." He explained in FY 2012 the Nuclear Materials, Used Nuclear Fuel, Solid Waste, and Soil and Groundwater Remediation Performance Baseline Summaries (PBS) were lumped under the "SRS Risk Management Operations," but for FY 2013 they were shifted out. He explained this meant DOE-SR was unable to shift money between those four PBS's. He discussed the other PBS's before he explained the amount of funding for categories titled "FY 2012 enacted," "FY 2013 President's request," "FY 2013 enacted," "FY 2013 with reprogramming," and "FY 2014 President's budget." He commented that sequestration was a 10-year reduction in spending, and was based on the last years projected spending. Mr. Hintze explained the significant increase in the "SRS Risk Management from Operations" amount was because in FY 2012, SRS was still using 1.6 billion dollars from American Reinvestment and Recovery Act (ARRA) funding. He also pointed out the construction of the Salt Waste Processing Facility (SWPF) was supposed to be completed in FY 2013, which was why the requested amount was significantly lower. He said DOE was able to shift money from PBS 14C SWPF and distribute it back to the four PBS's that were split from underneath "SRS Risk Management Operations." He said due to the Pension Relief Act, DOE saved approximately 70 million dollars, on the EM side, by making the necessary pension contributions; however, he explained the effects of saving on pension would show up in FY 2015 and 2016 since the relief was only for FY 2013 and 2014. Mr. Hintze listed the planned accomplishments for FY 2013 and 2014 for the entire site, PBS 11 Nuclear Materials, PBS 12 Used Nuclear Fuel, PBS 13 Solid Waste, PBS 14 Liquid Waste, and PBS 30 Soil and Groundwater Remediation. He said most of the projects would stay the same, but the amount of the project being done would change from FY 2013 to 2014.

CAB member Calhoun asked if there were any additional efficiencies that could be done. Mr. Hintze said DOE-SR was constantly trying to find efficiencies throughout all of SRS.

CAB member Bolding asked if DOE-SR anticipated more furloughs based upon the FY 2014 President's budget request. Mr. Hintze said furloughs were likely, but DOE-SR was trying to develop future plans.

Mr. Pope asked if SRS requested the correct funding to meet all FY 2014 Federal Facilities Agreement (FFA) commitments. Mr. Hintze said "yes," and the funding DOE received was the adequate funding to meet all the commitments. Mr. Pope asked if DOE requested adequate funding to meet the commitments beyond FY 2014. Mr. Hintze said DOE was not allowed to say if SRS requested more money than the President put in his budget. Mr. Pope asked what the workforce reduction looked like for the Management and Operations (M&O) and LW contractors. Mr. Hintze said he did not have those numbers at that time.

Ms. Bobbie Paul, GAWAND, asked when the first High-Level Waste tanks were closed and how long it would take to close all the High-Level Waste tanks. Mr. Hintze said the first tanks were closed in the late 1990's, tanks 18 and 19 were closed in 2012, and tanks 5 and 6 were to be closed by the end of calendar year (CY) 2014. He said there was an FFA commitment for all the old-style tanks to be closed by 2022, and the Site Treatment Plan (STP) required the remaining tanks to be closed by 2028.

### **Nuclear Materials (NM) Committee Overview, Donald Bridges, CAB Chair**

CAB Chair Bridges explained he would provide the NM Committee overview since the NM Chair, CAB member Rose Hayes, was unable to attend the Full Board meeting. He listed the NM Committee members and reviewed the committee's objectives. He provided a recommendation status update stating that recommendations 302 and 306 were open. He then listed the NM Committee meetings for the remainder of the year before he began discussing the committee's draft recommendations.

### **Recommendation Discussion**

#### "Transferring Materials in L-Basin to Auxiliary Dry-Cask Storage"

CAB Chair Bridges briefly explained the proposed recommendation before reading the three items the CAB requested from DOE. He suggested deleting the reference to the Defense Nuclear Facilities Safety Board (DNFSB) within item number three of the recommendation; however, there were no additional comments for this draft recommendation.

#### "Request for Long-Term Assessment: Disposition of Research Reactor Fuels stored in L-Basin"

CAB Chair Bridges provided a brief background of the draft recommendation. He opened the floor for comments; however, there was no additional input for the draft recommendation.

#### "Consider Nuclear Waste Management Plan for Interim Storage of Defense Waste in Yucca Mountain, Temporary Storage of Used Nuclear Fuel at Generation Sites, and Development of Technologies for Reducing Waste Volume, Radioactivity, and Half-Life"

CAB Chair Bridges stated this recommendation suggested using Yucca Mountain as the interim storage location. He read the four items the CAB was requesting from DOE. He suggested removing the term "half-life" from item number four of the recommendation because half-life could not be reduced.

CAB member Spinelli asked if the CAB should postpone voting on the draft recommendation. She said she felt the recommendation contradicted the draft Position Statement regarding storage of commercial SNF. CAB member Burke explained that the draft recommendation did not contradict the Position Statement because the recommendation was suggesting Yucca Mountain be the interim storage location. CAB member Spinelli thanked CAB member Burke for clarifying the issue.

CAB member Burke suggested removing the entire fourth item of the draft recommendation. He said the fourth item “was a totally different concept than interim storage” and was not relative to the purpose of the recommendation.

A copy of each recommendation has been attached to this document.

### **Public Comments**

Mr. Chuck Goergen, public, said he had been a resident of Aiken and previously worked at SRS. He felt that a balanced approach of the consent-based process should be considered in order for the most input to go into the process. He explained that SRS had been safely receiving and storing fuel on a global basis for nonproliferation purposes since the mid 1950’s. He said the geographical composition and technological expertise at SRS were both national assets. Mr. Goergen encouraged the CAB to support a balanced approach to the consent-based process and remain considerate of how SRS could potentially help solve the country’s used nuclear fuel challenge.

Ms. Dianne Valentin, GAWAND, stated she hoped the CAB supported the draft Position Statement since the radioactive SNF was a threat to public health and the environment. She encouraged the CAB to consider the well-being of future generations when making its final decision.

Mr. Joe Ortaldo, public, said he agreed with the statements within the proposed Position Statement; however, he encouraged the CAB to reconsider taking such a “hard stand.” He mentioned that even though the CAB had received several viewpoints, a majority of the proposals lacked key information. He commented that the lack of trust in Department of Energy Headquarters (DOE-HQ) was probably the major issue regarding the controversy about storing SNF. He said that DOE would not make a final decision on SNF storage for several years.

Mr. Pete LaBerge, public, said he recently retired from a position where he monitored the daily transportation of approximately 30 trailers, carrying hazardous materials across the country. He stated his main concern was the possible transportation of SNF to SRS. Mr. LaBerge explained there had been no release of radiation in over 3,000 shipments of nuclear waste; however, approximately 90 accidents had occurred that involved casks of nuclear waste. He referenced a study that was conducted approximately 10 years ago. He said the study speculated that over four decades, approximately 25,000 to 90,000 shipments of nuclear waste would be transported to Yucca Mountain. He said he felt the SNF should be transported once to a geological repository.

Mr. Tim Worrell, public, stated he agreed with several of the CAB’s views, but he did not think long-term interim storage would ultimately develop into a long-term repository. He said he thought the CAB had only heard a small portion of the community’s opinion since he recently had several discussions with local residents who did not seem to be overly concerned about storing commercial SNF at SRS, nor would storing the fuel hurt the local economy. He encouraged the CAB members to vote “no” on the draft Position Statement.

Ms. Susan Wood, public, explained it was too early to take a position that refused SNF. She said neither a definitive national plan nor path forward had been developed. She urged the CAB to wait and evaluate the opportunity that interim storage could create several benefits such as high quality jobs, technology development, and the continuing benefits for the economy. She explained that SRS had been an anchor for programs such as United Way and other significant philanthropic efforts. She asked the CAB to consider voting “no” on the draft Position Statement because it would enable the CAB to keep its options open towards a potential new mission for SRS.

Mr. Wayne Rickman, public, said SRS was known as one of the most important economic engines in the region and Savannah River National Laboratory (SRNL) was a world leader in nuclear chemistry. He said the decision to either accept or reject interim storage should be done when the pros and cons of the final proposal could be evaluated. He encouraged the CAB to reject the draft Position Statement so the CAB could participate in the consent-based process when all the facts were revealed.

Mr. Lehr Brisban, public, explained his history in the field of ecology. He said SRS was a safe location to store commercial nuclear fuel. He mentioned that he was amazed no one had mentioned the idea of a National Environmental Research Park (NERP) at SRS, which was endorsed in October 1999 by the Presbyterian Church.

Ms. Pamela Greenlaw, public, explained that SRNL should continue to be funded. She stated she found out that day that the SRS community included any location along the Savannah River. She said she was not convinced that there had been enough time for the entire SRS community, including downstream citizens, to provide input on the draft Position Statement.

Ms. Elaine Cooper, Sierra Club, stated she hoped future meetings could be held in the evening for citizens who were unable to attend day meetings.

Mr. David Matos, Carolina Peace Resource Center, encouraged the CAB to oppose interim storage of commercial nuclear waste at SRS. He said nuclear waste tended to remain where it was placed. He commented that “interim” really meant long-term, potentially permanent, storage of the nuclear waste.

Ms. Susan Corbett, Sierra Club, explained she felt it was never too early to say no to the idea of interim storage. She acknowledged the level of expertise at SRS; however, she said she was worried that reprocessing would be a temptation if the commercial SNF came to SRS. She addressed the issue of jobs and commented that SRS could be a hub for “green” jobs such as solar, wind, and geothermal energies instead of only nuclear jobs. Ms. Corbett addressed the legislation being written by Congress by stating how disappointed she was that the legislation did not include an exit strategy for the nuclear waste.

Ms. Elke Brandes, GAWAND, stated if there was a potential chance that SRS increased cancer, more studies should be conducted. She mentioned the study conducted by the Center for Disease Control (CDC), which Ms. Whitney referred to in her presentation, titled, “SRS Dose Reconstruction Project.” Ms. Brandes explained the report was a modeling study that calculated potential radiation effects on hypothetical families, not real people, living near SRS. She explained that an updated epidemiological study was needed to look at real people and long-term effects of cancer and other health defects from individuals living around SRS.

Ms. Laura Lance, public, said she felt local residents had not been updated on the potential health effects from SRS operating over the last 60 years. She stated she felt it would be absurd for DOE to consider adding 70,000 metric tons of radioactive waste to the existing Cold War waste stored at SRS. She said she felt the words “interim” and “jobs” were being used to mask the unknown risk and intrigue local residents of the potential project. She stated she opposed using SRS for an interim storage location.

Mr. Sam Booher, public, said he understood the issue of cleaning up the waste currently at SRS; however, he was extremely concerned with accepting waste from other states. He explained that if the CAB decided not to pass the draft Position Statement, the Board would ultimately be allowing 104 power plants to bring their 70,000 tons of waste to SRS until a final repository was found. He said he was opposed to interim storage at SRS before reminding the CAB “the government rarely keeps its promises.”

Mr. Clint Wolfe, Citizens for Nuclear Technology Awareness (CNTA), addressed transportation concerns for shipping nuclear waste. He stated the shipping casks used to transport the nuclear waste were virtually impenetrable. He stated the term “dump,” which was commonly used to generate an emotional response, was frequently used throughout that meeting; however, he commented that nuclear industry employees understand that nuclear facilities were well engineered, regulated, and protected. Mr. Wolfe encouraged the CAB to look at the South Carolina Central Cancer Registry (SCCCR) to understand more about cancer rates found near SRS. He said in order for SRS to continue being successful SRS, the CAB should consider hearing more input until the entire proposal was revealed.

**~Meeting Adjourned**

**Meeting Minutes**  
**Savannah River Site Citizens Advisory Board – Full Board Meeting**  
**North Augusta, SC**  
**July 23, 2013**

**Tuesday, July 23, 2013 Attendance:**

**CAB**  
Thomas Barnes  
Artisha Bolding  
Dr. Donald Bridges  
Ed Burke  
William Calhoun  
Louie Chavis  
Robert Doerr  
Kathe Golden  
Jessica Grainger  
Dr. Rose Hayes- *Absent*  
Dr. Virginia Jones-*Absent*  
Cleveland Latimore  
Clint Nangle  
Dr. Marolyn Parson  
Larry Powell  
Dr. William Rhoten  
Earl Sheppard  
Harold Simon  
John Snedeker  
George Snyder  
James Streeter  
Ed Sturcken  
Christopher Timmers  
Louis Walters

**Agency Liaisons/ Regulators**  
Shelly Wilson, SCDHEC  
Kim Brinkley, SCDHEC  
Van Keisler, SCDHEC  
Gregory O’Quinn, SCDHEC  
Leigh Beatty, SCDHEC  
Trey Reed, SCDHEC  
Rob Pope, EPA  
Kyle Bryant, EPA  
Martha Berry, EPA

**DOE**  
Zack Smith, DOE-SR  
Pat McGuire, DOE-SR  
Terry Spears, DOE-SR  
Karen Guevara, DOE-SR  
Maxcine Maxted, DOE-SR  
Avery Hammett, DOE-SR  
Jennifer Nelson, DOE-SR  
Soni Blanco, DOE-SR  
Gail Whitney, DOE-SR

**Contractors**  
John Gilmour, SRNS  
Jeannette Hyatt, SRNS  
Steve Thomas, SRR  
Ashley Whitaker, NOVA  
James Tanner, NOVA  
Jesslyn Anderson, NOVA

**Stakeholders**  
Dianne Valentin  
Lehr Brisbin  
CeeCee Anderson  
Nancy Bobbitt  
Ayman Fadel  
Charles Utley  
Liz Goodson  
William Pirkle  
Tom Clements  
Joe Ortaldo  
Debbie Browning  
Jill O’Donnell  
Courtney Hanson  
David Hoel  
Robert Gramaia  
Susan Brooks

CAB Chair Donald Bridges opened the meeting. CAB Facilitator, Ashley Whitaker, NOVA, led everyone in the Pledge of Allegiance, and informed meeting attendees of the public comment periods planned throughout the day. She reviewed the Meeting Rules of Conduct, the agenda, and the CABNET feature before inviting CAB Chair Bridges to begin his update.

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

CAB Chair Bridges called for discussion of the May 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 meeting minutes with 23 votes.

CAB Chair Bridges welcomed everyone to North Augusta before announcing the next Full Board meeting would be in Savannah, GA. He provided a brief update of CAB membership, attendance, and upcoming committee meetings. He spoke about the Environmental Management Site Specific Advisory Boards (EMSSAB) and said there was a conference call on June 18, 2013, which discussed extensive budget and program updates. He mentioned he provided a presentation about the CAB to the Assistant Secretary’s Environmental Management Advisory Board (EMAB) when they visited Savannah River Site (SRS) in June. He also mentioned CAB Vice Chair Harold Simon,

Mr. David Huizenga, and Dr. David Moody were in attendance for that meeting. CAB Chair Bridges explained at each Full Board meeting, different organizations would have the opportunity to provide input about cleanup at SRS; however, guidelines were established for groups that planned to provide input to the CAB. He said on July 18, 2013, the SRS Community Reuse Organization (CRO) held a Community Forum about the fiscal year (FY) 2014 budget situation. He said commended the CAB for reaching out to the community and said he thought this year had been the best year for community involvement. He said he provided a CAB update to the Aiken City Council on July 8, 2013, which CAB member Rose Hayes arranged in order to inform the local government about the CAB. He said he also provided a CAB presentation to the North Augusta Lions Club on July 9, 2013. He encouraged the CAB to continue seeking public interest groups that would like to hear about the CAB. CAB Chair Bridges said an Environmental Justice (EJ) meeting was scheduled for that night in Barnwell, SC. He informed the CAB an updated version of the CAB Waste Flow Path Chart was being developed before listing the presentations that were scheduled for that day. He briefly discussed challenges he felt would continue at SRS throughout the year. He asked CAB members to continue representing the interests and views of the people of SC and GA by doing their best job of providing input to DOE, seeking public involvement, and proposing recommendations to DOE.

CAB member Marolyn Parson asked when training would be available for CAB members who want to present to public groups. CAB member Nina Spinelli said training would be discussed at the next A&O Committee meeting.

### **Voting on Proposed CAB Position Statements**

#### “The Savannah River Site Citizen’s Advisory Board’s Position on The President’s 2014 Budget Proposal”

CAB Chair Bridges reviewed the proposed position statement before calling for a motion. The CAB approved the proposed position paper with 22 votes of approval, no oppositions, and no abstentions.

#### “Position Paper for the Savannah River Site’s Citizens Advisory Board On Using SRS for Interim Storage of SNF”

CAB Chair Bridges reviewed the recommendation and asked if there were any comments. CAB Chair Bridges called for a motion to accept the position paper. The CAB approved this position paper with 17 votes of approval, six oppositions, and no abstentions.

A copy of each Position Statement has been attached to this document.

### **Farewell Address**

Ms. Gerri Flemming, DOE-SR, took a moment to acknowledge Mr. Patrick McGuire, DOE-SR, who had served as Co-Deputy Designated Federal Official (DDFO) for the last two years. She explained that since Mr. McGuire completed his two-year term, Ms. Sandra Waisley, DOE-SR, would be filling his position. Ms. Waisley was unable to attend the meeting; however, CAB members would be able to meet her at the September Full Board meeting.

Ms. Flemming also acknowledged Ms. Karen Guevara, DOE-SR, who announced she planned to retire. Ms. Flemming mentioned Ms. Guevara had served as Co-DDFO in the past, and worked with the CAB to provide countless presentations. Ms. Flemming thanked Ms. Guevara and Mr. McGuire again for their work with the CAB.

### **Agency Updates**

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

Mr. Zack Smith, Deputy Manager, said he planned to discuss activities associated with DOE-SR that were recently included in a “Caucus Briefing” about Department of Energy- Environmental Management (DOE-EM) activities. He showed how the size of SRS compared to Atlanta, GA and Washington, D.C. He explained the integrated workforce at SRS was comprised of approximately 12,131 employees from various contractors working at SRS. He stated SRS had accomplished several risk reduction and cleanup activities and he began discussing specific accomplishments for individual programs. He explained how the first Transuranic (TRU) waste disposition campaign dispositioned approximately 7,000 cubic meters of legacy TRU waste over nine years, while American

Reinvestment and Recovery Act (ARRA) funding allowed for accelerated disposition of 5,000 cubic meters of legacy TRU in four years. He stated approximately 600 cubic meters of legacy TRU waste had already been repackaged and recertified and was awaiting shipment to the Waste Isolation Pilot Plant (WIPP). He addressed recent tank closure accomplishments stating in 2012, High-Level Waste tanks 18 and 19 were closed three months ahead of schedule. He mentioned 15 other radioactive waste tanks were in the process of being emptied and prepared for closure. He said Savannah River Remediation (SRR) continued to be successful with Liquid Waste (LW) Disposition by operating the Defense Waste Processing Facility (DWPF), which since startup in 1996 had dispositioned 3,644 canisters. He provided images of the Salt Waste Processing Facility (SWPF), which planned to be complete in December 2016. Mr. Smith said Soil and Groundwater activities allowed for remediation of 399 of 515 waste units, while 3,100 Federal Facility Agreement (FFA) & Resource Conservation and Recovery Act (RCRA) Permit commitments were met on or ahead of schedule. He listed cleanup activities that ARRA funding accomplished before discussing Nuclear Materials disposition activities. He explained the last shipment of Low Enriched Uranium (LEU) was sent to the Tennessee Valley Authority (TVA) to meet fuel source contract commitments, the deactivation plan for building 235-F was developed, and a contract was signed for receipt and processing/uranium recovery of Canadian liquids. Mr. Smith discussed accomplishments of the Biomass Cogeneration Facility and Savannah River National Laboratory (SRNL). He listed the FY 2014 planned accomplishments for waste disposition, nuclear materials disposition, and risk reduction. He stated SRS continued to demonstrate its ability to execute work safely, reduce risk, and collaborate with regulators to meet commitments.

CAB Chair Bridges asked how current budget constraints might affect plans for SRS. Mr. Smith said the out years, such as FY 2015, were the main concern. Mr. Smith explained activities would start being reduced in FY 2014 because more impacts would begin showing up in FY 2015. He encouraged the CAB to be aware of the budget; however, he emphasized that DOE-SR and contractors were consistently thinking of ways to complete projects.

CAB member Bill Calhoun asked Mr. Smith what he thought about the future of MOX and what it could mean for SRS. Mr. Smith declined to comment and said, "I would not want them necessarily commenting on our activities just because they don't work with it each day. It would not be fair for me to do that."

### **Mr. Rob Pope, Environmental Protection Agency (EPA)**

Mr. Rob Pope, EPA, briefly introduced himself since he was unable to meet the new CAB members at the May Full Board meeting. He listed recent EPA staff changes and positions that would not be backfilled due to sequestration. He said EPA was working on an issue at SRS with the A-area Ash Pile operable unit and planned to take "protective" action in the long run; however, EPA was holding discussions with DOE and SCDHEC to determine how to cleanup the ash. He said in the past he had told the CAB that a Decision Document on the A-area Ash Pile would be released soon; however, he said the Decision Document would be delayed until an agreement was reached on how to address the cleanup of the A-area Ash Pile. He addressed more budget impacts EPA was facing and stated he probably would be unable to attend at least one 2014 Full Board meeting, but he would be able to attend all the online committee meetings. He said discussions were ongoing about how current budget constraints were affecting the High-Level Waste tanks and other "big ticket" projects. Mr. Pope introduced Mr. Kyle Bryant, EPA, who discussed past and upcoming EJ meetings.

Mr. Bryant said there had been 10 EJ meetings since 2012. Mr. Bryant listed various topics and presentations that were discussed at past EJ meetings and announced the next EJ meeting would be that evening at the public library in Barnwell, SC. He mentioned Savannah State University was providing "Teaching Radiation Energy and Technology" workshops at the University of South Carolina- Aiken.

CAB member Spinelli asked how the locations of EJ meetings were chosen. Mr. Bryant explained that EPA relied heavily on community partners to provide meeting locations, but EPA tried to choose a new location for each meeting. CAB member Spinelli asked if there was a website to find information about upcoming EJ meetings. Mr. Bryant said there was not a website that listed upcoming EJ meetings because the EJ meetings were based on EPA's budget, which was unknown at that time.

Mr. Pope addressed CAB member Parson's question from the day before and stated that a majority of Ms. Gail Whitney's environmental monitoring was conducted as a requirement from a DOE Order, not an FFA or RCRA

Permit requirement. Mr. Pope explained that EPA and SCDHEC compared data from monitoring efforts; however, neither EPA nor SCDHEC reviewed the results as a technical document.

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

Ms. Shelly Wilson, SCDHEC, began her update by stating SCDHEC had reviewed seven documents since the May Full Board meeting. She said she wanted to focus on the 37 million gallons of High-Level Waste, which was the largest risk at SRS and in SC. She explained the SCDHEC cleanup process, which was found within the FFA, directly correlated with the budget. She explained that DOE, EPA, and SCDHEC used the FFA to establish long-term cleanup plans, which had milestones stretching out into the future. Ms. Wilson said that each year it was difficult to determine whether DOE would receive adequate funding to support future milestones since Congress annually appropriated funding. She explained the FFA allowed SCDHEC to determine the cleanup pace based on technical basis and risk reduction; however, the FFA required DOE to ask Congress for adequate funding in order to support future risk reduction. Ms. Wilson explained if DOE asked Congress for sufficient funding and Congress failed to provide DOE with the correct amount, SCDHEC would waive any consequences; however, if DOE did not request sufficient funding from Congress and did not meet the FFA risk reduction commitments, SCDHEC would hold DOE accountable. Ms. Wilson said for FY 2014, Department of Energy Headquarters (DOE-HQ) did not ask for sufficient funding to complete future LW cleanup milestones and commitments. She mentioned that SCDHEC thought it was unreasonable to reconfigure future milestones in order to withstand a meager budget because DOE was not “fighting” for sufficient funding.

CAB Chair Bridges asked how the budget situation would affect DOE. Ms. Wilson explained if DOE missed future LW milestones, SCDHEC could determine the milestones were missed since DOE failed to request sufficient funding. She said SCDHEC would possibly implement a “dispute resolution enforcement process,” which if appropriate, could allow for the collection of penalties, but she said once the process was complete, if anyone was unhappy with the result, they could take the case to court.

Ms. Wilson said SCDHEC felt it was appropriate for Congress to decide the funding, but it was mandatory for DOE to request adequate funding to support the cleanup milestones. She commented that she did not understand the FY 2014 budget request DOE-HQ made. She said it was difficult to understand why SRS was not given sufficient funding and also why DOE-HQ felt SRS should take the largest budget compared to other sites in the DOE Complex. She commented again how SCDHEC expected DOE to request sufficient funding to cover both the FY 2014 and future FFA commitments, especially since the FY 2015 budget preparation and budget request would happen soon. Ms. Wilson mentioned there was an FFA commitment that required DOE to remove the waste from specific High-Level tanks. She said DOE recently removed the bulk waste from tanks four and seven, but DOE would now like to refill those two tanks. She explained DOE would have to request approval from SCDHEC to refill those tanks and if DOE provided a justifiable reason to refill the tanks, SCDHEC might give approval. She said SCDHEC was deciding if DOE should refill the tanks; however, she said if DOE asks to refill the tanks, SCDHEC expected DOE to “shoulder part of that burden” by possibly bringing increased salt waste treatment.

CAB member Kathe Golden asked how long it took SCDHEC to complete the “dispute resolution enforcement process.” Ms. Wilson explained SCDHEC had gone through the process once for an “extension,” but she said depending on the specific topic, the amount of time varied to complete the process.

CAB member Artisha Bolding asked if SCDHEC had disciplinary measures if it was anticipated that a milestone would be missed. Ms. Wilson said she was working with the lawyers at SCDHEC to determine how and in what ways SCDHEC could begin to ask questions about an “anticipatory breach of an agreement.”

CAB Vice Chair Simon asked if an arbitration process occurred when milestones were missed. Ms. Wilson said there was not a third party arbitrator, but it was a tiered process of management levels. She explained that SCDHEC, EPA, and DOE must reach an agreement at one of the three levels, but if the three agencies could not reach an agreement the EPA Region 4 Administrator would make the ultimate decision.

Mr. Rob Pope, EPA, briefly described each level of the “dispute resolution enforcement process.” He said if the three parties could not come to an agreement, the EPA Regional Administrator could issue a decision; however, if either of the other two parties did not like the decision, they could appeal and the next step up would be to the EPA

Administrator in Washington, D.C. He mentioned EPA had never gotten that far in the process with SCDHEC and said he was unsure how it would work out. Ms. Wilson mentioned if SCDHEC was unhappy with the final decision, the agency could either go to court or withdraw from the FFA and pursue our other enforcement avenues.

### **Public Comments**

There were no public comments at this time.

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

CAB member Burke stated he was pleased with the discussion on the Position Statements that were approved earlier in the meeting. He welcomed Mr. John Dickenson, SRR, to begin his presentation.

### **PRESENTATION: Liquid Waste System Plan Revision 18- John Dickenson, SRR**

Mr. Dickenson, SRR, said the purpose of his presentation was to satisfy a WM Work Plan requirement and provide updates on Revision 18 of the Liquid Waste (LW) System Plan. He said the LW System Plan was an annually updated, "primary input source document" used for making decisions about specific work scope executions and the future direction of the LW Program for the next couple of years. He explained that SRR prepared the LW System Plan and submitted it to DOE for review and approval. He said DOE approved Revision 18 on June 4, 2013. Mr. Dickenson discussed a systematic diagram, which illustrated all processes and facilities within the LW system at SRS. He said the three primary outputs of the LW system were canisters of vitrified High-Level Waste that were stored for an interim period at SRS awaiting transfer to an ultimate national repository, Saltstone Disposal Units for permanent disposal at SRS, and empty and closed tanks. Mr. Dickenson said that as of June 30, 2013, approximately 37 million gallons of waste remained within 45 tanks at SRS. He addressed the status of salt waste processing at the Actinide Removal Process/ Modular Caustic Side Solvent Extraction Unit (ARP/MCU). He also said the waste vitrification process at the Defense Waste Processing Facility (DWPF) was running smoothly and had produced a record-setting 275 canisters the last FY.

Mr. Dickenson reviewed Revision 17 of the LW System Plan and discussed how each milestone within the FFA and Site Treatment Plan (STP) achieved completion on time or ahead of the required commitment date. He explained how inputs and assumptions for the LW System Plan were revised annually based on advances in technology, changes in sequencing, acceleration opportunities, cost-saving opportunities, and funding adjustments. He provided a chart titled, "DOE-EM Budget Constraints" which was shown last fall to illustrate how assumptions changed and near-term funding would remain essentially flat; however, he said without that near-term additional investment, the program could still be completed but it would take a little longer. Mr. Dickenson said the priorities for Revision 18 were to continue safe storage, hazard elimination, and risk reduction, and tank grouting and facility flushes. He said the resulting behaviors of completing the LW priorities would be to maximize salt processing, continue sludge processing, and continue cleaning and grouting tanks. He listed the specific inputs and assumptions for Revision 18, which were established in the fall of 2012. He provided a chart that illustrated how LW System Plan Revision 18 projected completion dates aligned with FFA commitments for completing bulk waste removal efforts in old style tanks. He noted that Revision 18 inputs and assumptions was the first LW System Plan that showed there were FFA commitments that were projected to be missed. He provided a similar chart for tank closure completions and FFA commitments; however, this chart also showed FFA commitments would be missed based on the inputs and assumptions used in LW System Plan Revision 18. He provided another chart to compare Revisions 17 and 18 and the FFA and STP commitments. He said the funding target for Revision 18 was essentially the same as in Revision 17; however, the delay of SWPF to October 2018 and holding the funding level, resulted in significant impacts to the projection and capability to meet existing FFA commitments. He said all the decisions SRR made were based on prioritizing activities in a way that maximized risk reduction and the pace of risk reduction with whatever funding level that was available.

CAB member Burke asked if SRR requested sufficient funding to meet targets. Mr. Dickenson replied SRR, and other contractors at SRS, did not request funding from DOE. He explained that DOE determined a funding assumption, which then was transmitted to SRR for development of the LW System Plan. CAB member Burke asked if DOE originally requested sufficient funding information or not enough funding. Mr. Patrick McGuire,

DOE-SR, stated the presentation Mr. Doug Hintze, DOE-SR, provided the day before showed how the President's budget request for FY 2014 was approximately 100 million dollars less; however, DOE-SR supported the President's request.

CAB member Burke asked if it was possible that Revision 18 was too optimistic and SWPF could be completed even further in the future. Mr. Dickenson replied that SRR did not have any contractible scope for the SWPF project; however, in the SRR contract, SRR had the ability to prepare the waste system to be ready to support SWPF. He said the start-up date for SWPF, which was included in Revision 18, was the date DOE provided to SRR.

Mr. Terry Spears, DOE-SR, said while the budget process was chaotic, the Revision 18 of the LW System Plan was the starting point based on assumptions DOE-SR made in advance and analysis conducted from current conditions. He said the LW System Plan Rev. 18 provided the basis for DOE-SR input into the budget process every year; however, DOE-SR cannot predict where the budget would end up. Mr. Spears commented there was some uncertainty in the future, but DOE-SR continued to adapt and react as necessary.

Ms. Shelly Wilson, SCDHEC, said a pace and schedule had already been established. She said it was not up to SCDHEC to be content with the amount of funding DOE-HQ decided to give SCDHEC as an allowance. She explained that if the amount of funding did not support the established pace then SCDHEC slows down.

Ms. Karen Guevara, DOE-SR, said one of the internal processes DOE-SR went through was a process that complied with an Executive Order, applicable to executive branch agencies, which demands that Executive agencies identify the funding needed to comply with Environmental Regulatory Requirements. Ms. Guevara said the FFA insisted that DOE request sufficient funding, but the FFA did not acknowledge the role of the OMB. Ms. Guevara said the Executive Office of the President looked across all the competing priorities for the federal government. She said DOE-SR put forward a compliance request to the OMB, which was how DOE felt it fulfilled the FFA requirement that the Department request sufficient funding. She said once the Executive Office of the President, through OMB, completed deliberations and the President's request was finalized, DOE fully supported the President's request.

CAB member Earl Sheppard asked what type of personally protected equipment (PPE) was used when cleaning and grouting the tanks. Mr. Dickenson said PPE for individual workers ranged from gloves, safety glasses, steel-toes shoes all the way up to a protective suit. CAB member Sheppard asked if equipment could be reused or if equipment was disposed of after one use. Mr. Dickenson explained that some types of equipment could be reused, but others equipment is used once then disposed.

CAB Vice Chair Simon asked if SRR would use the same "dispute resolution enforcement process." Mr. Pope explained SRR would have to request an extension for those commitment dates and EPA and SCDHEC would determine whether to approve or deny the request. Mr. Pope said DOE had told EPA in advance that they were going to exceed the commitment dates, but DOE had not submitted a written extension request in at that time.

CAB member Golden asked how budget submission process worked for DOE. Mr. McGuire explained that there were several budget scenarios when submitting things to DOE-HQ; however, DOE-SR submitted a fully compliant budget, with several "what if scenarios" such as an over-budget, an under-budget, and a wide variety of different targets and different levels.

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

CAB member Parson reviewed her presentation from the day before and stated the FD&SR Committee had two open recommendations. She reminded everyone of the next FD&SR Committee meeting at the DOE Meeting Center on August 13, 2013, and discussed presentations for that meeting. She welcomed Mr. Rob Pope, EPA, to begin his presentation.

**PRESENTATION: EPA's Role in the Site Remediation and Cleanup Program at SRS- Rob Pope, EPA**

Mr. Pope, EPA, began his presentation by listing the topics he planned to discuss within his presentation. He provided a brief overview of EPA and its mission before he reviewed the Comprehensive Environmental Response Compensation and Liability Act (CERCLA), which is also known as "Superfund." He said CERCLA provided authority for the federal government to respond to releases or threatened releases of hazardous substances. He mentioned a part of CERCLA called the National Contingency Plan (NCP), was a set of regulations, and procedures for conducting CERCLA response actions. He said the NCP established the risk level that triggered cleanup actions. Mr. Pope addressed Executive Order 12580, passed in 1987, which delegated DOE and Department of Defense (DOD) the responsibility to implement certain provisions of CERCLA as lead agencies. He explained that federal facilities must follow policies and procedures as defined in the NCP; however, EPA would either concur or propose another appropriate remedy. He listed all the federal facilities that were on National Priority List (NPL), specifically the DOE and DOD facilities in EPA Region 4. He explained if a facility was added to the NPL, it meant the facility was one of the worst sites to be cleaned up, and the facility was then required to have a FFA with EPA and SCDHEC. He listed various federal statutes for cleanup of federal facilities before he said SRS was added to the NPL in 1989 and its FFA was signed in August 1993. He said the FFA was between DOE, EPA, and SCDHEC, which governed the investigation and remediation program, roles and responsibilities of each party, schedules and deadlines, enforceable milestones and penalties, procedures for working together and dispute resolution. He explained aspects of SRS's FFA, which included remedial actions at SRS, ensured adherence to the NCP, CERCLA, and FFA guidance, and provided technical and procedural assistance, as well as training, guidance and information. He said EPA and SCDHEC concurrence was required to select, implement, and operate remedies, and to determine remedy success. He added that EPA was involved early in the process.

He listed members of the EPA SRS Team before he reviewed the EPA decision process for the Regional Program Manager (RPM), EPA Management, and Superfund Division Director. He said EPA ensured each remedy was constructed according to plan, achieved the objectives outlined in the Record of Decision (ROD), and was protective of human health and the environment. He said EPA regularly conducted effectiveness monitoring and Five-Year Remedy reviews. He said decisions that were made under the FFA were known as "Three Party Decisions," which were decision documents that "belonged" to DOE, SCDHEC, and EPA; however, the NCP required EPA to sign each ROD in order for it to be finalized. He explained how EPA used a collaboration approach to ensure all FFA requirements were met. He provided a list of current activities and projects before he discussed the High-Level Waste tanks at SRS. He said the actual tanks were covered by SCDHEC regulations; but once the High-Level Waste tanks exit the SCDHEC Waste Water (WW) permit and become part of the FFA, EPA and SCDHEC perform oversight functions, while the Nuclear Regulatory Commission (NRC) had a monitoring role. He stated a Proposed Plan and Interim ROD was planned for each Tank Farm. He noted that EPA was committed, along with DOE and SCDHEC, to eliminate threats associated with LW by closing High-Level Waste tanks.

CAB member Sheppard asked when the groundwater at SRS was considered to be "clean enough." Mr. Pope said the water was clean once the groundwater plumes were below the Safe Drinking Water Act's maximum contaminant level. He said there was not a specific timeframe for how long it would take to clean each groundwater plume.

CAB Vice Chair Simon asked if CERCLA was retroactive prior to its effective date in terms of cleaning up Superfund sites. Mr. Pope said "Yes."

CAB Chair Bridges asked if there was a regulatory agreement that specified Par Pond and L-Lake never be drained. Mr. Pope said an early ROD required the water level at Par Pond to remain at a certain level in order to keep the "hot" sediments covered by water; however, there was not a ROD for L-Lake at that time.

**PRESENTATION: SCDHEC Control Regulatory Oversight- Van Keisler, SCDHEC**

Mr. Keisler, SCDHEC, stated the purpose of his presentation was to explain SCDHEC's oversight roles at SRS and across SC. He mentioned that SCDHEC did not provide oversight on the storage of spent nuclear fuel (SNF) or nuclear materials because those topics were exempted by Congress. He said the four main categories of SCDHEC's environmental protections roles were protection, oversight, emergency preparedness, and improvement. He

discussed the health side of SCDHEC, and explained the Environmental Quality Control was made up of the Bureaus of Land and Waste Management, Air, Water, and Environmental Health Services. He explained what each bureau was responsible for handling before he reviewed the subject of protection. Mr. Keisler said SCDHEC used several federal and state regulations, but SCDHEC had authority for issues regarding air, water, waste, and cleanup. He said protection was accomplished by issuing permits in accordance with federal and state requirements, to ensure compliance was being met with those permits and the conditions within the permits; however, if necessary, SCDHEC had the authority to take enforcement action. He provided a list of Protection Programs regulated by SCDHEC. Mr. Keisler stated SCDHEC monitored SRS and surrounding areas to determine the impacts of SRS activities. He discussed the Environmental Surveillance and Oversight Program (ESOP), which monitored air, water, soil, sediment, vegetation, milk, fish, and game animals. He discussed aspects of emergency preparedness and said SCDHEC had a comprehensive emergency operation plan for man-made and natural disasters. He discussed improvement parts of the cleanup process, highlighting Hazardous Waste Permits and the FFA. He said the improvements for legacy waste were found within the STP. He said the STP, enabled by the Federal Facility Compliance Act, required any legacy mixed low level, TRU, and High-Level Waste to be treated in accordance with an approved schedule. Mr. Keisler said the STP also required state approval for any hazardous or radiological waste shipments proposed to SRS. He mentioned High-Level Waste, was authorized by Section 3116 of the 2005 National Defense Authorization Act (NDAA). He said any residuals remaining in SC must be under an Energy Secretary determination, in consultation with the NRC, and “a state-approved closure plan or state-issued permit.” He stated High-Level Waste was regulated under the State Wastewater Program, covered by the Hazardous Waste Permit cleanup authority, and addressed in the FFA process. He listed members of the FFA, Waste Water, and Environmental Health Services review teams. He said SCDHEC was committed to maintaining permits, inspections, oversight, and emergency preparedness. He said SCDHEC would focus on High-Level Waste treatment and tank closure, cleanup efforts at SRS, and TRU waste disposition.

CAB Chair Bridges asked Mr. Keisler if he preferred to work with federal employees or a private company on cleanup activities at SRS. Mr. Keisler replied the federal employees were easier to work with in comparison to private companies.

CAB member Louis Walters asked how the CAB could assist with the dispute between SCDHEC and DOE about meeting milestones. Mr. Keisler said the CAB could write their congressional representatives.

CAB member Calhoun asked if SCDHEC was also going to experience impacts of the upcoming budget. Mr. Keisler said several sources of income were responsible for funding SCDHEC. He said there was not one single answer, and all agencies were feeling effects of the budget.

**PRESENTATION: Agency for Toxic Substances and Disease Registry (ATSDR) Report- Carol Connell, ATSDR**

Ms. Connell, ATSDR, stated the purpose of her presentation was to discuss ATSDR public health activities at SRS. She provided a brief overview of the ATSDR, which was a “U.S. Department of Health and Human Services public health agency that investigated environmental hazards in communities and analyzed potential exposures and the effect on public health.” She said ATSDR conducted public health assessments (PHA) at sites proposed for EPA’s National Priorities List (NPL) along with other locations if requested by EPA, local or state officials, and in response to petitions. She mentioned that ATSDR responded to emergency releases of hazardous substances while also offering education to health care providers, and local residents, about hazardous substances. She listed specific activities at SRS that were conducted by the Center for Disease Control (CDC) and ATSDR. She discussed the necessary steps for how ATSDR determined if a chemical or radioactive substance was a health hazard. She said the first step was to look for a complete exposure pathway such as eating, breathing, or contacting a substance. She explained the next step was to estimate an exposure dose, which would be how much of each chemical or radioactive material a person may have come across. Ms. Connell said the last step was to compare exposure doses at SRS with past harmful doses. She provided a diagram, which represented different pathways the ATSDR evaluated at SRS. She stated ATSDR’s current PHA was released on July 1, 2013, for a public comment period, which would end on August 12, 2013. She explained the current PHA evaluated air releases and off-site exposure to the public from radioactive and chemical releases between 1993 and 2010. She provided a link where the public comment could be located and stated it was available at the University of South Carolina at both the Aiken, SC, and

Columbia, SC campuses as well as Augusta State University and Savannah State University. She informed the CAB of how to obtain more information about ATSDR's public health activities at SRS and to read the recently released PHA.

CAB Chair Bridges asked if any areas at SRS needed attention. Ms. Connell replied that most people were probably receiving exposure from coming in contact with animals from fishing and hunting.

CAB Vice Chair Simon asked how ATSDR obtained data to conduct its research analysis for the report. Ms. Connell replied that ATSDR relied on various pieces of information collected by other agencies. She said ATSDR did not conduct its own monitoring efforts.

CAB member Bolding asked if there was something in the "biological makeup" of certain fish that caused them to process the contamination differently that would allow us to consume one species as opposed to another. Ms. Connell replied that the amount of contamination magnified the higher it moved throughout the food chain. CAB member Bolding asked if fish on the lower end of the food chain were safer to consumer. Ms. Connell said yes except for catfish because they like the sediment, which contained more of a chance for bioaccumulation to occur.

CAB member Parson asked DOE-SR if a link for the ATSDR PHA could be posted on the SRS external website. Mr. Patrick McGuire said he thought it could be done. CAB member Parson also addressed conclusions within the current PHA saying that three of the conclusions required more information to analyze the "health effects from trichloroethylene, potential cancer health effects from toxic air pollutants, and asthmatics from sulfuric acid emissions in 1994." Mr. Tim Pettifor, ATSDR, explained this conclusion required more data because a large majority of the data used in the PHA were modeling results done for the air permit, which assumed maximum permitted conditions from all the permitted units. Ms. Connell explained that modeling was generally conservative, but without the monitoring to back up the modeling results, it was difficult to determine the accurate emission releases.

CAB member Walters asked Ms. Connell if anything within the PHA showed that GA did not receive fewer monitoring efforts than SC and SRS. Ms. Connell replied, "As long as I had data to look at, I would say all three of these health assessments included GA."

### **Public Comments**

CAB member Marolyn Parson made a comment as a member of the public. She said she was from Bluffton, SC, which was a city that received its drinking water from the Savannah River. She commented that residents from Savannah, GA and residents from Beaufort and Jasper County's received approximately 300 million gallons of drinking water from the Savannah River every day. She read a newspaper article about how SRS budget cuts could affect the treatment and closing of the High-Level Waste tanks at SRS. She said if the Savannah River became so contaminated the water could not be used, the area would have to be abandoned. She said she wrote a letter to her congressmen; however, she was concerned about how long the High-Level Waste would remain in the tanks. She said she was confident the EPA, SCDHEC, and DOE would work closely to meet cleanup deadlines.

Mr. Lehr Brisban, public, said he noticed Par Pond was not listed on the list of CERCLA projects within Mr. Rob Pope's presentation. He asked if Savannah River Ecology Laboratory (SREL) could be notified of the Five-year review progress. He mentioned he felt that new affordable technologies, such as satellite telemetry, could be used to begin integrating monitoring and research at SRS.

Ms. Karen Guevara, DOE-SR, stated approximately two million dollars helped fund the SREL because DOE realized the amount of leveraging involved to attract graduate students to SRS. She also mentioned that DOE currently practiced the combination of monitoring and research.

Ms. Dianne Valentin, GAWAND, said she appreciated the CAB's efforts of passing the Position Statement that opposed interim storage at SRS. She said she was confused as to why DOE would submit a budget that was shorter than what the contractor said was needed.

Ms. Karen Guevara responded that in that particular budget scenario DOE included the \$600 million dollars as part of the various budget scenario information for consideration by the Executive Branch. She said the Office of Management and Budget (OMB) received all the information from DOE, but once the President set the funding request, DOE had to support the decision. Ms. Shelly Wilson, SCDHEC, said she understood the process; however, she was curious if DOE was responsible for making the final budget determination to decrease the SRS budget by \$100 million dollars.

Ms. Guevara explained that every site in the EM Complex submitted various budget cases and the DOE officials made certain recommendations; however, the final deliberation occurred in the OMB. Ms. Guevara explained that DOE had an appeal process for when OMB provided budget decisions; however, ultimately the executive office of the President decided the budget. Ms. Wilson said she understood the process was “within the federal family,” but said the SCDHEC Federal Facility Agreement pinned the responsibility on DOE.

CAB member Artisha Bolding asked about the versions of the budget that were submitted to OMB and given back to DOE-SR. Ms. Guevara stated DOE-SR submitted several budget scenarios or “spreadsheets” to OMB. Ms. Guevara said there were situations that applied to “current-year” and “out-year” EM compliance; however, per the guidance given to DOE-SR, all the necessary information was provided to the OMB.

Mr. Rob Pope, EPA, addressed Mr. Brisban’s question about whether or not Par Pond was included within the Five-Year review. Mr. Pope replied that Par Pond was part of the Lower Three Runs Integrator Operable Unit (IOU), which was included within the Five-year review. Mr. Pope said he would share Mr. Brisban’s suggestions to reach out to SREL with the Five-Year Review project team.

CAB member Ed Burke asked if the various versions of the budget, which were submitted to OMB, contained sufficient funding for SRS to remain compliant with the FFA. Ms. Guevara explained that not all the scenarios contained sufficient funding because the variance in scenarios sometimes precluded the ability to request sufficient funding. Ms. Guevara said DOE-SR provided the OMB with spreadsheets from various scenarios so OMB could understand exactly what was missing from each scenario DOE-SR was requested to provide.

### **Administrative & Outreach (A&O) Committee Overview- Nina Spinelli, Chair**

CAB member Spinelli thanked everyone for attending and reviewed her presentation from the day before. She encouraged everyone to attend live meetings and reminded CAB members to encourage friends to apply to the CAB. She then asked each Committee Chair to provide a brief summary about what they do for their committee to the CAB Support Team for the upcoming Board Beat Newsletter.

### **Nuclear Materials (NM) Committee Overview- Donald Bridges, CAB Chair**

CAB Chair Bridges suggested going ahead and voting on the proposed recommendations from the day before.

### **Recommendation Voting**

#### “Transferring Materials in L-Basin to Auxiliary Dry-Cask Storage”

CAB Chair Bridges suggested a few grammatical corrections for the draft recommendation before he called for a motion. The CAB approved this recommendation with 22 votes of approval, no oppositions, and no abstentions.

#### “Request for Long-Term Assessment: Disposition of Research Reactor Fuels stored in L-Basin”

CAB Chair Bridges called for a motion to accept this recommendation since there was no further discussion. The CAB approved this recommendation with 23 votes of approval, no oppositions, and no abstentions.

#### “Consider Nuclear Waste Management Plan for Interim Storage of Defense Waste in Yucca Mountain, and Temporary Storage of Used Nuclear Fuel at Generation Sites

CAB Chair Bridges reviewed the draft recommendation. CAB member Bolding suggested changing “plan” to “guidance” in item number three of the draft recommendation. The CAB approved this recommendation with 23 votes of approval, no oppositions, and no abstentions.

A copy of these recommendations have been attached to this document.

**PRESENTATION: Dry Storage of SRS Foreign Research Reactor (FRR) and Domestic Research Reactor (DRR) Used Nuclear Fuel Update- Maxcine Maxted, DOE-SR**

Ms. Maxted, DOE-SR, said the purpose of her presentation was to provide an update about dry storage of Used Nuclear Fuel (UNF) as requested by CAB member Rose Hayes. She provided a copy of the “SRS Waste and Material Flow Path” to illustrate L-Basin’s location at SRS. She showed several pictures of commercial transfer and dry cask storage systems. She discussed the Shielded Transfer System (STS) and explained how the system enabled workers to handle fuel stored in L-Basin. She also showed pictures of vertical storage systems and horizontal commercial storage facilities such as the Three Mile Island waste, which was stored horizontally at Idaho National Laboratory (INL). Ms. Maxted explained that Savannah River Nuclear Solutions (SRNS) performed a study in September 2012 to determine the need for a “pilot case where casks were instrumented for data collection on fuel conditions and cask atmosphere.” She said DOE-SR needed to develop a system that would work for all the different fuel types; however, before a system could be developed, DOE-SR had to determine how dry the fuel needed to be to ensure there was no hydrogen build up. She said the conceptual strategy included a research phase, where various types of fuel were placed into concrete casks and monitored for two years to determine if the results of hydrogen generation matched results from available models. She said the three-phase conceptual study was a “confirmatory analysis” study DOE-SR would be conducting to ensure the Foreign Research Reactor (FRR) and Domestic Research Reactor (DRR) fuel stayed dry and had no hydrogen build-up. She said the conceptual strategy program demonstrated the scientific basis for extended storage and established safe, secure pad storage of fuel in a “road ready” condition.

Ms. Maxted discussed the individual phases of the conceptual strategy stating the total estimated cost for the project would be \$1.3 billion dollars. She said the storage pad would contain approximately 151 Concrete Storage Overpacks containing approximately 748 canisters. She provided an overview of the commercial nuclear dry storage industry, which had used dry storage casks since the early 2000s for SNF. She discussed the information notice released by the Nuclear Regulatory Commission (NRC) in April, which identified galvanic corrosion at Peach Bottom Atomic Power Station and efflorescence with the Three Mile Island waste at the INL. She stated that periodic monitoring efforts such as the NRC information notice helped ensure dry storage systems performed the intended functions. She showed pictures and described the effects of galvanic corrosion and efflorescence before she said dry storage was an option being evaluated for the FRR and DRR UNF at SRS; however, no decision about dry storage had been made.

CAB member Calhoun asked how France handled its nuclear waste. Ms. Maxted said she believed a majority of its fuel was reprocessed through the AREVA plant.

CAB member Tom Barnes asked where the Peach Bottom Atomic Power Station was located and why it was important hydrogen was not generated within dry storage systems. Ms. Maxted said the facility was located in Pennsylvania and that too much of the gas could result in a pressurization issue.

CAB member Ed Burke asked how hot the materials stored underwater in L-Basin were. He also asked how long the material needed to cool before it could be removed from the cooling pools. Ms. Maxted said she would research an answer to his question.

CAB Vice Chair Simon asked if the aluminum clad and the zirconium and stainless steel materials would be removed from L-Basin first if dry storage occurred. Ms. Maxted said, “Yes” and the intent would be to remove the stainless steel zirconium first because of the commercial experience with those fuels; however, if the fuel bundle degraded it may have to wait until an isolation system was available so the fuel could be “over packed” into a safer configuration before the fuel was actually dried.

CAB member Parson asked if each canister cost one million dollars and if that price was a reasonable cost for dry storage. Ms. Maxted said CAB member Parson had figured the amount correctly and explained that dry storage was expensive; however, Ms. Maxted said the annual cost for L-Basin was \$40 million dollars.

### **Strategic & Legacy Management (S&LM) Committee Overview- Clint Nangle, Chair**

CAB member Clint Nangle reviewed his presentation from the day before. He provided a brief recommendation status update before announcing the next S&LM Committee meeting was scheduled for August 13, 2013. He said the S&LM Committee was developing draft recommendations on the SRS Heritage museum and the importance of SRNL. He welcomed Ms. Karen Guevara, DOE-SR, to begin her presentation.

### **PRESENTATION: Enterprise SRS Fukushima Initiative- Karen Guevara, DOE-SR**

Ms. Guevara, DOE-SR, stated the purpose of her presentation was to fulfill an S&LM Committee Work Plan topic by providing an update on Fukushima support as well as other aspects of the Next Generation Cleanup Technologies Initiative. She addressed the Enterprise SRS vision, which was to use intellectual and physical capabilities to address national and global challenges, such as safe clean energy, safeguarding and securing nuclear materials, maintaining national security, a clean environment, and leveraging science efforts. She listed the 12 specific initiatives of the Enterprise SRS vision before discussing a diagram depicting the current Savannah River Site (SRS) and Environmental Management (EM) missions, which she said ultimately created the vision for Enterprise SRS. She listed various growth opportunities of the Next Generation Cleanup Technologies Initiative, which included “Fukushima recovery, international consultation on decommissioning framework, applied research site at SRS, global presence, and leadership role in government-to-government agreement.”

Ms. Guevara addressed the first growth opportunity by explaining that various strategies of the Fukushima recovery efforts attempted to develop and deploy cost effective remediation alternatives. She said that in March 11, 2011 an earthquake and subsequent tsunami damaged the Fukushima Daiichi Nuclear Power Station, which resulted in an airborne release of radioactive material that settled and caused contamination of a large land area within the Fukushima Prefecture and extending to adjacent prefectures. Ms. Guevara said the Tokyo Electric Power Company (TEPCO) was responsible for on-site cleanup of the Fukushima Daiichi Nuclear Power Station; however, Japan’s Ministry of the Environment was responsible for decontamination of lands beyond the power station. She listed the overall remediation efforts before she discussed Fukushima Recovery. She provided a chart, which discussed the successful development and deployment of cost effective remediation efforts. Ms. Guevara said DOE had successfully completed its first six-month contract with TEPCO and a second contract was being finalized. She provided an update of “international consultation on decommissioning framework” by saying since DOE was familiar with on-site decommissioning and disposal options, they had been working closely with the International Atomic Energy Agency (IAEA) to develop international decommissioning standards. She also said a Trilateral Nuclear Energy Dialogue in May 2013 among Korea, Japan, and the United States.

Ms. Guevara continued her presentation by stating that SRS was EM’s “applied field research site for groundwater,” before reviewing several nuclear and chemical innovative technologies being developed and deployed at SRS. Ms. Guevara then explained that SRS attempted to establish a higher global presence in Japan by providing on-the-ground expertise from an “Embassy Science Fellow,” and arranging efforts between SRNL and Pacific Northwest National Laboratory (PNNL) to create specific remediation solutions for Fukushima cleanup efforts. Ms. Guevara provided a “Rhizatron” video before mentioning that SRNL would host a representative from the Fukushima region in early September to discuss advances in monitoring and cleanup technologies. She stated various government-to-government agreements were developed with China, Russia, and Japan. She said progress had been steady and that SRS had become a key participant in many DOE and EM international activities and continued to be positioned to assist Japan in the cleanup of Fukushima. Ms. Guevara said SRS remained positioned to assist to Japan in the cleanup of Fukushima and the surrounding countryside while the Embassy Science Fellow participation delivered contacts and a venue with the Government of Japan for proposing SRS expertise and technology in bioremediation.

CAB Chair Bridges asked if Ms. Guevara thought expanding SRNL beyond the EM realm was possible. Ms. Guevara said SRNL was receiving funding from other sources. Mr. Fellingner said approximately 65 percent came from other sources and 35 percent came from EM.

CAB member Golden asked if DOE was able to keep the money it was earning. Ms. Guevara said that the SRNL had the “work for others provisions” and in fact will get to keep the funding dollars for their work with Fukushima.

CAB member Burke asked Ms. Guevara how long she thought it would take for upcoming technologies, such as small modular reactors (SMR) to be ready for commercial launch. Ms. Guevara said commercial use of those technologies was very early on.

CAB Vice Chair Simon asked how increased helium 3 supply and tritium were related. Ms. Guevara said as tritium decayed, it produces “helium three”. She said right now, the helium three was only vented because our interest was in the tritium; however, there was a market for helium three since there are very few ways to produce it nationally.

CAB member Jessica Grainger asked what the major changes were between the completed TEPCO contract and the contract being finalized. Mr. Fellingner said the first contract was developed to determine the challenges TEPCO was facing for onsite cleanup and allowed SRNL to provide recommendations on how the U.S. lab system could help with the cleanup. He said the second contract was incorporating SRNL’s suggestions while also contracting SRNL for some of the cleanup work.

### **Public Comments**

Ms. CeeCee Anderson, public, commended the CAB Support Team on a successful meeting. She said she was concerned that the waste at SRS would continue threatening the public and environment. She asked how current and new employees who worked with the High-Level Waste would be trained. She said she appreciated the presenters from the meeting for keeping her aware of current dates and deadlines.

Ms. Dianne Valentin, GAWAND, thanked the presenters for providing informative information within their presentations. She said she really enjoyed Ms. Guevara’s presentation for sharing all the innovative and forward-thinking efforts being done at SRNL.

Mr. Lehr Brisban, public, explained that ecologists had recently discovered a unique breed of dog after studying “fur-bearers” at SRS. He applauded the CAB for taking an interest in national laboratories and said he appreciated having the ability to speak at the meeting.

Ms. Courtney Hanson, GAWAND, thanked the CAB for considering the community’s concerns regarding the issue of interim storage at SRS. She said she appreciated GAWAND having the opportunity to present the day before.

Mr. Rob Pope, EPA, reminded everyone of the EJ meeting that night at the public library in Barnwell, SC. CAB member Spinelli asked when the next EJ meeting would be held. Mr. Pope explained the next meeting was not scheduled at that time since issues with end of the year funding were unknown.

CAB Chair Bridges wished Mr. Pat McGuire a brief farewell as his rotation as a Co-Deputy Designated Federal Official (DDFO) ended. He also wished Ms. Karen Guevara best wishes as she planned to retire from DOE. He applauded CAB member Burke for all his hard work and dedication on drafting the Position Statement opposing interim storage at SRS. He lastly thanked the CAB Support Team for the meeting arrangements and said he looked forward to seeing everyone in September.

**~Meeting Adjourned**

## The Savannah River Site Citizen's Advisory Board's Position on The President's 2014 Budget Proposal

### DRAFT Document for Review by the CAB

The Savannah River Site began operations in 1952 producing various materials to support the nation's Defense Department in its development of a nuclear weapons program. The site also developed a variety of nuclear materials for other uses including medical isotopes and the space exploration program. The various projects provided essential support for our national defense, research and other programs and the community benefited through growth and quality of life. The local community has always strongly supported the Site and the Site has been a valued member of the community.

The mission of the Savannah River Site has changed from production to cleanup. Cleanup includes waste materials remaining from years of nuclear production and other sources such as foreign research reactor materials.

The materials to be cleaned up include 37 million of gallons of liquid and solid (sludge) wastes stored in aging carbon steel tanks. Some of these date back more than 50 years. Similar tanks have been discovered leaking in Hanford Washington. The waste in the SRS tanks has been described as the most hazardous environmental risk in the State of South Carolina. Leaks from these tanks could potentially contaminate the ground water and get into the Savannah River which is the source of the drinking water for communities down river of SRS including Savannah.

The Liquid Waste System Plan Rev 17 calls for emptying and operationally closing the remaining tanks by 2028. The process for cleaning a tank consists of removing the bulk of the nuclear waste from the tanks treating and stabilizing this waste, and with the consent of regulators grouting the tanks and any small residual levels of waste in the tanks with grout.

The cleanup of the tanks is the subject of Enforceable Agreements with the State of South Carolina and the U.S. Environmental Protection Agency. The Public expects the Department of Energy to meet the commitments that have been made.

The most recent version of the President's Budget Request (PBR) for 2014 calls for the elimination of \$106 MM from SRS's Liquid Waste Disposition Program. The impacts of the budget cuts include:

1. Forgoing the increase the treatment capacity of ARP / MCU by the planned 300%
2. Reducing the production of vitrified canisters by 67% from almost 300 / yr. to 100 per year
3. Delaying the construction of Saltstone facilities to stabilize the extracted water
4. Delaying development of storage for glass canisters and additional infrastructure to further increase salt waste treatment capability

The net effect of this budget cut, if it is reflective of future budgets, will be to delay the completion of the liquid waste mission at SRS by 10 years beyond the current commitments to the State of South Carolina and the people of the region. The \$106M cut in the budget results in a 67% reduction in the progress in cleanup. There is no reason to believe that if these cuts are made now, that the needed

funding will be restored in the future. It is also clear that the total project costs will be much higher if the program is delayed than if it is completed on schedule.

Even if funding is restored in future years, the setbacks to the Liquid Waste program due to FY 14 reductions will make it difficult if not impossible to be able to meet the commitments that have been made in the Enforceable Agreements. Most critically, the citizens of South Carolina and Georgia will be placed at increasing risk due to the failure of the tanks that have already exceeded their useful life. The costs of remediation if a tank failure occurs will far exceed the short term savings. The remediation costs will be in addition to the higher program costs due to a delayed schedule.

The Savannah River Citizen's Advisory Board strongly believes that full funding should be restored to the Liquid Waste Cleanup program. The budget restoration makes sense in the financial long term and from a safety perspective for the people of the region.

**Position Paper for the Savannah River Site's Citizens Advisory Board On Using SRS for interim Storage of Used Nuclear Fuel**

**DRAFT Document for Review by the CAB**

In 1945 the nuclear age began with the first manmade nuclear explosion at White Sands, New Mexico late in Second World War. By 1958 the technology had progressed from the bomb to power generation with the first commercial nuclear power plant opening in Shippingport, PA.

The Savannah River Site began operations in 1952 and has continued until today successfully pursuing various missions including heavy water production, plutonium/uranium separation, and the production of isotopes required for the space exploration program. Current missions include vitrification and storage of spent reactor fuel and other wastes for eventual disposal in a deep geologic repository and a new mission to convert plutonium nuclear bombs to fuel for commercial nuclear reactors in the Mixed Oxide (MOX) program. In 1981, an environmental remediation program was begun to clean-up the environmental contamination of the site created by earlier missions. The clean-up mission included safely decontaminating and decommissioning unneeded equipment and processing the contents in to a safe state a safe state for disposal in a repository.

By the 80's it was recognized that the safe disposal of nuclear wastes from both commercial and defense sources was a national priority. The Nuclear Waste Policy Act (NWPA) of 1982, created a timetable for the creation of a permanent underground repository. The permanent repository was slated to begin receiving commercial and defense wastes by the middle of the next decade. The responsibility to site, construct and operate the repository was given to the Department of Energy (DOE). A fee was imposed on nuclear power generators to support the creation and operation of the repository.

The NWPA called for DOE to make recommendations, by 1987, for two deep geologic repositories. In 1987 the act was revised to require DOE to consider only Yucca Mountain as the repository site. In 2002 President Bush designated Yucca Mountain as the repository site and, by 2004, all legal channels for overturning the decision had been exhausted. Work to license the site began.

In 2010 President Obama ordered work on the licensing process for Yucca Mountain to cease and all funding for licensing was withdrawn. No scientific or safety reasons were given. The decision was described by the General Accounting Office (GAO) as a political decision.

President Obama created and tasked a Blue Ribbon Commission on America's Nuclear Future (BRC) to find alternatives to Yucca Mountain. The BRC issued its final report in 2012, including among its recommendations:

- a. The United States should proceed promptly to develop one or more consolidated storage facilities as part of an integrated, comprehensive plan for safely managing the back end of the nuclear fuel cycle. An effective integrated plan must also provide for the siting and development of one or more disposal facilities.

- b. Ensure that all near-term forms of storage meet high standards of safety and security for the multi-decade-long time periods that they are likely to be in use; active research should continue on issues such as degradation phenomena, vulnerability to sabotage and terrorism, full-scale cask testing, and other matters.
- c. The processes used to develop and implement all aspects of the spent fuel and waste management system should be science-based, consent-based, transparent, phased, and adaptive. They should also include a properly designed and substantial incentive program
- d. The United States should undertake an integrated nuclear waste management program that leads to the timely development of one or more permanent deep geological facilities for the safe disposal of spent fuel and high-level nuclear waste

The nation now finds itself in a situation where the Blue Ribbon Committee is recommending that the nation promptly proceed to commence consolidated interim storage designed for multi-decade use. The program to develop a permanent, deep geologic disposal facility is only to be developed on a "timely" basis. The 2013 DOE response to the BRC recommendations, Strategy For The Management And Disposal Of Used Nuclear Fuel and High-Level Radioactive Waste, states that over the next ten years the Administration currently plans to implement a program that "Makes demonstrable progress on the siting and characterization of repository sites to facilitate the availability of a geologic repository by 2048".

The need to have a deep geologic repository was identified in the 1982 NWPA and the initial target date to begin accepting wastes was 1995. At the time president Obama took office (2009), the opening date for the repository had already been delayed until 2022. No progress on developing a repository has been made during the subsequent four years, despite the Congressional Act requiring the development of a deep geologic repository much earlier. This delay of more than two decades is not unprecedented for projects managed by the Department of Energy.

The Salt Waste Processing facility currently under construction at SRS was approved in 2001 with an initial completion date of 2009. Recently the completion date was moved from 2015 to 2018 and this date is in question. This delay is despite an enforceable agreement with the State of South Carolina that requires the facility to be completed by 2015. The Mixed Oxide Fabrication Facility was approved in 1999 with a completion date of 2007. Current projected completion date is 2018 and this date is questionable. In addition to being well behind schedule, these projects are billions of dollars over the original cost estimates.

There is no data supporting an assumption that a repository superior to Yucca Mountain will ever be identified. In addition, the \$13 billion dollars already spent to build the Yucca Mountain facility will be totally lost if a different site is selected. Considering the current national debt and budget deficit, it is unlikely that adequate funding will be available. Finally it is reasonable to assume, based on the DOE's track record, that there is no commitment to a date now 35 years in the future and even congressional mandates and enforceable agreements with the states will not force DOE to meet their commitments.

The Savannah River Site Specific Advisory Board would like to make clear that:

- a. They are not opposed to commercial nuclear power generation.
- b. They are not concerned that the DOE would initiate a program that anticipated the unsafe storage of nuclear waste at SRS

The reasons for the CAB's opposition are:

- 1. The belief that no site for a long term geologic site superior to Yucca Mountain exists and any alternative site will be technically inferior.
- 2. The reopening of the repository selection process and, as a consequence, creation of interim storage sites will be a very costly endeavor in a time when the nation does not have the financial resources.
- 3. The completion of a new repository is generations away and there is no reason to believe the currently proposed 2048 availability date will be adhered to.
- 4. Future generations of South Carolinians and Georgians will not be well served by having the Savannah River Site become an interim storage site for commercial nuclear waste, and for what will be an undetermined length of time.

The Savannah River Site Citizen's Advisory Board wants the Department of Energy to know that is opposed the use of SRS as a site for interim storage of spent nuclear fuel from commercial nuclear reactors.

Savannah River Site

Citizens Advisory Board

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**Recommendation 307**

**Transferring Materials in L-Basin to Auxiliary Dry-Cask Storage**

**Background**

When the L Reactor facility was decommissioned, its pool was converted to a wet storage facility (L-Basin) for receipts of both domestic and foreign spent/used nuclear fuel assemblies. As of 2012 L-Basin, a 3.4 million gallon “swimming pool”, stored an inventory of 13,000 assemblies. The pool’s maximum capacity is 15,000.

There is an ongoing consideration for expanding storage capacity in the basin, including adding an external dry cask storage system. Whether stored in a wet or dry environment, the racks into which the assemblies are stacked must be designed around a fixed geometry for spacing the radioactive contents in order to control their criticality. All rack designs must also be seismically qualified in case of earth movement (quakes).

The Savannah River National Laboratory conducted a study on fuel and basin life extension in 2011. The study concluded that the basin’s fuel inventory could be safely stored for an additional 50 years, contingent upon the continuation of existing management activities and implementation of several augmented program activities. The management and augmentation activities include periodic examination of the bundled fuel assemblies, assessment of fuel in isolation containers, and structural integrity evaluations of the basin concrete assessment. There must also be a continued control of the basin water chemistry, corrosion evaluation, aging facility management assessments and infrastructure maintenance. These requirements for safely continuing storage of the spent/used radioactive fuels face serious challenges. Perhaps the most vexing challenge is the continual lack of progress toward a federal disposition path. Without a final repository, the spent/used nuclear fuel in the basin has no prospect of being moved off-site. Additionally, all the management and augmentation programs are subject to Congressional funding variability and political dynamics.

**Discussion**

L-Basin water chemistry is a continuous challenge. The pool is currently invaded by a contamination in the form of a white stringy cobweb-like bacterial colony found growing in one section (about 7%) of the pool. Analysis of a sample showed that the colony contains around 3,000 different varieties of bacteria. Scientists have been unable to determine the source of the mysterious bacteria, including whether it is associated with domestic receipts of spent/used nuclear fuel or whether it was hosted by foreign receipts. Although rare, bacterial colonies have been found in other spent fuel wet storage pools – a Candu (Canadian) pool and the pool at Three Mile Island (TMI), Pennsylvania following the 1979 near meltdown. The bacteria do not seem to grow back when

suctioned out so a mechanical solution may be selected to try and rid the pool of the invading webbing. A 2012 report also indicated that the mysterious and unanticipated bacteria are not currently considered a safety problem.

Regardless, the unpredicted growth of foreign substances in the L-Basin, Canadian and Three Mile Island pools, all of which store assemblies of high level spent/used nuclear fuel, calls into question the validity of the computerized modeling programs which, based on probabilities, project that the storage pools can safely contain its radioactivity and protect the public and environment from exposure under all circumstances, including long-term storage. The basin is an "open system" computer cannot predict the infinite changes possible in an "open system". The models failed to anticipate the basin growth.

Structural integrity of the cooling pool, the radioactive spent/used fuel, and their containers is another constant challenge. Some of the domestic receipts stored in L-Basin have a bizarre history. As an example, a year-long project was implemented in 2012 to stabilize dangerously corroded spent fuel linked to the first U.S. nuclear meltdown. That fuel originated from the 1950s Sodium Reactor Experiment that was launched in California. The experiment was conducted in order to determine whether nuclear power could provide household electricity. Beginning in 1959, the sodium-cooled reactor made history by powering homes in Moorpark, CA for two years, but later a coolant blockage accident caused the reactor to malfunction. The malfunction could not be controlled and the U.S. experienced the first nuclear reactor meltdown. The spent/used fuel assemblies from the Sodium Reactor were shipped to the Savannah River Site where they are suspended in the L-Basin cooling pool. The Sodium Reactor assemblies were singled out by a 2011 Defense Nuclear Facilities Safety Board report as urgently requiring attention. The report warned that at least three of the 36 cans of material had ruptured from corrosion.

Alternatives to indefinite suspension in L-Basin include processing in H-Canyon, vitrification in the Defense Waste Processing Facility (DWPF), or transferring older and cooler, or at risk, material to an on-site auxiliary dry cask storage system. Movement of currently stored fuel in L-Basin to an auxiliary dry cask storage system may have inherent, but as yet unknown, disadvantages which should be evaluated. In transferring material from the pool to the cask system, workers may experience harmful exposures due to unanticipated radiation levels and/or container leaks. Additionally, the transfer of used fuel from L-Basin may have operational impacts and costs that should be included in any evaluation of a transfer plan.

The Electric Power Research Institute (EPRI) has published a report that suggests that an accelerated transfer program may not be necessarily advantageous. However, the EPRI perspective may be colored by its industry sponsored status. A government-controlled study should also be conducted to ensure total objectivity.

### **Recommendations**

In order to fully determine the advantage or disadvantage of transferring spent/used nuclear fuel from L-Basin to auxiliary dry-cask storage the Savannah River Site Citizens Advisory Board recommends that:

1. A cost-comparison analysis be developed to determine the true cost, including assumptions, of adding dry cask auxiliary storage to L-Basin and the savings, if any, of supplementing cooling pool storage space with dry-cask storage.
2. A study should be conducted to determine operational impacts specifically relating to SRS programs.
3. DOE should request assistance with the conduct of the recommended studies and evaluation from the National Academy of Science to include presentations to the CAB.

Savannah River Site

Citizens Advisory Board

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**Recommendation 308**

**Request for Long-Term Assessment:  
Disposition of Research Reactor Fuels stored in L-Basin**

**Background**

The Department of Energy (DOE) has for many years had a program for the receipt of Research Reactor (Spent Nuclear Fuel SNF) at SRS. Over the past 40-50 years this has been a successful international safeguards program. The Department of Energy has received and stored this Research Reactor SNF in L- Reactor Basin for the last 10-15 years. The Research Reactor SNF is continuing to be received at SRS and will be received until approximately 2019. DOE has been assessing disposition plans for this L-Basin SNF for a number of years and has kept open the options for the disposition of this material. In the year 2000 DOE issued a Record of Decision which established Melt and Dilute as the preferred alternative for the disposition of the Research Reactor Spent Fuel. A number of years later this decision was reassessed and this option was no longer favored.

In the 2010 timeframe the Research Reactor SNF disposition issue was documented in a Supplemental EIS. No clear disposition option has been fully approved by DOE. However in 2012 DOE made a decision to process a relatively small portion of the SNF which was considered to be "at-risk". Processing began on the "at risk" material (SNF which was considered to be somewhat vulnerable to corrosion) in 2012 so that portion of the SNF is being processed through H-Canyon in accordance with continued recommendations by the CAB to process the material in that manner. Further, DOE made an additional incremental decision in 2013 (Amended ROD dated March 2013) to process another portion of the SNF inventory (approximately 1000 bundles and 180 HFIR units) in H-Canyon which again is a positive measure which the CAB supports. This latter decision has the very practical feature of allowing the Site to receive all the SNF from Research Reactors that is now programmed for receipt at SRS without requiring an expansion of the L-Basin storage capacity.

The two processing decisions are considered very positive and commendable actions by DOE.

**Discussion**

The remaining Research Reactor Spent Nuclear Fuel not subject to the decisions noted above continues to have an uncertain disposition path. DOE surveys the remaining SNF very carefully and has implemented an Augmented Monitoring and Condition Assessment Program which looks at the SNF closely to ensure extended life integrity. Based on that and other assessments DOE now contends that the remaining fuel can be safely stored for 50 years.

By all outward indications DOE seems likely to store the remaining Research Reactor SNF for 50 years.

Since DOE is handling these disposition actions in a piecemeal manner it raises the question, "What is the long-range thinking on this issue?" From a CAB perspective there is an immediate option available of processing this material through H-Canyon. This approach is viable, being both cost-effective and technically feasible. Lurking in the background is the concept that H-Canyon may not be available for operation too many more years and it seems that a timely decision would much desired.

On the other hand the CAB has been told that dry storage of the remaining Research Reactor Spent Nuclear Fuel may be a desirable approach.

This entire issue seems to be confused and unclear.

### **Recommendations**

The Savannah River Site Citizens Advisory Board recommends that DOE:

1. Assess the disposition of Research Reactor SNF being stored in L-Basin and Research Reactor SNF yet to be received and:
  - a. Advise the CAB of the process for reaching a decision on the disposition of the remaining Research Reactor Spent Nuclear Fuel
  - b. Provide the CAB some insights on when such a decision will be made.
  - c. Provide the CAB some insights on where the program is going "long term" if the disposition decision is not imminent within the next 2-3 years.

Savannah River Site

Citizens Advisory Board

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**Recommendation 309**

**Consider Nuclear Waste Management Plan for Interim Storage of Defense Waste in Yucca Mountain, and Temporary Storage of Used Nuclear Fuel at Generation Sites**

**Background**

The 1982 Nuclear Waste Policy Act (NWPA) declared the need for a national repository that would safely accommodate the defense waste and spent nuclear fuel that represents a deadly safety, health, and environmental threat to America and Americans. The NWPA was amended in 1985 to designate Yucca Mountain as the most appropriate site for the repository. The estimated cost for developing Yucca Mountain was \$58 billion, to be completed in 2035. Over a period of nearly 30 years, more than \$10 billion was spent to study and test Yucca Mountain and finally declare it scientifically viable as a national long term geologic repository for U.S. radioactive waste. President George W. Bush and Energy Secretary Spencer Abraham signed the final impact document in 2008, permitting the license application to be submitted to the Nuclear Regulatory Commission (NRC). The application sought to construct and open a high-level nuclear waste repository at Yucca Mountain by 2017.

However, as a result of daunting technical and institutional blockades, decades went by, and when President Barak Obama took office there were still no early prospects of completion. The license application was withdrawn in 2010 by the Department of Energy with no scientific data to explain why.

GAO assessed the site from October 2010 to September 2011<sup>1</sup>. GAO reports that the site is located in a remote part of Nevada's Mojave Desert and partially includes lands of two adjacent highly-secured national security sites (the Air Force's Nevada Test and Training Range and DOE's Nevada National Security Site). The area is semiarid and has little surface water, with around six inches of possible rain each year. The groundwater beneath the site is several thousand feet below the surface in most locations. The mountain is composed of strong 6,000 feet thick volcanic rock which erupted between 14 million and 16 million years ago. The rock has very low permeability. According to the geologic record, the area has low levels of seismic activity.

The interior of the mountain was to be converted into a maze of tunnels which would entomb tens of thousands of glass-log canisters of high-level radioactive defense and commercial energy waste, along with other materials. Construction in the mountain over the past 30 some years has resulted in a 5-mile long u-shaped tunnel with both north and

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<sup>1</sup>The site assessment did not include an inspection of the tunnels because, following the President's proposal to eliminate federal funding for the Yucca Mountain Project, DOE terminated activities there in 2010. Steps to close the site included closing access to the tunnels and turning off the utilities, including electrical, water, and telecommunications infrastructure. Office equipment, computers and other equipment were transferred to other locations. As a result of the closure actions, DOE determined that reopening the tunnel for a day (i.e. to allow a GAO or other investigation) would cost some \$20,000-\$50,000.

south entrances as well as a 2-mile tunnel branching off of the 5-mile tunnel. Both are 25 feet in diameter and have rail tracks, lighting systems, ventilation systems, and computer networking lines. The rock surrounding the tunnels is so solid that the tunnels are self-supporting, unlike most tunnels which require additional supports such as post and lentsils or pillars. DOE estimates that construction of the main Yucca Mountain tunnel cost about \$400 million between fiscal years 1994 and 1997. It is, without a doubt, the most studied site in the world and certainly could be the most secured site on the planet.

## **Discussion**

In May of 2012, the DOE Site Specific Advisory Board for the Savannah River Site (CAB) adopted a recommendation (#286) which advised DOE to follow the BRC's recommendation to establish one or more interim storage sites for receipt of U.S. high-level nuclear wastes, designate Yucca Mountain as a potential interim storage site, request funding for completion of that site as an interim storage site, and develop an action plan for opening Yucca Mountain to receive interim storage radioactive waste.

It can be argued that taking Yucca Mountain off the table as a permanent repository was practical policy. The site's design capacity was to be some 77,000 tons, with an additional future site to follow in a different geographical location. With an already existing 2012 backlog of 75,000 tons in spent nuclear fuel, and with an annual growth rate of more than 2,000 tons, one permanent repository was never the solution to the problem. There would also be inadequate room in Yucca Mountain for the millions of gallons and thousands of tons of legacy waste accumulated at the national laboratories. If nuclear waste management policy and planning depends on such permanent deep geologic repositories, numerous repositories will be required as the nation's inventory of spent nuclear fuel grows, especially if the projected "Nuclear Renaissance" comes to pass. Additionally, such repositories would only change the location of deadly defense waste and used nuclear fuel to change. The volume would not change until large expanses of time have passed, while the risk of the material remained high for the foreseeable future.

A better, more practical, policy should be a plan which leaves the nation's commercial used nuclear fuel where it is generated until separation technologies are developed that can destroy the bulk of it by reducing its volume, radioactivity, and half-life. Compensation should be provided to utility companies for accommodating the used nuclear fuel. Separation technologies are of crucial importance to the goal of significantly reducing the volume of high-level nuclear waste and used nuclear fuel, along with its long-term health risks to mankind.

In addition to compensating utility plants for the storage costs of used nuclear fuel, and the development of separation technologies, Yucca Mountain, the most proven candidate for high-level nuclear waste storage, should be prepared as an Interim Site for receipt of all defense waste requiring secure storage. Moving defense waste to Yucca Mountain will allow consolidation of the deadly material at one verified secure site and, simultaneously, promote the cleanup of polluted DOE nuclear complexes. Consolidation

would also allow some DOE sites to be decommissioned and closed following cleanup. Leaving used nuclear fuel at the generation sites and storing defense waste in Yucca Mountain while separation technologies are developed to substantially reduce the waste's volume, radioactivity, and half life will save significant taxpayer dollars in site closures, transportation costs, and court awards for failure to take possession of used nuclear fuel. The court awards have now cost several billion dollars. In addition to saving the expenditure of future tax dollars on nuclear waste management, the suggested plan would also recoup the tax dollars already spent on Yucca Mountain's development. If that site is not utilized, and there is no scientific data to indicate that it should not be, \$10 billion of tax dollars will have been wasted.

### **Recommendations**

The Savannah River Site Citizens Advisory Board recommends that DOE:

1. Develop a national nuclear waste management plan which considers Yucca Mountain as an Interim Site.
2. Develop a plan to complete, at the earliest possible date, the development of Yucca Mountain as an engineered environment to be temporarily used as an Interim Site for the storage of high-level defense waste.
3. Based on viability of Yucca Mountain as an interim repository site, request congressional funding for Yucca Mountain's development as an Interim Site in accordance with the guidance of the BRC and DOE 2013 Strategy for the Management and Disposal of Used Nuclear Fuel and High-Level Radioactive Waste.

**Paul Palmer**

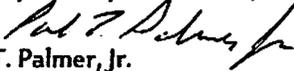
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**To:** srsCitizensAdvisoryBoard@srs.gov  
**Subject:** Citizens Advisory Board Hearing, July 22, 2013

Dear Citizens Advisory Board:

I am opposed to SRS becoming the Nuclear Waste Center for the United States of America. While being such a center will provide many employment opportunities for the region, South Carolina will necessarily be assuming most of the risk associated with the storage. And South Carolina will assume a very large portion of the transportation risks. Nuclear scientists will be working very hard to assess and diminish the risks, but the risks to the region's health and environment will exist, and the risk management will include financial considerations and budgetary restraints which during the life of the facility, new technologies are not likely to be consistently and promptly implemented during the life of the facility. Thus, I find America's proposal to SRS as the nation's Nuclear Waste Center to be an act of predation on South Carolina's desperate need for good paying jobs.

Thank you for your service,



Paul T. Palmer, Jr.  
3805 Linbrook Dr.  
Columbia, South Carolina 29204-4441  
[paul@ptpalmer.com](mailto:paul@ptpalmer.com)  
1.803.782.5656 Cell 1.803.429.6619



# SRS Citizens Advisory Board

## Written Statement Form

Name: <u>Barbara S. Paul</u>	Date: <u>July 22, 2013</u>
Affiliation: _____	
Address: <u>227 Elizabeth St NE</u>	
City: <u>Atlanta</u> State: <u>GA</u>	
Zip Code: <u>30307</u>	
Email Address: <u>bobrepaul71@gmail.com</u>	

### STATEMENT:

Re: Ed Burke's Committee Recommendation on nuclear waste storage at SRS.

I support his Committee's stance regarding bringing nuclear waste to SRS!

SRS is a Superfund Site. This is a fact. The "job" at SRS is to clean up & remediate the site. Not to make more of a problem.

Bringing more waste to SRS is in the face of this mission.

As someone who was an <sup>active</sup> participant in the BR Commission I understand full well the dilemma of our country being unable to ~~deal~~ properly this continuing waste stream.

~~Shame~~ on the government for bowing to industry & not putting more focus on the back end!

Please use a separate sheet if more space is needed.

This form may be completed to make an official statement as part of this meeting in lieu of a comment made during public comment period. All statements will become part of the official meeting minutes. No response will be provided.

\* present in Aug. mtg  
\* on panel in AA. mtg

of the nuclear fuel cycle. SRS CAB  
should not take the fall.

I seriously hope the SRS Cab will  
send a firm message to the BAC,  
to DOE & to the administration  
& our Congress that SRS cannot  
be further impacted with unknown  
quantities of more nuclear waste.

(I thought I had signed up  
to speak, asked to at the end  
when not called, <sup>to speak</sup> was not called.)

Thanks -

Bobbie Paul



# SRS Citizens Advisory Board

## Written Statement Form

Name: <u>Pamela Greenlaw</u>	Date: <u>July 22, 2013</u>
Affiliation: <u>Citizen of South Carolina</u>	
Address: _____	
City: _____ State: _____	
Zip Code: _____	
Email Address: <u>pmlgrnlw@yahoo.com</u>	

### STATEMENT:

I recommend the full CAB <sup>by</sup> some time to pin down, <sup>to</sup> develop your own definitions of getting complete community <sup>outreach & input.</sup> Say "no" to interim storage of commercial nuclear waste at SRS by voting "yes" to the position paper on "not" using SRS for Interim Storage of Used Nuclear Fuel.

Though there are no published plans for interim storage on the federal level, be assured that the IDU's are pressuring for a sooner-rather-than-later storage repository.

You must seize the terms being used by DOE, define them, and use your own definitions to outreach, to educate, & to gain input. If you do not define, it will be done for you.

Here are <sup>terms you</sup> ~~are~~ need to define that currently are being used: <sup>Da.</sup> Consent ↔ <sup>Db</sup> Consensus

② locality ↔ SRS community

② The locality is Aiken, a part of the larger SRS community. The SRS community stretches along the Savannah River all the way to Savannah & Hilton Head.

① Consent has no legal definition. It means to agree or go along with an idea → NO discussion or research is required. Consensus includes discussion, give

Do not let the DOE use the term consent. The CAB must outreach to the full SRS community after you define it & vote on your definitions. This form may be completed to make an official statement as part of this meeting in lieu of a comment made during public comment period. All statements will become part of the official meeting minutes. No response will be provided. and use it. Who holds the definitions controls the conversation.

SC Cancer registry 360 mlrm/yr ave per yr.

104 plants 70,000 waste stored  
they will continue to send even more!?

VOTE YES

① Definition of community vs. local - <sup>community is</sup> That local <sup>is</sup> <sup>undefined.</sup>

people should have <sup>Spent time at swimming pool.</sup> Speaking at a golf course in the grit  
Consent vs. Consensus based <sup>church groups: diverse gps of people fr. all walks of life(?)</sup>  
DOE must

Idea of No storage solution for commercial waste will take yrs. <sup>It's</sup> very unlikely it will take years. Utility companies particularly in SC & GA IOU's

~~at a site involving take costs~~

SRNL = Interim storage - VOTE NO. New Mission  
Potential  
Categorical  
Time frame has not been published; no gov't position has been

Keep research Park NRP  
Presby USA 1999

Anti sentiments  
not reflect