

Meeting Minutes
Savannah River Site (SRS) Citizens Advisory Board (CAB) – Combined Committees Meeting
Augusta, Georgia
March 24, 2014

Monday, March 24, 2014 Attendance:

CAB

Thomas Barnes
William Calhoun
Louie Chavis – *Absent*
Robert Doerr – *Absent*
Jessica Grainger
Dr. Michael Havird
Dr. Rose Hayes
Dr. Eleanor Hopson
Dr. Virginia Jones
Cleveland Latimore
Clint Nangle
Dr. Marolyn Parson
Larry Powell
Dr. William Rhoten
Earl Sheppard
Harold Simon
George Snyder
Nina Spinelli
James Streeter
Ed Sturcken
Christopher Timmers
Steven Vincent – *Absent*
Louis Walters

DOE

David Moody, DOE-SR
Sandra Waisley, DOE-SR
Angelia Adams, DOE-SR
Maxcine Maxted, DOE-SR
Rich Olsen, DOE-SR
Avery Hammett, DOE-SR
Doug Hintze, DOE-SR
Jim Folk, DOE-SR
Jim Giusti, DOE-SR
Patrick McGuire, DOE-SR
Shayne Farrell, DOE-SR
Pamela Marks, DOE-SR
Bill Taylor, DOE-SR
Soni Blanco, DOE-SR
Gerri Flemming, DOE-SR

Stakeholders

Tom Clements
Karen Patterson
Gregory Suber
Dawn Gillas
Susan Corbett
J. Subig
Liz Goodson
Pete LaBerge
Tom Gutmann
Nancy Bobbitt
Harry Feisller

Contractors

Gene Rhodes, SREL
Mtesa Wright, SRNS
Ashley Whitaker, NOVA
James Tanner, NOVA
Jesslyn Anderson, NOVA

Agency Liaisons/Regulators

Rob Pope, EPA
Trey Reed, SCDHEC
Shelly Wilson, SCDHEC
Kim Brinkley, SCDHEC
Heather Cathcart, SCDHEC
Gregory O'Quinn, SCDHEC

CAB Facilitator, Ashley Whitaker, NOVA, welcomed everyone to the meeting. She reviewed the day's agenda and Meeting Rules of Conduct. She stated a public comment period was scheduled for the end of the meeting and reminded everyone how to access electronic copies of meeting materials through the CABNET feature. She said the Full Board and committee meeting schedules were available and reminded all CAB members to sign up for committees before the end of the next day. She said updated copies of the Internal Processes and Standard Operating Procedures were placed at each of the CAB members' seats before she welcomed CAB Chair Marolyn Parson to open the meeting.

CAB Chair Parson welcomed everyone to Augusta, Georgia (GA). She thanked the CAB Support Team for the meeting arrangements, and opened the meeting.

Discussion: Budget Overview – Doug Hintze, DOE-SR

Mr. Doug Hintze, Department of Energy-Savannah River (DOE-SR), welcomed the new CAB members and said he wanted to discuss the fiscal year (FY) 2015 budget. He provided information on the FY 2015 President's Budget Request, also known as the congressional budget request for the Savannah River Site (SRS), which was released on March 20, 2014. He said a copy of the President's Budget Request was available online at energy.gov/budget and said he printed a copy of the entire Environmental Management (EM) budget, which included all the sites within the Office of Environmental Management. He provided a chart of the past three years, FY 2013, 2014, 2015, stating DOE-SR was currently in the middle of FY 2014. He said the left side of the chart identified the "buckets" that Congress or the Office of Management and Budget (OMB) separated SRS's money into because they did not provide DOE-SR with a "lump" for SRS. He said the categories on the left were called Program Budget Summaries (PBS). Each PBS was split into functional areas, which were PBS 11 Nuclear Materials (NM), PBS 12 Used Nuclear Fuel (UNF), PBS 13 Solid Waste, PBS 30 Soil and Groundwater Remediation, PBS 14 Radioactive Liquid Tank Waste. He stated PBS 14 Radioactive

Liquid Tank Waste contained specific projects such as the Saltstone Disposal Units (SDU), Glass Waste Storage Building (GWSB), and Salt Waste Processing Facility (SWPF). Mr. Hintze said PBS 100 Community and Regulatory Support, and PBS 20 Safeguards and Security, were “catch all” PBS's. He pointed out the blue categories at the top of the chart were lumped into what was known as the SRS Risk Management Operations. He explained those categories were what Congress gave SRS, but then OMB broke it out into the four blue categories. Mr. Hintze said the amount of the President's Budget Request was located in the column on the far right side of the chart. He explained that in normal circumstances, when DOE-SR developed its budget, there typically were not carryover funds from one year to the next. He explained when DOE-SR developed the FY 2013 budget, the fact that 2,500 SRNS employees were furloughed and DOE-SR received the money so late in the year, caused DOE-SR to not complete all the scope. He said when the money was finally received, the excess money was rolled over into FY 2014, October 2013; He pointed out that was when the lapse of appropriations occurred. He said the money that was carried over from FY 2013 into FY 2014 enabled SRS to continue operating for the 17 days without funding. Mr. Hintze said SRS did not receive an appropriation until the middle of January 2014, which meant DOE-SR did not receive the money until the beginning of February 2014. Mr. Hintze said he wanted to point out that carryover funds were not normal, but the money DOE-SR had caused scope to be pushed off and deferred. He explained that going into FY 2015 DOE-SR would most likely have some carryover funds as well. He explained if anyone noticed differences in some budget amounts that were lower than the year before, there would probably be carryover funds available that would help DOE-SR going into FY 2015. Mr. Hintze discussed the budget request for each PBS beginning first with PBS 11 NM, which was 260 versus 272 for the FY 2015. He said DOE-SR would be able to complete scope that was planned, such as spent fuel processing, preparations for the plutonium feed for the Mixed Oxide (MOX) Fuel Fabrication Facility (MFFF), and bringing in material from Canada for processing. He said DOE-SR was determining whether some of the non-moxable plutonium could be prepared for shipment to the Waste Isolation Pilot Plant (WIPP). He discussed PBS 12 UNF, which was 43 versus 45, and DOE-SR would continue bringing in the spent fuel, Domestic Research Reactor (DRR) and Foreign Research Reactor (FRR) and storing it in L-Area. He discussed PBS 13 Solid Waste, which was significantly reduced from 60 to 47. Mr. Hintze explained the funding decrease was due to the completed remediation of the transuranic (TRU) solid waste. He said there were plans in FY 2014 to ship most of the TRU waste offsite and pointed out there would be less work to be done with Solid Waste in FY 2015. He stated there was money in the Solid Waste bucket to complete infrastructure projects, to fix leaky roofs, and the fire protection system at the Savannah River National Laboratory (SRNL). He mentioned the amount for PBS 30 Soil and Groundwater Remediation increased from 55 to 66 because there were plans to complete remediation projects in the D-Area Ash Basins and some other projects in A-Area Ash Basin. Mr. Hintze clarified that the chart he was describing was only a request, not the actual funding amounts. He said since DOE-SR had not received an appropriation at that time, the chart represented what the President said he would like to ask Congress for. Mr. Hintze said he felt DOE-SR was in good shape with this request.

He discussed PBS 14 Radioactive Liquid Tank Waste which he said appeared to decrease to 551 million dollars; however, he said once the 37 million dollars for the Saltstone Disposal project and the 551 million dollars for the Radioactive Liquid Tank Waste were added together the total amount was 588 million dollars for FY 2015. He explained that the Saltstone Disposal project had to be broken out and reported on as a separate project from the Radioactive Liquid Tank Waste program. He discussed the GWSB funding from FY 2013, which he explained was money that had been carried over to be completed on the Glass Waste Storage project. He said 3 million dollars was available to begin the construction phases; however, those efforts were not included in the FY 2015 request. He said the amount for SWPF was 135 million dollars, which was in concordance with the contract modification, which supported the construction completion of the SWPF in the year 2016. He discussed PBS 100, Community and Regulatory Support, stating it received 11 million dollars; he explained that the increase to PBS 20 Safeguards and Security was to update the entry control system in H-Area. Mr. Hintze said the bottom line was that SRS received a 2.6 percent increase.

CAB member Rose Hayes asked who funded the materials Mr. Hintze mentioned in PBS 11. Mr. Hintze said National Nuclear Security Administration (NNSA) provided the funding for MOX. Mr. Pat McGuire, DOE-SR, stated that MOX was not part of the CAB's charter; however, he stated DOE-SR tried to show where “NNSA-type” projects were planned every year. Mr. McGuire said he could not speak towards MOX since it was an NNSA program, but even though MOX was placed in cold standby, NNSA was still interested in moving the plutonium one step closer to an ultimate disposition path by investing funds into the HB-Line facility. Mr. McGuire stated EM would pay the base costs and NNSA would continue to contribute approximately 20 million dollars to convert plutonium to an oxide form. CAB member Hayes asked how the recent incident at WIPP affected TRU shipments from SRS. Mr. McGuire said the incident at WIPP was being investigated and he did not know when WIPP would reopen. He noted that SRS was still making progress and described how DOE-SR was continuing to prepare materials that would be shipped to WIPP once it reopened. Mr. McGuire mentioned that DOE-SR wanted to continue making progress to reduce risk at SRS even though WIPP had challenges. CAB member Hayes asked what would occur if WIPP never reopened. Mr. McGuire said

if WIPP did not reopen, the Department would conduct alternative analysis studies to determine the best disposition path for various materials. He stated DOE-SR could continue safe storage for the materials at SRS until alternatives were evaluated and developed. CAB member Hayes said the CAB understood the safe storage processes at SRS; however, she said the CAB's goal was cleanup, which meant the disposition of materials out of SRS and the state of South Carolina (SC). Mr. McGuire said the nuclear materials stored at SRS, whether plutonium or UNF, were not waste, since DOE-SR believed the materials had a beneficial purpose and the materials had an intrinsic value to the United States, and DOE-SR did not want to dispose of the materials at SRS, since billions of dollars were invested in the materials. Mr. Doug Hintze added that at no point in the budget, at any of the sites across the DOE Complex, was the incident at WIPP addressed. He said the budget was put together before the incident occurred so it was still unknown how the entire DOE Complex would be impacted by the incident at WIPP. CAB member Hayes asked if there were residual funds in the budget that would allow for a third GWSB to be constructed. Mr. Hintze explained that DWPF in the budget referred to the amount of canisters that had already been produced from the DWPF; however, he stated this year DOE-SR planned to determine the best alternative for the canisters.

Dr. David Moody, DOE-SR SRS Manager, stated a cost analysis was conducted to determine if it was more cost-effective to implement dry storage or process the aluminum clad fuel stored in L-basin. Dr. Moody said the results of the cost analysis determined it was cheaper to process the material; however, he explained the decision to process the material did not mean DOE-SR was eliminating the possibility of dry storage as a future potential pilot program. Dr. Moody said DOE-SR would explore options to continue feeding the HEU through H-Canyon. He said the material would be processed and blended down so shipments to the Tennessee Valley Authority (TVA) could begin in the fall.

CAB member Bill Calhoun asked if DOE-SR had discussions regarding the President's recent agreement to accept 100,000 pounds of weapons-grade plutonium from Japan. Dr. Moody said the material was not designated for MOX and explained DOE-SR planned to disposition the material to WIPP when it reopened. Dr. Moody said he did not know a timeframe or if SRS would be designated to accept the materials. CAB member Calhoun said the CAB adopted a recommendation that DOE should not allow external shipments of nuclear materials to come to SRS. Dr. Moody said he recognized the CAB's recommendation, but DOE, NNSA, and Department of State had to consider several factors when making decisions related to the movement and storage of materials. Dr. Moody said materials being sent to SRS were part of the Global Threat Reduction Initiative and DOE carefully evaluated several scenarios before deciding to move materials to safe storage locations. Dr. Moody explained that personnel at SRS knew how to safely store and secure plutonium, and as DOE partnered with NNSA in the Global Threat Reduction Initiative, DOE continued to bring materials to SRS in order to keep the nuclear materials from getting into the wrong hands.

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

CAB member Clint Nangle welcomed the new CAB members before reviewing the purpose of the S&LM Committee. He stated that CAB member Robert Doerr agreed to serve as the Vice Chair for the S&LM Committee. He encouraged CAB members to join the S&LM Committee before he provided a recommendation status update. He said recommendation 318 was open. He announced the next S&LM Committee meeting was scheduled for April 22, 2014, from 4:30 – 6:20 P.M. at the DOE Meeting Center and introduced Mr. Rich Olsen, DOE-SR, to begin his presentation.

PRESENTATION: Request for Input on Fiscal Year 2016 Budget Formulation – Rich Olsen, DOE-SR

Mr. Rich Olsen, DOE-SR, said the purpose of his presentation was to fulfill a 2014 S&LM Work Plan requirement while also allowing the CAB to provide input on the development of the DOE-SR FY 2016 budget. He explained that he would provide an overview of the Integrated Priority List (IPL) development. He explained that the Principal Deputy Assistant Secretary for Environmental Management (EM) at Headquarters (HQ) requested that all DOE sites provide an opportunity for stakeholders to give input on the sites' prioritized activities for FY 2016 as part of budget development. He explained that the CAB's IPL recommendations and comments would be included when DOE-SR sent its budget submission to DOE-HQ. Mr. Olsen listed the seven "functional areas of cleanup," known as Program Baseline Summaries (PBS), which included: 1) Nuclear Materials (NM) Stabilization and Disposition, 2) Used Nuclear Fuels Stabilization and Disposition, 3) Solid Waste Stabilization and Disposition, 4) Radioactive Liquid Tank Waste Stabilization and Disposition, 5) Soil and Water Remediation and Facility Deactivation and Decommissioning (D&D), 6) Safeguards and Security, and 7) Mission Support Activities. He stated that the total budget for SRS was broken down between those seven PBSs or "buckets" of work. He explained that the three major categories of the IPL were to support minimum safe operations and essential site services, meet regulatory milestones and commitments, and make progress in cleanup activities. Mr. Olsen explained the first category applied to supporting minimum safe operations and

essential site services that were necessary to keep facilities or systems in a state of operational readiness. He stated that funding to support Safeguards and Security operations, as well as community and regulatory support, were included within this category. He then explained how the second category dealt with meeting regulatory milestones and commitments involved in activities pertaining to the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) and Resource Conservation and Recovery Act (RCRA). He said those regulations focused on cleanup and monitoring activities that were associated with Solid Waste Stabilization and Disposition and Soil and Water Remediation and Facility Deactivation and Decommissioning (D&D). Mr. Olsen explained the third category involved the necessary activities to move towards compliance with the Federal Facility Agreement (FFA), Site Treatment Plan, or other mission goals. He mentioned that the category applied mostly to Nuclear Materials Stabilization and Disposition and Radioactive Liquid Tank Waste Stabilization and Disposition. He provided a chart that represented each of the three major categories of cleanup activities DOE-SR proposed to DOE-HQ for FY 2016. The chart provided each PBS, a description of the cleanup activity, and the categories of “min safe,” “regulatory compliance,” and “other mission activities.” Mr. Olsen stated again that when DOE-SR submitted the IPL to HQ it meant that the budget must be broken down by the seven PBSs, including the amount of funding that would be spent for each category of work. He stated that DOE-SR asked the CAB to provide a letter of what the committee felt were the most important activities that should be done at SRS for FY 2016. He provided a copy of the CAB’s response to the IPL from the previous year and explained the CAB could either reaffirm the IPL letter from the previous year or develop a new IPL recommendation. Mr. Olsen stated the deadline for the CAB to submit input was April 30, 2014.

CAB member Hayes asked if DOE-SR included emergency funding for urgent situations in to the budget submission. Dr. Moody replied that DOE-SR always evaluated all inputs regarding safety analysis and DOE-SR always considered issues that could raise priorities at SRS.

CAB Chair Parson asked if there would be adequate time for each committee to provide input on the IPL letter. Ms. Whitaker, CAB Support Team, explained there would be time on each committee agenda to discuss input. CAB Chair Parson also asked when the deadline was for the CAB to submit feedback. Mr. Olsen said it was April 30, 2014.

Ms. Karen Patterson, public, asked if category two included discretionary subgroups or was category three the only category that included discretionary funding. Mr. Hintze stated elements of discretion were located in all three of the categories; however, he said most of the “wiggle room” was located in the third category. Ms. Patterson said years ago the CAB recommended DOE look at risk across the DOE Complex as a precursor to establishing budget requests. She said after speaking with the DNSFB she learned that efforts were still underway to establish risk across the entire DOE Complex to address the highest risks in the DOE Complex first. She asked why DOE was stumbling to complete that and can the public or the CAB effectively suggest that the Department look at that approach again. Dr. Moody commented that management at DOE-HQ changed regularly. He explained if there were issues the CAB felt were not effectively addressed with past commitments they could include that input for consideration into the 2016 budget.

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

CAB member Nina Spinelli welcomed the new CAB members and encouraged them to join the A&O Committee. She reminded everyone, that at the back of the room, they could sign up for any of the issues-based committees. She stated they needed to sign up by the end of the next day. She said the committee and full board meeting schedules were available. She then announced that the CAB Support Team would be holding a Google Hangouts tutorial on April 3, 2014. CAB member Spinelli said the CAB Support Team was developing the spring 2014 Board Beat Newsletter and CAB members should contact them if they had ideas or wanted to write an article. She informed CAB members that updated copies of the Internal Processes were placed at each of their seats.

Facilities Disposition & Site Remediation (FD&SR) Committee Overview – Tom Barnes, Chair

CAB member Tom Barnes welcomed the new CAB members and reviewed the committee’s focus before he encouraged everyone to join the FD&SR Committee. He provided a recommendation status update, stating that recommendations 315 and 317 were open. CAB member Barnes announced that the next FD&SR Committee meeting would be held on April 22, 2014, from 6:30 – 8:20 P.M. at the DOE Meeting Center. He welcomed Mr. Gene Rhodes, Savannah River Ecology Laboratory (SREL), to begin his presentation.

PRESENTATION: Savannah River Ecology Laboratory 2013 Update – Dr. Gene Rhodes, SREL

Dr. Gene Rhodes, SREL, said the purpose of his presentation was to fulfill a 2014 FD&SR Work Plan topic by providing an update on SREL. He listed objectives within his presentation before he provided a brief history about SREL. He stated Dr. Eugene Odum started the SREL in the early 1950's and SREL has had permanent facilities in A-Area at SRS since the year 1977. He discussed the mission of SREL, which involved conducting research, educate students, and provide service to the community, and Dr. Rhodes discussed SREL educational programs. He said SREL graduate students have received more than 125 awards and more than 650 undergraduates, representing all 50 states, and have participated in SREL-sponsored research. He stated SREL has Environmental Outreach Programs, which integrate SREL research into presentations for the public and provided hands-on classroom experience for students. Dr. Rhodes stated there were 88 employees at SREL and listed the disciplinary expertise, research areas, and funding history for SREL. He said there were several significant events SREL accomplished in FY 2013 before discussing work scope, facility, and scientific equipment advancements in FY 2013. He explained that over 350 public outreach events were conducted in FY 2013 along with SREL facility improvements. He stated he was pleased that analytical and radionuclide monitoring equipment was purchased to enhance research on contaminants of soil, water, and biological materials. He provided a list of opportunities for FY 2014 and noted that emerging missions for SREL involved enhancing graduate education, radioecology, remediation and restoration efforts, environmental justice, energy ecology, and ecotoxicology. He provided several images for each future mission. He said SREL had a diversity of expertise available to address ecological issues at SRS. He explained that additional funding was needed to bring SREL to its full potential; however, he said UGA reinforced its commitment to keep SREL open with cost-sharing of new faculty lines. He thanked DOE-SR and NNSA for investing in SREL in order to utilize the laboratory to meet work scope and public good. Dr. Rhodes stated that SREL would continue to support the development of radioecology at SRS and the United States, make investments in graduate education, and serve as an independent source of expertise at SRS.

CAB member Hayes asked if SREL planned to apply the research from the Fukushima cleanup efforts to locations at SRS. Dr. Rhodes explained the sea water at Fukushima changed the chemistry of the water and most likely would make the information irrelevant to locations such as Par Pond at SRS.

CAB Chair Parson asked if SREL scientists had national security clearances. Dr. Rhodes said SREL scientists had general site badges because when UGA and DOE moved SREL from a contractual relationship to a cooperative agreement, UGA lost its accreditation for employees to have security clearances. He explained UGA could obtain that accreditation again; however, he said general site badges worked for the places SREL scientists conducted research.

Ms. Patterson asked how undergraduate students were being funded to work at SREL. Dr. Rhodes said a portion of the funds DOE provided over the last two years had been used to create general research opportunities for UGA undergraduate students as well as to create a partnership with the University of South Carolina Aiken (USCA) for five undergraduate students to spend the summer at SREL and focus on radioecology research. He explained that SREL also wrote a grant to the National Science Foundation to create a research experience for undergrads (REU). He mentioned if SREL was awarded an REU there would be enough funding for 10 to 12 undergraduate students to gain research experience, every year for three months, at SREL.

CAB member Bill Rhoten asked how employee jobs at SREL were funded. Dr. Rhodes said there were multiple funding sources for SREL. He stated that UGA provided approximately one million dollars to SREL; however, he said typically, SREL employees also looked for additional funding sources. Dr. Rhodes explained if additional funding was located, UGA kept approximately 30 percent before sending 66 percent back to SREL. Dr. Rhodes said the remaining funds necessary to operate SREL were provided by external sources as well as NSA, DOE-SR, SRR, and other groups onsite.

CAB member Louis Walters asked Dr. Rhodes if high school students expressed interest in programs offered at SREL. Dr. Rhodes said currently most outreach efforts were offered for kindergarten through twelve grades; however, the younger children generally showed more interest. Dr. Rhodes mentioned he recently hired a new Public Relations Coordinator to help generate more interest in SREL amongst the young adults. Dr. Rhodes said he considered allowing high school students to come to SREL for research experience, but currently the necessary infrastructure was not established to recruit those students.

Ms. Susan Corbett, Sierra Club, asked what method SREL used to teach the public about the effects of radiation on the environment. Dr. Rhodes stated that the information shared with local community members had to be less technical. He said instead of focusing outreach on "data specific pieces" he preferred to offer information at a comprehensible level. Ms. Corbett said the BEER report supported a "linear threshold" and asked if Dr. Rhodes adhered to that philosophy. Dr. Rhodes replied, "Not necessarily."

Waste Management (WM) Committee Overview – Earl Sheppard, Chair

CAB member Earl Sheppard welcomed the new CAB members, and provided a recommendation status update, stating that recommendations 304, 311, and 312 were open. He mentioned that the next WM Committee meeting was scheduled for April 15, 2014, 4:30 – 6:20 P.M. He encouraged the CAB members to join the WM Committee before he introduced Ms. Pamela Marks, DOE-SR, to begin her presentation.

PRESENTATION: Salt Waste Processing Facility (SWPF) Baseline Status – Pamela Marks, DOE-SR

Ms. Pamela Marks, DOE-SR, stated the purpose of her presentation was to fulfill a 2014 WM Work Plan topic by discussing the status of the SWPF baseline. She shared the SWPF mission which she said was to reduce radioactive waste volume by processing the waste into glass at the DWPF. She explained that once SWPF was operational the facility would be able to process approximately 90 percent of the radioactive waste at SRS. She reviewed a diagram to display the role of the SWPF in the Liquid Waste System before she provided an aerial picture of the facilities within the Liquid Waste System. Ms. Marks discussed history and milestones for the SWPF stating the project was authorized in September 2002. She said the design phase had been completed and construction of the facility was approximately 72 percent complete. She explained that the remainder of the contract with Parsons addressed the commissioning of the facility, which basically is training the operators, establishing operating procedures, establishing safety management programs. She said the “Hot Commissioning” phase involved the introduction of the first nuclear materials in the facility. She said the contract with Parsons included one year of operations, but after that we anticipate the SWPF to operate approximately 10 to 15 years. She said the target date for completing construction was the end of the year 2016 and the goal was for SWPF to be operational by year 2018 in order to begin processing the radioactive liquid waste. She displayed pictures of the SWPF construction phases as well as a SWPF 3-Dimensional model. Ms. Marks showed pictures of the large American Society of Mechanical Engineers (ASME) vessels, which were not delivered on time and caused major construction delays for the SWPF. She discussed the project status stating in June 2013 DOE and Parsons modified the contract for remaining construction. She explained the project was currently forecasting five months schedule acceleration for construction complete to July 2016. Ms. Marks said negotiations were underway for remaining contract work scope for startup, commissioning, one year of operations, and six month support. She discussed how the testing program provided high degree of confidence in new technologies’ ability to exceed performance requirements. Ms. Marks said the focus for SWPF was on the facility becoming operational along with integrating technical improvements to enhance the throughput of the facility. She said she looked forward to maintaining integration with the Liquid Waste Program as well as the SWPF minimizing the Liquid Waste lifecycle costs.

Nuclear Materials (NM) Committee Overview – Rose Hayes, Chair

CAB member Rose Hayes encouraged CAB members to join the NM Committee before she reviewed the NM Committee’s focus. She announced the next NM Committee meeting was scheduled for April 15, 2014, at the DOE Meeting Center. She provided a recommendation status update, stating that recommendations 307, 313, and 314 were open. She said she would discuss each open recommendation that day and planned to finalize the status of each recommendation the next day.

Public Comments

Mr. Tom Clements, SRS Watch, said he felt the High Level Waste issue at SRS should continue to be the main priority. He said he provided several handouts regarding shipments of materials in Charleston, SC. He said he was unsure what materials were being shipped, but he commented he was afraid materials were being brought to SC only to be orphaned. He provided another article related to the MOX facility. Mr. Clements said the CAB could play a role in requesting an environmental impact statement regarding the materials being shipped to the United States.

A copy of Mr. Clements articles have been attached to this document.

~Meeting Adjourned

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Jim Giusti, DOE-SR
Avery Hammett, DOE-SR
Brian Hennessey, DOE-SR
Doug Hintze, DOE-SR
Jim Folk, DOE-SR
Jay Ray, DOE-SR
Clarissa Waller, DOE-SR
Sherri Ross, DOE-SR
Linda Suttora, DOE-HQ
Bert Crapse, DOE-SR
Gerri Flemming, DOE-SR

Agency Liaisons/Regulators

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Heather Cathcart, SCDHEC
Sean Haves, GADNR

Stakeholders

Tom Clements
Karen Patterson
Suzanne Rhodes
Harry Feisler
Murray Riley
Joe Ortaldo
Don Bridges
Dawn Gillas
Nancy Bobbitt
Annie Stephens
Gregory Suber
Tom Gutmann
Mindy Mets
Clint Wolfe

Contractors

Jeannette Hyatt, SRNS
Mtesa Wright, SRNS
Kristin Huber, SRNS
Brittany Williamson, SRNS
Byron Bush, SRNS
Chris Marks, SRNS
Matt Bodine, SRR
Stacey Lance, SREL
Marissa Reigel, SRNL
Ashley Whitaker, NOVA
James Tanner, NOVA
Jesslyn Anderson, NOVA

CAB Chair Marolyn Parson opened the meeting. CAB Facilitator, Ashley Whitaker, NOVA, led everyone in the Pledge of Allegiance and reviewed the agenda. She informed meeting attendees that the CAB Support Team was video recording the meeting in order to determine whether online meetings could potentially be offered for Full Board meetings. She reviewed the Meeting Rules of Conduct before reviewing the public comment periods planned throughout the day. She explained how to access electronic copies of meeting materials through the CABNET feature and reminded all CAB members to submit their updated contact information to the CAB Support Team. She then invited CAB Chair Parson to begin her update.

CAB Chair Opening and Update - Marolyn Parson, CAB

CAB Chair Parson called for discussion of the January Full Board meeting minutes. There were no suggestions or comments regarding the minutes. She opened the floor for a vote; the CAB, with no opposition and no abstentions, approved the meeting minutes with 17 votes.

CAB Chair Parson welcomed everyone and she briefly discussed CAB membership. She listed the new CAB members and allowed each new committee member to say a few words about themselves. CAB Chair Parson provided maps of Georgia (GA) and South Carolina (SC) to display the different counties where CAB members reside. She said there

were no committee meetings since the January Full Board; however, this year the CAB would continue having combined committee meetings, which meant that one committee would meet from 4:30–6:20 p.m. and another from 6:30–8:20 p.m. She mentioned the CAB Support Team was offering a Google Hangouts training session on April 3, 2014, and encouraged CAB members to sign up in case they could not attend a committee meeting in person. CAB Chair Parson reviewed the 2014 Full Board meeting schedule and expressed her excitement for the CAB having two downstream meetings in Savannah, GA and Beaufort, SC. She spoke about the Environmental Management Site Specific Advisory Boards (EMSSAB) and said each board learned during the January 2014 conference call that two of the three EMSSAB recommendations were approved. She said another EMSSAB conference call to discuss the Department of Energy – Environmental Management (DOE–EM) fiscal year (FY) 2015 budget was held on March 2014; however, she stated since the budget was unavailable during that conference call, no new budget information was provided. She informed CAB members that she and CAB Vice Chair Harold Simon planned to attend the April 22–24, 2014, Chairs’ meeting in Hanford, Washington. CAB Chair Parson expressed her excitement about the 2014 CAB Work Plan and encouraged CAB members to be successful throughout the year by understanding issues and providing meaningful input to the Department of Energy (DOE).

Agency Updates

Ms. Sandra Waisley, Co-Designated Deputy Federal Official (DDFO), DOE-SR

Ms. Sandra Waisley, Department of Energy-Savannah River (DOE-SR) began her update by welcoming the new CAB members and thanking all the returning CAB members for their dedication. She welcomed Mr. Sean Hayes, the new CAB representative from the Georgia Department of Natural Resources (GADNR). She discussed the FY 2015 budget saying that as Mr. Doug Hintze, DOE-SR, stated in his budget discussion from the day before, the FY 2015 budget was an increase in 48 million dollars for the Savannah River Site (SRS). She stated DOE-SR was still waiting for specific information about the FY 2015 budget; however, she said the President’s budget request would allow SRS to continue making progress in several mission areas, but not without a few challenges. She mentioned that SRS would like to complete the shipments of contact handled transuranic (TRU) legacy waste, pending the ability of Waste Isolation Pilot Plant (WIPP) to accept the shipments. Ms. Waisley said the goal at the Defense Waste Processing Facility was to produce 125 canisters and she mentioned tank 16 was the next target for tank closure in the following calendar year. She explained that construction of the Salt Waste Processing Facility (SWPF) and the Saltstone Disposal Units (SDU) six would continue. She said processing of the vulnerable materials stored in L-Basin would continue as well as completing the readiness for the Mixed Oxide (MOX) Fuel Fabrication Facility (MFFF) material. She said DOE would continue shipping off-spec plutonium to WIPP pending WIPP reopening. She said collaborations would continue for potential opportunities at SRS before she addressed the status of WIPP. She stated all shipments of TRU waste to WIPP were suspended due to the incident and DOE-SR was unsure when shipments would start again. Ms. Waisley said the Department was evaluating options for moving forward with the TRU program; however, she explained that teams of experts were constructed from multiple facilities and national laboratories, including experts from SRS and SRNL, to assist WIPP. Ms. Waisley discussed the recent ice storm by saying SRS closed for three days, primarily to keep employees off the roads. She said essential personnel remained at SRS for safe and secure operations and the damage was minimal, except for fallen trees. She discussed the recent 4.1 magnitude earthquake that occurred and was felt at SRS. She described how the nuclear facilities at SRS, including the waste tanks, were designed to withstand the ground motion caused by an earthquake. She discussed how even though the earthquake was a magnitude of 4.1 on the Richter scale, that was only 1.5 percent of what the facilities at SRS were designed to withstand. She said all facilities went through an immediate walk down inspection, which did not find any damage to any facilities. She said the AMERESCO Biomass Facility was working with the community to provide a renewable alternative for the wood biomass and were currently receiving processed wood material from Aiken, Barnwell, Allendale, and Columbia counties. Ms. Waisley said all contractors at SRS did a great job dealing with the sequestration, lapse of appropriations, work force restructuring, and future uncertainties and thanked the contractors for continuing to work safely and deliver results. She announced the first SRS Information Pod was scheduled for March 27, 2014, at the Odell Weeks Recreation Center. She also announced the Annual SRS Community Reuse Organization (CRO) planned to host an SRS Budget Forum at Aiken Technical College on April 17, 2014.

CAB member Rose Hayes asked about the incident that occurred at WIPP and asked what the container breach meant for other containers stored at WIPP. Ms. Waisley said she would prefer to address the issue once the ongoing investigation was completed at WIPP. CAB member Hayes asked if DOE began looking at a contingency plan for vitrifying weapons grade plutonium. Mr. Giusti explained he did not know what was planned and said those decisions were being made at DOE-HQ. CAB member Hayes said since the DWPF was part of the CAB’s purview, she asked

DOE-SR to provide the CAB with any information about a contingency plan that may involve the DWPF. Mr. Giusti said he understood her concerns, but DOE-SR did not have a contingency plan regarding DWPF at that time.

CAB Vice Chair Simon asked if SRS was impacted if the Biomass facility shutdown. Ms. Angelia Adams, Co-DDFO, stated SRS was impacted during the earlier part of January when the first ice storm occurred since the Biomass facility was not designed to withstand the cold temperatures experienced at SRS. She said the Biomass facility was the single point for steam production for several areas at SRS. Ms. Adams said there were backup systems in K-Area and L-Area; however, DOE-SR was weighing the options of having a second system so SRS would not experience those conditions again in the future. She said DOE-SR had not made a final decision at that time, but were working with AMERESCO, the contractor for the Biomass plant, to figure out some options.

CAB member Clint Nangle asked if there were any plans underway to offset the economic effects of MOX being in cold standby. Ms. Waisley replied that the National Nuclear Security Administration (NNSA) was conducting an analysis of how the cold standby for FY 2015 could impact the workforce. Mr. Jim Giusti, DOE-SR, said DOE-SR would share information once it was available, but DOE-SR did not have key information since the project was being managed by DOE-HQ and NNSA-HQ.

CAB Chair Parson asked how long materials shipped to WIPP could remain above ground. Mr. Jim Folk, DOE, said the waste could remain above ground for 30 days; however, due to the incident at WIPP, the amount of time was extended to 60 days. Mr. Folk said DOE-SR had four shipments that were either in route or at WIPP when the event occurred.

Mr. Rob Pope, Environmental Protection Agency (EPA)

Mr. Rob Pope, EPA, began his update by stating the 2014 budget was released and explained that the EPA Region four office received significant cuts this year. He said there was a 40 percent reduction in contract funding, which would affect how EPA employed and used contractors. He explained that EPA used contractors for field oversight, to review documents, provide in-house technical expertise, and to assist with setting up community meetings. He explained those efforts would not continue until EPA could balance out other parts of the contract. Mr. Pope said EPA would be asking contractors to attend project-planning meetings with SRS over the phone, instead of physical attendance. He said this change was not EPA's preference since having the contractor in attendance was helpful. He said the second issue concerning the budget reduction was that the travel budget for EPA would be impacted. He said EPA was still waiting to hear all the travel impacts, but he said he assumed that EPA would not be visiting SRS as often. He also said EPA would not be able to attend all CAB meetings, but he praised the online committee meetings since they enabled EPA participation. He said EPA was attempting to streamline the manager-to-staff ratio, which had caused staff reductions across the agency. He said the Region four office currently operated two branches comprised of staff and managers that work on private superfund sites while the other branch specializes in federal facility sites. He explained that EPA would be separated into two sections, one handling only DOE sites and the other handling only Department of Defense (DOD) sites and then we would be placed in the other two branches that handle private superfund sites. He said those changes would not affect how EPA interacted with the CAB. He said none of those organizational changes would occur until the end of the current FY in September; however, the travel and contractor budget reduction were effective immediately. Mr. Pope said EPA was waiting on SRS to return Appendix E of the FFA to the regulators. He said DOE asked for several changes to Appendix E this year and both EPA and SCHDEC responded to those changes and some of the changes were okay, but some of the changes the regulators would like to see different changes made, which DOE was working through. He said since the President's budget was delayed, DOE actually asked to have an extension to April instead of having those changes back to the agencies by March. He stated EPA and DOE co-hosted an Environmental Justice (EJ) meeting in Hampton, SC, which was a community that requested an EJ meeting. He announced the next EJ meeting was scheduled for April 24, 2014, in Sylvania, GA; however, after that meeting, EPA was unsure when the next EJ meeting would occur due to funding cuts.

CAB Chair Parson asked Mr. Pope to explain the 40 percent budget reduction. Mr. Pope said the budget reduction was cut from EPA Headquarters. He said the reduction was final for 2014, but EPA was waiting to see how these cuts would affect 2015. He said he did not think 2015 held additional budget cuts for EPA; however, he explained that all that had been released so far was the President's budget for 2015, which was nowhere close to the final budget.

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

Ms. Shelly Wilson, SCDHEC, welcomed the new CAB members and thanked them for their participation. She provided background information for the new CAB members by explaining that SCDHEC, rather than EPA, evaluated permit

applications, made permit decisions, and regularly conducted compliance inspections for air, land, and waste. Ms. Wilson said SCDHEC considered the treatment and closure of High-Level tanks to be a huge area of focus since the aging High-Level Waste tanks held approximately 37 million gallons of highly radioactive liquid waste. She stated SCDHEC constantly encouraged DOE to request sufficient funding to complete tank cleanup efforts because the schedules, which ensured risk reduction, required sufficient funding. She discussed the release of budget details from DOE for the FY 2015 budget and said SCDHEC was pleased to see an increase in the FY 2015 request for High-Level Waste activities. She said it seemed that DOE heard all of the communication efforts from the past year. Ms. Wilson pointed out that the budget in recent years for High-Level Waste had decreased and she commented that the past budget decreases for the High-Level Waste Program could have slowed operations down enough so that future milestones for risk reduction were still in jeopardy. She said DOE was sure they would close one tank instead of two as required by SCDHEC's milestone. She explained that for FY 2015, SCDHEC's enforceable schedule required closure of four High-Level Waste tanks and the good news was that DOE closed tanks five and six early, which left two more tanks to be closed in FY 2015. She said the budget said DOE was sure one tank would be closed, but the budget did not commit to closing two tanks. Ms. Wilson mentioned the budget stated DOE hoped to close the second tank quickly afterwards, but still there was no commitment in the FY 2015 budget to close two tanks to reach the total of four. She explained that the milestones were established in order to measure and drive risk reduction on a timely schedule. She said SCDHEC was encouraged by the FY 2015 request; however, she said SCDHEC would continue pressuring DOE since the milestones, even starting in FY 2015, and possibly in the future, were not certain. She explained that SCDHEC did a significant amount of work mapping out technical and regulatory strategies and SCDHEC was not confused with how to move forward, but funding had to be sufficient in order to fuel the necessary work to meet the schedule. Ms. Wilson explained that SCDHEC was willing to continue its regulatory review to support the schedule to meet the milestones. She mentioned last Friday that SCDHEC sent DOE a letter questioning the status and future of plutonium currently at SRS. Ms. Wilson explained that the letter was sent due to DOE's announcement that MOX had been placed in cold standby. She said since DOE made that announcement, SCDHEC needed to know the status and future use of the plutonium at SRS since the material appeared not to have a certain future. Ms. Wilson explained that when MOX was the preferred option, SCDHEC believed the plutonium had value since it was going to be used as a fuel; however, she said if MOX was taken off the table, then SCDHEC needed to know the future use of the plutonium. She stated DOE should respond to SCDHEC within 30 days of receiving the letter.

CAB member Hayes asked Ms. Wilson to explain what she meant by large amount of plutonium at SRS and if Ms. Wilson knew the composition of the material. Ms. Wilson said DOE did not traditionally provide SCDHEC excess information about the plutonium and she deferred to Mr. Pat McGuire, DOE-SR, to describe the amount and location of plutonium at SRS. Mr. Patrick McGuire, DOE-SR, said there was approximately 13 metric tons of plutonium either already at SRS or would eventually come to SRS. He stated the plutonium was stored in the K-Area facility, which was a hardened concrete reinforced structure. He said sampling was conducted periodically to ensure the material was able to be safely stored for up to 50 years or until it was disposed of or returned for beneficial reuse. He said DOE-SR had not seen any abnormal situations or conditions that the plutonium was not behaving as predicted, which he said provided confidence that the materials could be safely stored. CAB member Hayes asked where the plutonium in K-Area came from, and where were the receipts coming from that were not already in K-Area. Mr. McGuire stated that the Nuclear Materials (NM) Work Plan included a presentation about the K-Area Update and would most likely answer any questions she had about materials in K-Area.

CAB member Virginia Jones asked Mr. McGuire if he could project the total amount of plutonium SRS could safely store in K-Area. Mr. McGuire said SRS could store quite a bit; however, as long as there was adequate space, SRS could continue supporting storage in K-Area. Mr. McGuire said K-Area had sufficient floor space and periodically the capability was expanded to put more secured storage in place. CAB member Jones asked if DOE could inform the CAB if more materials were placed in K-Area. Mr. McGuire said he could inform the CAB when it was the appropriate time.

CAB Vice Chair Simon asked Ms. Wilson how SCDHEC addressed DOE-SR if two tanks were not closed and the enforceable schedule was not met. Ms. Wilson said the schedule varied every year, but it was a schedule that extended to the year 2022. Ms. Wilson explained that if DOE requested sufficient funding to meet scheduled milestones and Congress did not provide DOE enough money, then SCDHEC would not hold DOE accountable to reinforcement; however, if DOE did not ask for adequate funding, SCDHEC would take action for enforcement.

CAB Chair Parson said she was confused how the FY 2015 budget request only allowed for funds to close one tank instead of two. Mr. Doug Hintze, DOE-SR, said the tank closures were a schedule issue, not a funding issue. Mr. Hintze explained at the beginning of 2014 there was a lapse of appropriations followed by a continuing resolution (CR), which impacted the closure of the fourth tank from a schedule perspective; however, from a funding perspective, it was not an

issue for FY 2015. He said in the future years, DOE-SR would have to consider if SRS would receive enough funding each year to close tanks three or four years later. He said one of DOE-SR's "catch 22's" was when Ms. Wilson discusses whether DOE requested adequate funding to complete regulatory commitments, DOE-SR were not allowed to discuss the amount of money requested as the budget goes up to EM, through the Department, and comes out as the President's Budget request. Mr. Hintze said the amount of funding that came from the President's request did not necessarily match what DOE-SR originally requested; however, he explained that an OMB circular A11 did not allow DOE-SR to reveal the original amount that was submitted. Mr. Hintze explained that if DOE-SR provided the original amount requested and it was different than the President's budget, DOE-SR could be perceived as questioning the Commander in Chief and the funding amount the government needed to complete the job.

Ms. Wilson addressed how Mr. Hintze referred to the closing of two tanks was a schedule issue and not a funding issue. She said that may be true; however, she said SCDHEC would be pushing DOE for more funding in order to meet the schedule milestones. She said she understood DOE-SR could not act against the President since the budget request might not reflect what DOE-SR asked for, but she said it was complicated to work through; however, she said the FFA required "they [DOE] either ask for enough money or they do not."

Mr. Sean Hayes, Georgia Department of Natural Resources (GADNR)

Mr. Sean Hayes, GADNR, began his update stating he worked with the Environmental Protection Division within the Environmental Radiation Program. He said he planned to attend and participate in as many CAB meetings as possible. He discussed his responsibilities involved environmental monitoring around each of the nuclear power plants in GA, which included Plant Vogtle, Plant Farley, and Plant Hatch. He said his organization conducted safety and dosimeter training opportunities for local organizations that participate in the safety drills with each of the three GA nuclear power plants. He said GADNR dealt with dose assessment capabilities and decision-making regarding the safety of GA citizens. Mr. Hayes stated that GADNR performed emergency response for radiological emergencies in the state of GA. He explained Mr. Barty Simonton, GADNR, was the current interim project manager for his office.

Public Comments

Mr. Tom Clements, SRS Watch, addressed the plutonium issue and said he wanted to make a request of the CAB. He said in the FY 2015 Congressional Budget Request for NNSA, on page 527, it said, "Based upon the ongoing analysis, the Department determined that the MOX fuel approach is significantly more expensive than anticipated, even with consideration of potential contract restructuring and other improvements that have been made to the MOX project. Due to these increases the MOX fuel approach is not viable within available resources. As a result, the MOX project will be placed in cold stand-by while we further study implementation and cost of options to complete the plutonium disposition more efficiently. Upon selecting a preferred option, the Department will commission an independent assessment of the option. This independent assessment will be conducted by an organization external to the Department and its laboratories and will include establishment of the life cycle, costs, schedules, performance and scope of the selected option." He explained that DOE, out of Secretary Moniz's office, conducted an assessment that he hoped would be released along with the budget, but really the only thing that was done was that the budget document mentioned the 30 billion dollar cost for MOX. Mr. Clements said since the assessment did not mention the cost for any other options, he encouraged the CAB to ask for the assessment that was prepared by Mr. John McWilliams for Secretary Moniz so the CAB could see what the costs were for the various options. He said the assessment also discussed alternative disposition pathways, primarily including WIPP and immobilization of the plutonium. He commented that he filed a Freedom of Information Act request for the report, for the assessment, which was authorized in the budget request last year; however, he said it had already been three months and he had not received anything.

Nuclear Materials (NM) Committee Overview – Rose Hayes, Chair

CAB member Rose Hayes reviewed her presentation from the day before and discussed the status of open recommendations 307, 313, and 314. She discussed recommendations 305, 306, and 308, which were all previously "closed with exception" and stated the NM Committee planned to rewrite each of these recommendations. She stated recommendation 309 would remain "closed" since the committee was no longer expecting a response from Nuclear Energy (NE). She said she planned to address recommendation managers for recommendations 305, 306, and 308 at the April 15, 2014, NM Committee meeting.

CAB member James Streeter asked for clarification about the term “closed with exception” for the status of recommendations. Ms. Ashley Whitaker, NOVA, explained that at the Education and Process Session in February, the CAB members decided to remove the “closed with exception” descriptor from the CAB Internal Processes. She explained that all “closed with exception” recommendations would remain on the CAB website; however, she said the “closed with exception” descriptor would not be used in the future. Mr. Streeter thanked her for the clarification.

PRESENTATION: Nuclear Materials System Plan – Jay Ray, DOE-SR

Mr. Jay Ray, DOE-SR, said the purpose of his presentation was to fulfill a 2014 NM Work Plan topic by providing the CAB with an overview of the NM activities at SRS. He provided a copy of the “SRS Waste and Material Flow Path” and explained that Savannah River Nuclear Solutions (SRNS) developed a System Plan for NM facilities that was similar to the Liquid Waste System Plan. He said the NM System Plan was submitted to DOE-SR, and plans were underway to combine the NM System Plan with another management plan that was already required by a DOE Order. Mr. Ray said by June, and no later than October 2014, DOE-SR hoped to release a version of the NM System Plan that would be suitable for release to the public. He discussed the operational, supporting, and deactivated/inactive facilities within the NM System Plan. He said the four operational facilities were H-Canyon, HB-Line, K-Area, and L-Area. He said H-Canyon was a very large, primarily remote-operated, facility. He explained that HB-Line, a two story building, was located on top of H-Canyon and was primarily a hands-on facility. He said K-Area was a storage facility for plutonium and L-Area was used for wet storage of foreign research reactor (FRR) and domestic research reactor (DRR) fuel. Mr. Ray said the supporting facilities and interfaces for the NM System Plan included F/H analytical laboratories, Savannah River National Laboratory (SRNL), and interactions with Liquid Waste programs. He said most sample analyses were conducted in the F/H analytical laboratories; however, he explained that SRNL conducted flowsheet development by generating the “recipe” for new or slightly different materials that would be processed in HB-Line or H-Canyon. He said NM also interacted with the Liquid Waste System before saying the deactivated/inactive facilities in the NM System Plan were building 235-F, F-Canyon, FB-Line, Receipt Basin for Offsite Fuels (RBOF), and C-Area. He discussed the NM storage and disposition missions for L-Area, K-Area, and H-Area before he described the meaning of the NM Missions Roadmap. Mr. Ray said the major planning assumptions in the NM System Plan included 1) Supporting safe and secure operations of all NM facilities to continue the disposition of uranium and plutonium, 2) Meet DOE-EM and NNSA non-proliferation missions, and 3) Support efficient operations and minimize waste generation. He discussed activities for H-Canyon, HB Line, K-Area, and L-Area. He explained that H-Canyon was dissolving Sodium Reactor Experiment (SRE) fuel for vitrification via the DWPF. He said H-Canyon would dissolve Used Nuclear Fuel (UNF), recover uranium, and blend the material down for shipment to the Tennessee Valley Authority (TVA). He stated that H-Canyon would process enough UNF to allow for L-Area receipts through the year 2035. Mr. Ray said H-Canyon was still supporting HB-Line with the NNSA processing mission. He said the missions of H-Canyon and HB-Line were integrated with the High Level Waste system. He said HB-Line would begin producing plutonium oxide in the second half of 2014, and produce oxide through 2019 to support early MOX feed. He explained that K-Area would begin shipping plutonium feed to the MOX facility approximately in the year 2020, while continuing to safely storing receipts and shipments until around year 2031. Mr. Ray said the processing of UNF processing in H-Canyon would eliminate the need to install new storage capacity racks in L-Area. He said L-Area would not receive any new FRR receipts past May 12, 2019; however, L-Area would continue to support DRR receipts through year 2035. He said heavy water would continue to be safely stored in K-Area, L-Area, and C-Area until a disposition path was determined. Mr. Ray said support facilities, SRNL and the F/H analytical laboratories, would continue supporting NM facilities with flowsheet development and analytical results. He discussed the deactivation status of building 235-F, F-Canyon, FB-Line, RBOF, and C-Area. He said safety and continuing to operate in an environmentally sound manner were top priorities at SRS. He pointed out that nuclear materials were stabilized and dispositioned to meet non-proliferation goals in facilities at SRS that were considered to be “one-of-a-kind” national assets.

Ms. Shelly Wilson, SCDHEC, said she received a briefing from NNSA earlier in the year, when DOE revealed the budget, about MOX being placed in cold standby. She said the briefing also mentioned that no plutonium shipments were coming to SRS. Ms. Wilson asked if any plutonium shipments were coming to SRS and if not, for how long. Mr. Pat McGuire, DOE-SR, said he would try to provide her with more information; however, he said a majority of those plans involved NNSA decision-making.

CAB Chair Parson asked how long members of the public would be allowed to comment on the NM System Plan. Mr. Ray said he was not sure of the timeframe, but he said the CAB would be able to view the System Plan. CAB Chair Parson said she was puzzled that plutonium oxides would continue being produced since MOX might not be an option. Mr. Ray replied that the materials being prepared in HB-Line for MOX would probably be completed whether MOX was an option or not since those materials could be sent to WIPP if MOX was not an option. Mr. Ray explained the

materials would not have to meet all the purity constraints MOX required, but the material would need to be produced as an oxide in order to go to WIPP. He said the current plan was to continue processing that material and produce the oxides since MOX had not backed away from DOE-SR producing that material.

Mr. Jim Folk, DOE-SR said traditionally the NM program produced approximately 100 to 300 thousand gallons of waste that came from the High Level Waste program. He pointed out that SRS had approximately 37 million gallons of High Level Waste so the 100 to 300 thousand gallons was a fairly small fraction of waste. He explained there were operational issues DOE-SR had to follow, but DOE-SR had included those operations into the Liquid Waste System Plan for quite some time. Mr. Folk said DOE looked ahead and the Liquid Waste Program was prepared to handle the materials that would come from the NM Program. He discussed canister storage and said there was a line item in the budget request for Glass Waste Storage, and DOE-SR was currently going through the review process to identify what the optimal storage approach would be, but the storage capability was scheduled to be online by the year 2018. CAB member Hayes asked if there would be a third GWSB. Mr. Folk explained there was a line item to provide the necessary storage and DOE would evaluate other alternatives, but DOE-SR was going through the process to select the best storage alternative. CAB member Hayes asked if dry cask storage was implemented, would DOE-SR wait for disposition to a final repository. Mr. Folk said the buildings were designed to last approximately 50 years.

CAB member Hayes asked what would occur from the time the NM Mission Roadmap ended in year 2032 and when a federal repository would be sited in year 2048. Mr. Ray replied that anything involving the NM Missions Roadmap extending past the year 2035 was not included in his presentation. CAB member Hayes asked Mr. Ray where the reactor fuel was shipped and if the price was subsidized. Mr. Ray said the material was provided free to TVA, because when DOE-SR conducted the alternative analysis for the HEU blendown project, it was determined that the best alternative was to blend down the material to five percent enrichment and provide the low enriched uranium (LEU) to TVA at no cost. He explained that TVA paid for the material to be processed into commercial fuel and then used the material in TVA reactors. Mr. Ray explained that part of the agreement between DOE and TVA was that after TVA recovered its costs, roughly half of the savings went back to TVA and the other half went to the United States Treasury; however, SRS did not currently receive any funds. CAB member Hayes asked if there were any alternatives being considered if the weapons-grade material at SRS could not be used for MOX. Mr. Ray said the plutonium could be dissolved in H-Canyon before going to DWPF for vitrification or sent either to WIPP or MOX; however, he said disposition paths could still be developed for the material.

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

CAB member Nina Spinelli reminded CAB members to sign up for an issues-based committee before the end of the day. She announced that the next A&O Committee meeting was scheduled for the May Full Board meeting. She encouraged the CAB members to send the CAB Support Team any ideas for the spring 2014 Board Beat Newsletter.

Public Comments

Mr. Tom Clements, Sierra Club, said he wanted to provide information to the CAB in response to plutonium coming to SRS. He discussed an article about whether or not foreign plutonium shipments that arrived on the Pacific Egret on February 6 and March 19, 2014. He said a reporter in Canada confirmed that the Canadian Nuclear Safety Commission told him in writing that “old MOX fuel with Canadian plutonium in it, had indeed come to SRS.” He explained it was concerning about why DOE and NNSA officials would not inform the public about the types of materials coming to SRS. He said DOE had a huge credibility problem with the current situation at WIPP as well as the “massive boondoggle with the MOX program, over which nobody is being held accountable” He said he felt the CAB and the public should be informed about materials coming to SRS. Well it is all going to have to go somewhere at some point and I think the CAB should be told what is coming into SRS.

Facilities Disposition & Site Remediation (FD&SR) Committee Overview – Tom Barnes, Chair

CAB member Tom Barnes reviewed his presentation from the day before. He began a recommendation status update stating that recommendations 315 and 317 were open. He said DOE had responded to both recommendations; however, he said the FD&SR Committee would discuss the responses at the committee meeting on April 22, 2014. CAB member Barnes then welcomed Mr. Rob Pope, EPA, to begin his presentation.

PRESENTATION: Getting to Know the Five-Year Review – Rob Pope, EPA

Mr. Pope said the purpose of his presentation was to fulfill a 2013 FD&SR Work Plan topic by providing an overview of the five-year review. He planned to address the purpose and process for conducting a five-year review, as well as different ways communities could engage in the process. Mr. Pope said the Superfund law required SRS to conduct a five-year review of all the established remedies at SRS. He stated that the five-year review for SRS was completed around January 2014 and signed by DOE in early February. He provided pictures to represent cleanup activities that occurred at several different sites such as military bases, research facilities, shipyards, and weapon plants. He explained that federal facilities, such as SRS, fell under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) also known as Superfund. He stated that once a site was identified, EPA assessed hazards, implemented remedies to address the hazards, and conducted ongoing monitoring and maintenance to ensure all remedies continued to work properly. He explained that a key part of the ongoing monitoring was conducting the five-year review. Mr. Pope said the purpose of the five-year review was to evaluate the implementation and performance of remedies in order to determine if each remedy was protecting human health and the environment. He said the five-year review was also an important resource for other federal agencies, states, tribal authorities, local governments, community groups, and the public since it listed contaminants and remedies, the status of the cleanup, ongoing activities, and general information about site owners, and points of contact. He said the steps involved in conducting a five-year review were notifying the public, reviewing key documents, assessing contaminant levels, conducting interviews and site inspections, and writing a report about remedy protectiveness. Mr. Pope discussed the roles and responsibilities for preparing the five-year review, which he said began with each facility's federal owner, which for SRS would be DOE. He then explained representatives from the state may review the draft report and provide comments before EPA examined the final review. He said the state would either confirm the lead agency's assessment or EPA would conduct its own independent assessment. He discussed the protectiveness statement, included in the five-year review, which summarized whether the remedies were working correctly and whether the public and environment were being protected. He listed the five protectiveness statements, which included "protective," "protective in the short term," "will be protective," "protectiveness deferred," and "not protective" and provided examples for each statement. Mr. Pope showed examples of charts, maps, and technical assessments that might be found within a five-year review. He said public notices, interviews, and meetings were opportunities for local communities to engage in the five-year review process. He provided information for how to contact site project managers, lead agency public affairs representatives, and EPA Community Involvement Coordinators to find out more information about the five-year review report. He said the next five-year review for SRS was scheduled for the year 2019 and pointed out that there had been 52 remedial decisions made at SRS since the five-year review process began. He said 52 remedial actions was far more than other facilities, and 50 out of the 52 remedial decisions still remained protective of human health and the environment. He said the other two decisions were classified as "protective in the short term," not because the remedies were not working, but because the original decisions for those remedies were interim decisions that had not been fully implemented yet. He stated a majority of the success for those remedial decisions was due to the cooperative efforts of DOE, EPA, and SCDHEC.

Waste Management (WM) Committee Overview – Earl Sheppard, Chair

CAB member Earl Sheppard reviewed his presentation from the day before. He encouraged CAB members to sign up for the WM Committee before he mentioned that the next meeting would be on April 15, 2014, at the DOE Meeting Center. He welcomed Ms. Linda Suttora, DOE-HQ, and Mr. Bert Crapse, DOE-SR, to begin their presentation.

PRESENTATION: DOE Order 435.1 Revision Update – Linda Suttora, DOE-HQ & Bert Crapse, DOE-SR

Mr. Bert Crapse, DOE-SR, stated briefly that the purpose of the presentation was to fulfill a commitment DOE provided in the formal response to CAB recommendation 304, "Revising DOE Order 435.1." He then welcomed Ms. Linda Suttora, DOE-HQ, to begin the presentation. Ms. Suttora explained that DOE Order 435.1 was initiated in the mid 1990's, and was originally known as DOE Order 5820. She said in the year 1994, DOE received a recommendation from the Defense Nuclear Facilities Safety Board (DNFSB) that said the DNFSB believed DOE was not managing its Low Level Waste (LLW) radioactive waste effectively, efficiently, and safely. She explained that DOE responded to the DNFSB recommendation by conducting a complex-wide review of all LLW management and the results concluded that some DOE sites, not SRS, were not properly handling waste. Ms. Suttora explained that DOE Order 435.1 was very important since the Order was the control mechanism for the DOE Complex. She said DOE conducted a second complex-wide review in the year 2010 in order to identify necessary improvements that had occurred over the last 10 years of implementing DOE Order 435.1. She described how DOE was currently revising Order 435.1; however, she mentioned there were several reasons the revision was still occurring. She pointed out since DOE was not doing

something wrong, there was not a “driving rush” to revise the Order. She explained DOE was trying to improve efficiency with the completing the revision. She announced that revised DOE Order 435.1 would be available for public comment in the near future, but at that time, she did not know a specific date. She said there were four chapters in the current DOE Order 435.1, but in order to streamline the Order, there would be formatting changes included in the new revision. Ms. Suttora said core teams composed of Headquarters, DOE field, and field contractors, were established to assist with the revision. She listed changes that would be included within the general requirements, High Level Waste, TRU waste, and LLW sections of the revised DOE Order 435.1. She explained since there was not an established Technical Standard in the United States for the management of LLW radioactive waste, the second complex-wide review enabled all the collected ideas to be consolidated into a Technical Standard. Ms. Suttora listed the chapters of the Technical Standard, which included 1) Performance Assessment, 2) Composite Analysis, 3) Waste Acceptance Criteria, 4) Monitoring, 5) Maintenance, 6) Closure, 7) Unreviewed Disposal Question Evaluation and Special Analysis, and 8) Annual Summaries. She said the Technical Standard was the core of LLW disposal for the United States DOE and it would identify both requirements and guidance for attaining authorization to dispose LLW. She said the technical standard provided examples of best practices, clarified that sites must have a suite of analyses prior to initiating disposal and it identified necessary analyses for continued disposal authorization. She provided a diagram titled “Integrated and Iterative Regulatory Framework for the Radioactive Waste Management Basis (RWMB) Requirement for a LLW Disposal Facility.” She stated the revision of DOE Order 435.1 had to go through a final Headquarters review, field review, and a 60-day public review. She said based upon the public comments, the Order would be revised, placed into the DOE Order process before it was issued, finalized, and implemented across the complex.

CAB member Louis Walters asked if DOE Order 435.1 related to the receipt of foreign materials. Ms. Suttora explained there were no rules within DOE Order 435.1 of the RWMB that would change for foreign fuel. Ms. Suttora said even though EM was the owner of DOE Order 435.1, all other DOE organizations must also comply with the Order.

Mr. Pope asked if Legacy Management (LM) sites, where LLW was already disposed, would be impacted by changes to DOE Order 435.1. Ms. Suttora said she could not recall any changes in the revision of DOE Order 435.1 that would impact sites being managed by LM, since those sites were already closed.

PRESENTATION: Tank Closure Progress – Sherri Ross, DOE-SR

Ms. Ross said the purpose of her presentation was to satisfy a WM Committee 2013 Work Plan topic by providing a progress update of tank closures at SRS. She provided a diagram to show the status of tanks five and six, which were closed in December. She provided pictures of the “primary tank grouting” and “tank annulus duct grouting” for tanks five and six as well as the grouting command center. She stated operational risk, and the risk of leaks to the environment, was reducing at SRS from the closing of High-Level tanks. Ms. Ross said in the year 1995 there were approximately 550 million curies stored in tanks at SRS; however, she said as of June 2013, there were approximately 295 million curies remaining. She listed the progress for the 24 old style tanks before she stated that 25 percent of old style tanks had been closed. Ms. Ross provided layout diagrams for H-Tank Farm and the types of tanks located in H-Tank Farm. She noted that tanks 12 and 16 were the next two tanks scheduled for closure before she showed and explained the “Regulatory Drivers for Closure” diagram. She provided a flow chart that represented the review process for the National Defense Authorization Act (NDAA) Section 3116. She said in February, DOE issued the draft basis to the Nuclear Regulatory Commission (NRC) and they provided a Request for Additional Information (RAI) back to DOE in July 2013, and DOE-SR answered the RAI in November. She mentioned DOE-SR was expecting a Technical Evaluation Report (TER) around the end of April 2014, which could possibly result in a Secretarial Waste Determination for H-Tank Farm by this summer. Ms. Ross outlined the tank closure progression saying six tanks were closed and four tanks were in the closure process. She said tanks 13 and 15 were in bulk waste removal (BWR) stage and oxalic acid cleaning was completed for tank 12. She explained that DOE-SR met with SCDHEC and reached an agreement to enter into the sample analysis phase so DOE-SR would be able to begin characterization for tank 12. She said last year tank 12 completed three bulk oxalic acid chemical cleaning strikes, there was no leakage from the primary to the annulus containment, and that DOE-SR reduced solids from approximately 4,400 gallons to 1,400 gallons. She discussed tank 16 saying DOE, SCDHEC, and EPA agreed last year to enter the sampling and analysis phase and samples had been collected and were being analyzed at SRNL. She commented that closure of tanks five and six was completed and documentation was provided to SCDHEC and EPA. She explained in February 2014, DOE, SCDHEC, and EPA reached an agreement to proceed into the sample analysis phase for tank 12, while sample analysis and volume determination were underway for tank 16. She said DOE would continue consultation with the NRC to support a Secretarial Waste Determination for H-Tank Farm by summer 2014. She said DOE-SR would incorporate lessons learned from tank cleanup into a future tank closure strategy document. Ms. Ross said DOE, SCDHEC, and EPA would continue having discussions related to waste removal and tank closure regulatory commitments.

CAB member Spinelli asked what Ms. Ross meant by “benefit may not be worth cost” on slide 13. Ms. Ross explained that it was difficult to complete the chemical cleaning for tank 12. Ms. Ross said tanks five and six had already been chemically cleaned in F-Tank Farm, but in H-Tank Farm, the sludge was different. Ms. Ross explained that tank 12 had undergone low temperature aluminum dissolution before acid cleaning and there was a high corrosion rate, which was surprising since it was very different from F-Tank Farm. Ms. Ross said additional work was completed to upgrade the ventilation system, safety basis, and more corrosion studies were conducted at SRNL. Ms. Ross mentioned all the additional work slowed down the cleanup progress for tank 12 by one year. Ms. Ross said the benefit to the additional work was that DOE would be able to investigate and learn why tank 12 was different from the cleanup of prior tanks. CAB member Spinelli asked if tanks 13 through 15 were anticipated to be as challenging as tank 12. Ms. Ross said she felt those tanks would not be as challenging as tank 12.

CAB member Sheppard asked how many truckloads of grout filled one tank. Ms. Ross said there were approximately 4,800 cubic yards per tank to grout, which was eight cubic yards per truck, six trucks per hour, for five days a week. Ms. Ross explained it took approximately four months to complete grouting.

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

CAB member Nangle said he was excited to hear the ideas and opinions of the six SRS employees and welcomed Mr. Rich Olsen, DOE-SR, to introduce the panel of SRS employees.

PRESENTATION: The Next Generation of SRS – Panel of SRS Employees

Mr. Rich Olsen, DOE-SR, explained that DOE, contractors, and tenants at SRS thought it would be meaningful for the CAB and the community to hear ideas and opinions from the younger generation of workers at SRS. Mr. Olsen said a diverse group of employees, from various companies at SRS, were selected to present their personal opinions of SRS. He said the discussion was not scripted and each speaker would speak on behalf of themselves and not their company. Mr. Olsen said he felt SRS would be in good hands moving towards the future and allowed Ms. Brittany Williamson, SRNS, to begin the discussion.

Ms. Williamson said the panel was excited for the opportunity to share their opinions of SRS. She stated the purpose of the presentation was to fulfill a 2014 S&LM Work Plan topic by providing insight and perspective of the younger generation working in the nuclear industry at SRS. She explained that the panel was comprised of younger professionals from each of the main contractors at SRS. Ms. Williamson said each of the presenters knew each other since they participated in the Enterprise SRS Sounding Board, which was a group of young professionals that provided input and feedback to the Mission Development Council regarding Enterprise SRS issues. Ms. Williamson stated the presenters were solely representing themselves and introduced Ms. Clarissa Waller, DOE-SR, to begin the discussion.

Ms. Waller said she worked with DOE-SR for almost six years but quickly noted she was not the “typical presenter,” since she was a data analyst who dealt with budget formulations. She explained her job was to analyze data before approaching program managers about their performance the month before. She listed individual characteristics about herself before she shared her desire to be challenged and provide value for everything in her life. She described her history of employment in the public safety sector as a firefighter, EMT, police dispatcher, and a police officer. She said she was definitely challenged in each of those roles; however, she explained that there was something about the past jobs that was not being fulfilled, which brought her to federal service at SRS. She stated that the mission at SRS was important to so many people at various levels. She explained that her public safety background and her Biology degree laid a strong foundation for her to handle challenges at SRS. She said as a firefighter she was taught how to remain calm in the face of adversity, which was the mind-set she had for working at SRS. She said as a police officer she learned how to persuade citizens to address issues they did not understand, did not think were fair, or did not understand. She said she planned to become a future leader at SRS, and she needed to learn how to persuade her peers to overcome challenges. She commented how much she enjoyed her job since it allowed her to see the future of SRS. She explained that SRS faced several challenges during the last few years; however, there were also major successes. Ms. Waller commented that she felt those successes were due to SRS employees committing to the SRS mission. She said she looked forward to working with the younger generation group and she was excited about seeing SRS meet its greatest potential. She then introduced Ms. Marissa Reigel, SRNS, to begin her portion of the discussion.

Ms. Reigel said she worked as a metallurgical engineer at SRNL, for the past five years. She mentioned the themes of her presentation would be diversity and research at SRNL, the worldwide applicability of that research, and SRNL's positive impact on the community, the United States, and possibly the universe. She stated she received her Ph.D. in 2009, but ultimately decided to come to SRNL after she fell in love with the SRNL slogan, which stated "We put science to work." She said she worked on a broad range of projects during her short tenure at SRNL and those experiences allowed her to experience the diverse research available at SRNL and SRS. She stated that SRNL was responsible for formulating high and low level waste forms, supplying tritium for weapons, supporting new construction projects, and researching new methods for national and global defense. She commented all those technologies were unique ventures available only at SRS, which continued to entice scientists and engineers, like her, to choose SRNL. She said the worldwide applicability of research performed at SRNL was astounding. She said the work conducted when decommissioning P & R reactors had a global impact and we were now using that gained knowledge to assist in the cleanup of Fukushima, Japan. She said the reactors that were operated during the 1980's, enabled part of SRS to be on Mars, orbiting Saturn, and recently Voyager that just left the Solar System. Ms. Reigel commented that it was incredible to think about what all SRS impacted throughout the past work at SRNL. She stated SRS continued an excellent safety culture, conducted outreach efforts for the community, and SRNL remained dedicated to putting science to work; however, she said SRS was facing an uncertain future. She explained that the current cleanup missions would be completed, but she said sometimes she wondered what innovations would have been missed out on if SRS was never created. Ms. Reigel said she was thrilled about the robust scientific history at SRS and the unequaled work performed at SRNL. She commented that she looked forward to continuing the legacy of putting science to work by applying research, engineering, and nuclear knowledge to help further serve the community, nation, and world. She then introduced Ms. Stacey Lance, SREL, to begin her portion of the discussion.

Ms. Lance said she worked as an Associate Research Scientist with the University of Georgia at SREL. She stated her careers' research was focused on preserving biodiversity. She explained there were two post-doctoral scientists, five graduate students, and five undergraduate students that worked under her at SREL, and together they were researching the impact of industrial operations on wildlife health. She said when she arrived at SREL she expected to stay only for nine months; however, she said she fell in love with the place when she experienced the unprecedented opportunities for researching the impacts of industry on the environment. She said a majority of the work she conducted at SREL involved the coal fly ash basins and the H-Area treatment wetlands. She said research conducted at SRS impacted the world since contamination and pollution were everywhere; however, she said SRS was a special place to conduct research. She explained that DOE embraced the presence of non-federal independent entities, and provided a training ground for environmental scientists to study anything they could imagine. She mentioned she was a Conservation Biologist and explained that SRS was a biodiversity hotspot for the southeast. She stated areas like the Carolina Bay wetlands were almost eliminated in the southeast, but at SRS there were hundreds of those wetlands and DOE had been an amazing steward to the rare species in those habitats. She explained that upcoming scientists were able to understand the impacts of pollution contaminants on wildlife when they could analyze wildlife in clean and contaminated habitats such as SRS. She said students at SRS had the ability to conduct research on more plants and animals at SRS than were available at Okefenokee Swamp Park. Ms. Lance said she had skeptical colleagues that feared the radiation at SRS; however, she said she often explained that SRS was safe since monitoring that had been conducted made her feel safer. She discussed a new technology she was developing, which combined radio collars with dosimeters to track radiation dosage to animals. She stated the collars could provide the animal's location and what it was being exposed to. She explained that goal was to participate in putting the collars on wolves in the Chernobyl Exclusion Zone. She commented that the collars were placed on a few hogs at SRS to make sure they worked; however, once the collars were calibrated and sent to France, it was determined that the collars experienced more radiation exposure flying to France than they did in a month of testing on hogs at SRS. She said SRS was a priceless training ground for the hundreds of students that have come through SREL and introduced Ms. Williamson, SRNS, to begin her portion of the discussion.

Ms. Williamson said she was a Criticality Safety Engineer and explained her job involved ensuring the handling of plutonium and uranium at SRS did not have a chain reaction as well as computer modeling to make sure operators remained safe. She said there had never been a criticality accident at SRS and safety was the top priority of SRS. She discussed environmental and social responsibility. She said social responsibility was the idea that individuals have an obligation to benefit society at large. She said she felt the employees at SRS genuinely cared about the community, since they continue to operate SRS safely and responsibly, but employees were involved in several charitable organizations such as United Way, Toys for Tots, and Golden Harvest Food Bank. She said she had an obligation to make the local community a great place to live, while at the same helping meet the nuclear needs of the United States. She said she could not speak for all millennials, but the values of safety, environmental responsibility, and social responsibility were very prevalent in the current generation. She then welcomed Mr. Byron Bush, SRNS, to begin his portion of the discussion.

Mr. Bush said he worked at SRS for five years as a Financial Analyst for SRNS. He said he was raised in Aiken, SC and SRS had been a part of his life since he moved here in the year 1989. He said he had family that worked at SRS and actually had a field trip to SRS when he was in the second grade. He said SRS employees fund several surrounding businesses, but SRS supported several of the areas outreach and fundraising efforts. He stated that SRS has saved lives and positively impacted the community. He said the last time Aiken was without SRS, it was not the community we know today. He explained that he had the opportunity to witness and understand several of the diverse functions at SRS and how they all play a big part into what SRS really is. Mr. Bush said he recognized that SRS was a great place to work that was comprised of amazing talented employees, a world class safety culture, and resources that could take SRS into the future. He said he was certain that SRS was a unique and special place, with no limit to what SRS could do. He stated he was very invested in the community and interested in the longevity of SRS's success, he said he hoped that the main mission at SRS did not become closing the gates and discontinue operations. He said SRS had come too far and too much was accomplished to walk away. Mr. Bush mentioned he thought it would be a national tragedy to dismiss the opportunities at SRS. He then introduced Mr. Matt Bodine, SRR, to begin his portion of the discussion.

Mr. Matt Bodine stated he was a Mechanical Engineer with SRR and said he planned to discuss his experience at SRS, how his experience related to the cleanup and closure mission, and ultimately his hope for the future of SRS. He said in his five years at SRS there had been a tremendous amount of opportunities that he believed were only available at SRS. He explained that working at SRS had trained him to become a dynamic thinker, worker, and a leader. Mr. Bodine stated he also served as a college recruiter for SRR, which enabled him to be a spokesperson for SRR and SRS. He mentioned he was thankful for his experience as a recruiter because it gave him a better understanding of the SRS mission, which was extremely important to the federal government and United States. He said the SRS mission of closing the waste tanks was very specific and phenomenal to think that in the past two years, four High Level Waste tanks had been closed. Mr. Bodine said those activities represented a huge milestone; however, it was not glamorous, or a corner office in a big city, but it represents real progress in minimizing the single largest environmental risk to SC. He commented that working at SRS had instilled in him a willingness to complete the mission of SRS, not because it was glamorous, but because I love where I live. He said the combination of shared values, gained technical competence, community outreach, and passion for innovation will enable his generation to assist in taking SRS to the next level.

CAB member Walters asked what message they would give to high school graduates. Mr. Bush said he would tell recent graduates to network and submit resumes anywhere possible. Mr. Bodine stated he would encourage recent graduates to know what they wanted to do to become successful. Ms. Reigel stated an individual should ask themselves if they wanted to continue learning then being a scientist or engineer would be a great career field.

CAB member Nangle asked the panel where each of them saw SRS in 30 years. Dr. Moody said he was very interested because he knew each person well enough that he knew none of them viewed SRS as a closure site. Ms. Williamson said she hoped SRS would excel in its areas of expertise and that nuclear materials from across the country would come to SRS since it was the safest place for those materials. Mr. Bush said he was a "think big person" and said he saw SRS leading nuclear knowledge in the country and world. Ms. Waller said she felt DOE-SR would find cheaper, better, and faster ways to conduct cleanup efforts at SRS. Ms. Lance said she certainly hoped SRS was around and that SREL was still able to research the environment with the use of newer technologies. Ms. Reigel said there should be a transition where SRS became very skilled at tank closure efforts in order to focus on also developing new technologies. Mr. Bodine said he hoped potential closure technologies could improve the disposition of nuclear materials.

Public Comments

Ms. Karen Patterson said it seemed as though the CAB was not particularly interested in SRS accepting potential offsite nuclear materials. Ms. Patterson said she understood, and even agreed, that there was a problem moving waste out of SRS; however, she felt the materials coming to SRS were being kept away from individuals who could possibly use the materials as weapons. She stated SRS was the best place for the nuclear materials since SRS had the knowledge and resources to protect the materials. She encouraged the CAB to focus on the "big picture" when considering whether SRS should accept more potential offsite materials.

Mr. Guisti reminded everyone about the SRS Information Pod scheduled for Thursday, March 27, at the Odell Weeks Center in Aiken. Mr. Guisti encouraged everyone to attend as well as to bring someone who was not overly familiar with SRS since those individuals were the target audience for the Information Pods.

~Meeting Adjourned



**Handouts for Savannah River Site Citizens Advisory Board (SRS CAB) –
full board meeting**

March 24-25, 2014

Augusta, Georgia

South Carolina Chapter of the Sierra Club

"Special Nuclear Materials" Shipped to U.S. in Advance of Nuclear Security Summit

Disposition Pathway for any Plutonium Transported to US DOE's Savannah River Site?

On February 6 and March 19, 2014, secret shipments of what is believed to be "special nuclear material" were brought into the United States via the port of Charleston, South Carolina on the UK-flagged vessel Pacific Egret. The shipments are part of the National Nuclear Security Administration's (NNSA) Global Threat Reduction Initiative (GTRI) program to recover weapons-usable materials of both US-origin and origin from other countries.

The shipment arriving on February 6 was believed to contain material from both Belgium and the Netherlands and the shipment of March 19 is believed to be from Italy. Information about the shipments is based on publicly available information only. Arrival dates are known but the contents of the shipments is speculative, underscoring the need for the NNSA to reveal exactly what was on the shipments, including amounts of materials, where it is now being stored, country of origin and planned disposition.

While details of what was on the shipments is not known, in the "Highlights of Achievements and Commitments by Participating States as stated in National Progress Reports and National Statements" from the Seoul summit in 2012, Belgium stated that its goal was "Repatriating unneeded HEU and separated plutonium to the US" and Italy stated that it was "Working to repatriate excess HEU and plutonium to the US by the 2014 Summit." It is believed that the highly enriched uranium may be of U.S. origin but the plutonium may owned by other countries, with Canada a leading contender.

NNSA officials have acknowledged receipt of my questions about the shipments but so far have refused to answer them. This is troubling in that after such shipments have concluded there is little reason from a security perspective not to reveal the nature of the shipments. It appears that officials are withholding the release of any information about the shipments as they want to use them for political purposes at the Nuclear Security Summit in The Hague on March 24-25, 2014. Likewise, Belgium's Federal Agency for Nuclear Control (FANC) has refused for well over a month to answer questions about the February 6 shipment and appears to be stalling in its response until after the Nuclear Security Summit has concluded.

Receipt of spent research reactor and medical isotope reactor fuel containing US-origin highly enriched uranium (HEU) in to Charleston, South Carolina - via the Naval Weapons Station - occurs a couple of times a year, with the spent fuel being shipped via rail to the Department of Energy's Savannah River Site (SRS) in South Carolina, where it is stored in a pool in the old L-Reactor. While the receipt of the spent HEU fuel has been accepted from a nuclear non-proliferation perspective, its reprocessing in the aging H-Canyon reprocessing plant at SRS is of concern as it adds additional high-level waste into a waste system already under financial and technical strain.

Unirradiated HEU that may have been received on February 6 and March 19 may have been taken by special trucks to the DOE's HEU storage facility at the Y-12 plant in Oak Ridge, Tennessee.

If plutonium was on the shipments of February 6 and March 19, it is unknown where the plutonium would be stored, but it is likely that such plutonium would be taken to SRS. The site already has around 13 metric tons of surplus weapons-grade plutonium and it appears that non-U.S.-origin plutonium,

including from the commercial fuel cycle has been received at SRS. A shipment in May 2012 of Swedish plutonium to the US likely went to SRS but NNSA is still refusing to reveal where the material is being stored and what its disposition pathway might be. (See NNSA's "Plutonium Removal from Sweden: Fact Sheet": <http://nnsa.energy.gov/mediaroom/factsheets/sweden>)

Although little reported, according to a February 3, 2000 personal letter to me from Canada's Atomic Energy Control Board (now the Canadian Nuclear Safety Commission), Canada sent commercial spent fuel from the now-closed Douglas Point Nuclear Generating Station to Belgium's Eurochemic reprocessing plant, where reprocessing of most of that fuel took place from 1968-1974. Some of the resulting plutonium may have been sold to France's Commissariat à l'énergie atomique (CEA). Canada also shipped spent CANDU fuel from the Pickering nuclear power plant to Italy's EUREX reprocessing plant, where reprocessing took place from 1980-1983.

Both of the above-named reprocessing plants have been closed for many years and authorities at those facilities will not say what became of the separated Canadian plutonium. Thus, it is possible that the shipments on the Pacific Egret could have contained Canadian plutonium that had been separated in Belgium and Italy.

According to the AECB letter, spent fuel from the Atomic Energy of Canada Limited's Whiteshell Nuclear Research Establishment was reprocessed at the B-204 reprocessing plant at Sellafield and plutonium from that campaign appears to have been returned to Canada. Not all the spent fuel was reprocessed and may now face a disposal problem for the UK. There is no indication that either Canadian plutonium or spent fuel is now being returned from Sellafield to North America.

If Canadian-origin plutonium has been brought to the United States, it is unknown if it would have been taken over land to Canada or taken to SRS. If the plutonium did go to SRS - possibly under a secret ownership agreement with the US - then South Carolina must be informed of that and what the disposition pathway out of South Carolina is for that material. The massive failure of DOE's \$30-billion plutonium fuel (MOX) program at SRS has underscored that there is currently no pathway out of the state for stored weapons plutonium and adding commercial plutonium to the stockpile only exacerbates the plutonium problem for both DOE and South Carolina.

If the Pacific Egret carried plutonium owned by a country other than Canada, then the amounts, country of origin and disposition pathways must be revealed.

In any event, Canada must live up to international nuclear non-proliferation norms and fully account for the fate of its entire plutonium stockpile, which may be on the order of 40 kilograms.

Photos of the Pacific Egret can be provided on request. Documentation about Canada's role in reprocessing in Italy, Belgium and the UK can also be provided on request.

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Ottawa (Ontario) Citizen

U.S. delays moving armed convoys carrying nuclear waste through eastern Ontario

Lethal liquid from Chalk River to be moved to North Carolina facility

BY IAN MACLEOD, OTTAWA CITIZEN MARCH 20, 2014

OTTAWA — Armed convoys of trucks ferrying intensely radioactive liquid through eastern Ontario to the United States will be delayed for at least another 17 months, according to the U.S. government.

The Department of Energy, in its 2015 budget request to Congress released Wednesday, says the controversial shipments are not expected to begin moving to a U.S. nuclear reprocessing plant until September 2015, two years later than originally planned.

No reason was given, but the U.S. Nuclear Regulatory Commission (USNRC) has slowed the anticipated approval process with extended questioning about the design of the steel casks to carry the 23,000 litres of toxic cargo to the Savannah River Site (SRS) in Aiken, South Carolina. A USNRC container certification decision is anticipated in June.

The Canadian Nuclear Safety Commission (CNSC) is in the midst of a similar container certification review. Separate federal transport and export approvals also will be required.

In the meantime, the CNSC has launched an extensive online public education campaign about the liquid and its planned 1,700-kilometre journey to counter what it considers to be alarmist statements from anti-nuclear activists in Canada and the U.S..

Nuclear materials including radioactive liquids are routinely transported across North America without incident. But no one has ever attempted to move a such a large, lethal brew with an estimated 161 kilograms of high-enriched uranium (HEU) containing 93 per cent uranium-235, the isotope that sustains a fission chain reaction. Also present are plutonium, tritium, other fission products and mercury.

An accidental spill or an act of sabotage would trigger an environmental catastrophe.

The liquid is a leftover byproduct from Chalk River's medical isotope production, which irradiates HEU imported from the U.S. inside the NRU research reactor. Canada has pledged to return inventories of U.S.-origin HEU to lessen the risk of nuclear terrorism and is footing the \$60-million cost to remove the HEU-bearing liquid from Canada.

A crucial consideration is understanding its unique material characteristics.

The liquid is now securely stored in a fortified, in-ground tank at Chalk River and carefully monitored, mixed and warmed to prevent the HEU particles from solidifying and — in a worst-case scenario — potentially achieving a self-sustaining chain reaction of fissioning atoms called criticality.

The energy and heat from such a chain reaction could potentially rupture the tank, release the solution

into the environment, and endanger anyone nearby. There would be no danger of a nuclear explosion.

The tank also is under constant surveillance by the International Atomic Energy Commission to prevent the removal of any of the weapons-grade HEU.

Based on previous U.S. government documents, it would take at least 179 shipments to move the entire contents over the course of at least a few years.

Nuclear activist are upset that regulators on both side of the border are not holding public environmental safety hearings.

"While government-to-government discussions about the proposed shipment of liquid high-level waste is unfortunately taking place with no public input, I would hope that the big delay in the shipping date indicates the proposal is being reconsidered," Tom Clements, an adviser to the South Carolina chapter of the Sierra Club, said Thursday.

"The delay in the initial shipment will now give Canadian authorities ample time to analyze options to dispose of the contents of the tank in Canada," including solidifying the material and placing it in secure, on-site storage at Chalk River.

"Given that the waste from Chalk River will only add an additional strain on the already overburden high-level waste infrastructure at SRS, a decision keeping the waste in Canada, where it originated, would be the soundest decision from environmental and non-proliferation perspectives."

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<http://www.ottawacitizen.com/news/delays+moving+armed+convoys+carrying+nuclear+waste+through+eastern+Ontario/9642616/story.html>

WEDNESDAY, MARCH 12, 2014 THE GREENVILLE NEWS

VOICES

THE GREENVILLE NEWS EDITORIAL

Removing plutonium is a priority

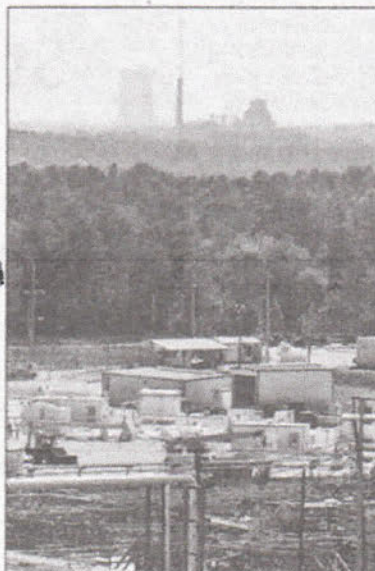
Once again, the Obama administration has presented a federal budget request that would in effect kill a nuclear fuel reprocessing project at the Savannah River Site that has long been the hope for SRS to be rid of weapons-grade nuclear material that was brought to the site near Aiken specifically to be turned into fuel for nuclear power plants.

The mixed-oxide, or MOX, reprocessing plant was started in 2007. It has yet to open and is tremendously over its initial \$3.8 million budget. The recent budget proposal from the United States Department of Energy requests funding to place the facility on "cold standby," according to a recent report on GreenvilleOnline.com. That status would essentially mean the project is dead.

Although the site has been the only hope of converting weapons-grade plutonium to usable nuclear fuel, and although it is a tangible representation of the United States' commitment to a treaty with Russia to dispose of the material, the death of the plant might mercifully put the federal government on a more viable path to disposing of the nuclear material.

The problem is, the domestic market for mixed-oxide fuel never materialized. The market was hurt, in part, by the 2011 accident at the Fukushima Dai-ichi nuclear plant in Japan. That plant was using MOX fuel when it was overwhelmed by an earthquake and tsunami that eventually led to the meltdown of multiple reactors. The questions in the wake of the accident led the few utilities that had been considering building MOX reactors to back off of those plans.

Some concerns also have been raised that reprocessing the weapons-grade material would make it easier for terrorists to



The Savannah River Site is home to a wide array of radioactive material, but was not meant to be a permanent storage site. BART BOATWRIGHT/STAFF

at nuclear power plants.

It is distressing that the money that has been spent to build this facility so far will have been wasted. The facility was about 60 percent completed a year ago and the construction phase has provided more than 2,000 jobs in the Aiken area. Granted, such things do not justify completion of a project that has a limited benefit when it is finished, but they should underscore to the federal government and to Congress that abandoning the MOX facility should not be done lightly.

However, given the reluctance of American utilities to use MOX fuel to generate electricity, the expense of the facility is of questionable value. Why reprocess the waste into usable fuel if no one is willing to buy the fuel? It would simply be transforming the waste from one form of dangerous material into another.

If the federal government

there needs to be an alternative plan for disposing of the weapons-grade material. In its budget request, the Department of Energy said it is "evaluating alternative plutonium disposition technologies to MOX that will achieve a safe and secure solution more quickly and cost effectively." It also underscored that it is committed to the treaty with Russia.

There needs to be follow up from our state's leaders and congressional delegation to make sure the former is true.

Indeed, the federal government has an obligation to convert this waste or remove it from South Carolina. The waste was brought here on a promise that this was a temporary storage site and the MOX reactor would convert it to a usable nuclear fuel that would be sold to electric utilities in the United States and elsewhere.

This project has languished far too long. If a market materializes for the MOX fuel, the plant should be finished because it is a viable way to dispose of weapons-grade plutonium. But if no such market exists, as difficult as it is to praise continued efforts to abandon the project, killing the MOX facility could spur the federal government to study and approve a different plan for disposing of the waste, and it could be viewed as a step forward.

Whatever happens with the MOX reprocessing facility, the No. 1 concern for South Carolinians and for our congressional delegation needs to be ensuring that the federal government and the Department of Energy do not forget the amount of nuclear waste being held at SRS, the willingness of this state to accept that waste and the potential danger it represents to South Carolinians. The response should be continual help in removing that

Editorial: Removing plutonium is a priority

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Once again, the Obama administration has presented a federal budget request that would in effect kill a nuclear fuel reprocessing project at the Savannah River Site that has long been the hope for SRS to be rid of weapons-grade nuclear material that was brought to the site near Aiken specifically to be turned into fuel for nuclear power plants.

The mixed-oxide, or MOX, reprocessing plant was started in 2007. It has yet to open and is tremendously over its initial \$3.8 million budget. The recent budget proposal from the United States Department of Energy requests funding to place the facility on "cold standby," according to a recent report on GreenvilleOnline.com. That status would essentially mean the project is dead.

Although the site has been the only hope of converting weapons-grade plutonium to usable nuclear fuel, and although it is a tangible representation of the United States' commitment to a treaty with Russia to dispose of the material, the death of the plant might mercifully put the federal government on a more viable path to disposing of the nuclear material.

The problem is, the domestic market for mixed-oxide fuel never materialized. The market was hurt, in part, by the 2011 accident at the Fukushima Daiichi nuclear plant in Japan. That plant was using MOX fuel when it was overwhelmed by an earthquake and tsunami that eventually led to the meltdown of multiple reactors. The questions in the wake of the accident led the few utilities that had been considering building MOX reactors to back off of those plans.

Some concerns also have been raised that reprocessing the weapons-grade material would make it easier for terrorists to obtain the plutonium for a weapon as it is being processed or transported or, ultimately, stored at nuclear power plants.

It is distressing that the money that has been spent to build this facility so far will have been wasted. The facility was about 60 percent completed a year ago and the construction phase has provided more than 2,000 jobs in the Aiken area. Granted, such things do not justify completion of a project that has a limited benefit when it is finished, but they should underscore to the federal government and to Congress that abandoning the MOX facility should not be done lightly.

However, given the reluctance of American utilities to use MOX fuel to generate electricity, the expense of the facility is of questionable value. Why reprocess the waste into usable fuel if no one is willing to buy the fuel? It would simply be transforming the waste from one form of dangerous material into another.

If the federal government does abandon its plans for a MOX reprocessing facility at the Savannah River Site, though, there needs to be an alternative plan for disposing of the weapons-grade material. In its budget request, the Department of Energy said it is "evaluating alternative plutonium disposition technologies to MOX that will achieve a safe and secure solution more quickly and cost effectively." It also underscored that it is committed to the treaty with Russia.

There needs to be follow up from our state's leaders and congressional delegation to make sure the former is true.

Indeed, the federal government has an obligation to convert this waste or remove it from South Carolina. The waste was brought here on a promise that this was a temporary storage site and the MOX reactor would convert it to a usable nuclear fuel that would be sold to electric utilities in the United States and elsewhere.

This project has languished far too long. If a market materializes for the MOX fuel, the plant should be finished because it is a viable way to dispose of weapons-grade plutonium. But if no such market exists, as difficult as it is to praise continued efforts to abandon the project, killing the MOX facility could spur the federal government to study and approve a different plan for disposing of the waste, and it could be viewed as a step forward.

Whatever happens with the MOX reprocessing facility, the No. 1 concern for South Carolinians and for our congressional delegation needs to be ensuring that the federal government and the Department of Energy do not forget the amount of nuclear waste being held at SRS, the willingness of this state to accept that waste and the potential danger it represents to South Carolinians. The response should be continual help in removing that material from its *temporary* storage here.