Meeting Minutes
Savannah River Site (SRS) Citizens Advisory Board (CAB) – Combined Committees Meeting
Augusta, Georgia (GA)
July 21, 2014

Monday, July 21, 2014 Attendance:

CAB
Thomas Barnes
Louie Chavis
Robert Doerr
Murlene Ennis – ***Absent***
Dr. Michael Havird – ***Absent***
Dr. Rose Hayes
Dr. Eleanor Hopson
Dr. Virginia Jones – ***Absent***
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 – ***Absent***
Steven Vincent – ***Absent***
Louis Walters

DOE
Kristen Ellis, DOE-HQ
Angelia Adams, DOE-SR
Avery Hammett, DOE-SR
Gerri Flemming, DOE-SR
Jim Folk, DOE-SR
Maxcine Maxted, DOE-SR
Pat McGuire, DOE-SR
Rich Olsen, DOE-SR
Julie Petersen, DOE-SR
Sherri Ross, DOE-SR
Terry Spears, DOE-SR
Sandra Waisley, DOE-SR
Armanda Watson, DOE-SR

Contractors
Jeanette Hyatt, SRNL
Kim Cauthen, SRNS
Mtesa Wright, SRNS
Jesslyn Anderson, Time Solutions
James Tanner, Time Solutions
Ashley Whitaker, Time Solutions

Agency Liaisons/Regulators
Kyle Bryant, EPA
Sean Hayes, GADNR
Jim Shaffner, NRC
Kim Brinkley, SCDHEC
Heather Cathcart, SCDHEC
Trey Reed, SCDHEC

Stakeholders
Donna Antonucci
Nancy Bobbitt
Don Bridges
Tom Clements
Art Domby
Dawn Gillas
Liz Goodson
Joe Ortaldo
Karen Patterson
Frank Redmond
Harry Sheally

Welcome & Agenda Review

CAB Facilitator, Ashley Whitaker, Time Solutions, welcomed everyone to the meeting. She read the Meeting Rules of Conduct and reviewed the day's agenda. She stated a public comment period was scheduled for the end of the meeting. She said July marked the twentieth anniversary for the Environmental Management Site Specific Advisory Boards (EMSSAB) and invited everyone to a celebration after the meeting. She reminded everyone how to access electronic copies of meeting materials through the CABNET feature before she welcomed CAB Chair Marolyn Parson to open the meeting.

CAB Chair Parson welcomed everyone to Augusta, GA. She noted the abbreviated agenda and encouraged everyone to attend the EMSSAB twentieth anniversary celebration. She thanked DOE for providing 20 years of information to the CAB, and opened the meeting.

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

CAB member Rose Hayes listed the NM Committee members and reviewed the committee's purpose. She listed each NM 2014 Work Plan topic. She announced the next NM Committee meeting was scheduled for August 12, 2014, at the DOE Meeting Center. She provided a recommendation status update, stating recommendation 307 was open. CAB member Hayes said the NM Committee was waiting for DOE to provide information about the results of the aluminum drying program. CAB member Nina Spinelli asked if the CAB should develop a position paper regarding the status of the drying study. CAB member Hayes said she felt the NM Committee should either develop a position paper or recommendation asking DOE to develop the drying program and advise the CAB of the programs development.

Ms. Maxted, DOE-SR, explained that funding was limited for 2014 and DOE had not made progress related to the drying program since DOE was focusing on reliable power instead of dry storage. Ms. Maxted explained the drying process was a balancing act between "how fast and how long the aluminum should be dried to ensure it was safe." CAB member Hayes asked

if any other sites in the DOE complex tried to dry aluminum fuels. Ms. Maxted said Idaho had dried aluminum fuel; however, the fuel at Idaho was vented to out into the atmosphere, which was not the same condition that would be used at SRS. Ms. Maxted stated that Hanford had modeling of aluminum fuel, but she did not know if Hanford actually conducted tests to dry the aluminum. She explained that DOE was trying to confirm the modeling at Hanford. CAB member Hayes asked if dry casks had to be available to conduct the drying program. Ms. Maxted explained that DOE would not immediately use a dry cask since studies would first be conducted on the small "lab-scale" in order to learn and implement what should be done on the "full-scale" approach. CAB member Hayes asked if the Savannah River National Laboratory (SRNL) would be involved if the drying program was further developed at SRS. Ms. Maxted said SRNL would be involved. CAB member Hayes asked what "Plan B" was if there currently was no funding to make any headway on the drying program. Ms. Maxted explained that "Plan B" involved the 1,000 bundles of material test reactor fuel that could be processed in H-Canyon. Ms. Maxted also explained that if DOE processed those fuels, there would be enough room in L-Basin to accommodate the anticipated foreign research reactor (FRR) and domestic research reactor (DRR) receipts.

CAB member Hayes said she wanted to leave recommendation 307 "open" until there was funding to conduct the drying study. Mr. Pat McGuire, DOE-SR, said the preferred alternative, "Plan A," was to process all the aluminum-clad spent nuclear fuel (SNF). Mr. McGuire stated that DOE hoped to start processing the aluminum-clad SNF before the end of this fiscal year (FY). He stated the processing would last approximately three to four years in order to process up to 1,000 bundles and up to 200 High Flux Isotope Reactor (HFIR) cores. Mr. McGuire said DOE's main priority was to continue processing the aluminum fuel with a goal to eventually get out of L-Basin completely, by processing all aluminum fuel and shipping the non-aluminum fuel somewhere else. CAB member Hayes asked if DOE knew how many FRR receipts would be coming to SRS. Mr. McGuire said DOE had a "fairly good forecast" of what countries would be returning foreign fuel. He stated the FRR program was scheduled to end May 2019; however, DOE would continue to receive domestic fuel from various university reactors into the early 2030's. CAB member Hayes thanked everyone for their input before she introduced two draft recommendations.

Draft Recommendation Discussion

"Planning for Disposition of SRS Canisters and L-Basin Materials"

CAB member Hayes stated CAB member Virginia Jones was the recommendation manager for the first draft recommendation that combined past recommendations 314 and 313. She said the past recommendations involved suggesting that DOE use canisters from the Defense Waste Processing Facility (DWPF) and assemblies from L-Basin to develop a test plan to provide useful information for eventually sending the SNF and High-Level Waste from SRS to a government repository. CAB member Hayes read the draft recommendation before asking if there were any comments.

CAB Chair Parson asked if the canisters currently stored at SRS were in shipping containers. CAB Chair Parson also asked if the canisters would have to be modified in order to be shipped to a repository. Mr. Jim Folk, DOE-SR, stated that DOE did not have a certified shipping container at that time; however, if a shipping container was available, the canisters would have to be decontaminated. CAB member Hayes asked Mr. Folk if the vaults that housed canisters in the GWSB would be contaminated if canisters were removed. Mr. Folk said there could be minimal amounts of contamination. CAB member Hayes asked if there were plans for closure of the two GWSB buildings. Mr. Folk said he had not seen a formal plan for closure of the two buildings.

"Chemical Separation or Partitioning and Transmutation (P/T) of Used Nuclear Fuel and Defense High-Level Radioactive Waste"

CAB member Hayes read and discussed each item of the draft recommendation before asking if there were any comments. CAB member Louis Walters asked how it was determined that the phrase "with no return on investment" was included within the draft recommendation. CAB member Hayes said the intent of the phrase was to recognize that billions of tax payer dollars were spent to provide a permanent repository for the nations High-Level Waste and SNF, but no scientific explanation was provided explaining why the repository plan was closed.

CAB member Parson explained that no matter what advanced technologies occurred, there was a direct relationship between the waste forms and where those particular waste forms could be stored. CAB Chair Parson asked if any topic within the 2014 NM Work Plan could support a presentation about the possibility of German fuel coming to SRS. Mr. McGuire said he would contact the CAB Support Team to discuss when the CAB could receive a presentation about the German fuel.

CAB member Spinelli suggested deleting the term "geologic" from item number two of the draft recommendation. CAB member Hayes stated she would like both draft recommendations to be voted on the following day.

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

CAB member Earl Sheppard listed the WM Committee members and reviewed the committee's purpose. He provided a recommendation status update, stating recommendations 311 and 312 were open. He announced the next WM Committee meeting was scheduled for August 12, 2014, at the DOE Meeting Center. He then welcomed Mr. Jim Shaffner, Nuclear Regulatory Commission (NRC) to begin his presentation.

PRESENTATION: Nuclear Regulatory Commission Consultative Technical Evaluation Report for H-Area Tank Farm – Jim Shaffner, NRC

Mr. Jim Shaffner announced that the NRC was holding a public meeting that evening to allow DOE and members of the public to question the NRC recommendations. He stated the purpose of his presentation was to fulfill a 2014 WM Work Plan topic by discussing the NRC Consultative Technical Evaluation Report (TER) for the H-Tank Farm (HTF), as required by the National Defense Authorization Act (NDAA) of 2005. He provided background information stating "consultation" and "monitoring" were the two main roles of the NRC. He said the NRC performed consultation as part of the DOE Waste Determination (WD). He explained that consultation was originally going to be performed on an "individual tank basis;" however, to be more efficient, consultation was now performed using an "aggregate tank farm basis." Mr. Shaffner explained that the NRC began the "monitoring" role after completing the WD phase. He stated monitoring activities, which were conducted in coordination with South Carolina Department of Health and Environmental Control (SCDHEC), for F-Tank Farm (FTF) and HTF were combined to promote more efficiency. Mr. Shaffner stated the consultation chronology began in February 2013, when DOE transmitted the Draft Basis Document and related Performance Assessment for HTF closure to the NRC. He explained that in July 2013, the NRC transmitted request for additional information (RAIs) to DOE, which DOE formally responded to in November 2013 and January 2014. Mr. Shaffner said the NRC worked to finalize the TER from January 2014 through June 2014, before sending the final TER to DOE on June 17, 2014. Mr. Shaffner mentioned the final TER was available to the public on June 24, 2014. He provided an overview of the HTF TER stating there were three criterions, specified within the NDAA, that were addressed within the TER. He said the first criterion was "whether or not repository disposal was required." He explained DOE concluded in the Draft Basis Document that geologic disposal was not required. Mr. Shaffner mentioned the NRC agreed with DOE's conclusion since there were no unique safety or security aspects of HTF that required repository disposal if all other criteria were met. Mr. Shaffner stated the second criterion was "removal of highly radioactive radionuclides to the maximum extent practical." He stated the NRC thought both of DOE's approaches for developing "projected and final tank inventories" were conservative and reasonable; however, he noted the NRC felt improvements could be made to quantify certainty. Mr. Shaffner recommended that DOE continued evaluating various tank cleaning technologies. Mr. Shaffner said the third criterion was "waste classification and ability to meet performance objectives." He stated the waste classification categories were "Class C" and "Greater-Than-Class C (GTCC)." He listed the performance objectives, which were 1) Protection of the general population from releases of radioactivity, 2) Inadvertent intruder protection, 3) Protection of workers and the public during operations, and 4) Long-term stability. He explained that results of criterion three revealed that DOE's waste classification methodology was consistent with NRC guidance; however, the NRC documented that there were uncertainties regarding projected releases and technical support for key barriers. He stated the NRC's key recommendation for the third criterion indicated DOE should conduct waste release experiments. Mr. Shaffner mentioned the NRC review results and recommendations within the HTF TER were based on extensive interactions between DOE and the NRC. He mentioned the HTF TER did not make specific conclusions regarding DOE's ability to meet performance objectives.

CAB member Spinelli asked if funding was available for DOE to conduct waste release experiments. Ms. Sherri Ross, DOE-SR, said funding was available for waste release activities. Ms. Ross explained the plan was to test surrogate material next year, while the actual residual waste would be tested the following year. CAB member Spinelli asked how often NRC conducted a TER. Mr. Gregory Suber, NRC, explained that NRC's consultation phase was complete; however, within the monitoring phase, whenever DOE added additional information or updated Performance Assessments, the NRC conducted additional reviews. CAB member Spinelli asked how the NRC meeting for that evening was advertised. Mr. Shaffner stated the information was posted on the NRC website.

CAB member Hayes asked how criterion one applied to the materials within the tank program. Mr. Shaffner explained that criterion one applied to the waste remaining within the tanks once all High-Level waste had been cleaned out. CAB member Hayes asked what would happen to the remaining material. Mr. Shaffner stated the remaining material would be grouted in place. CAB member Hayes asked if the NRC reviewed tank farm signage. Mr. Shaffner said it was not in the NRC review scope to assess signage.

CAB Chair Parson asked how the term "maximum extent practical" for tank cleaning had changed over time. Mr. Shaffner said the term was an ongoing process of NRC assessing any information DOE provided about the application and evaluation of new tank cleaning technologies.

PRESENTATION: Closure of H-Tank Farm – Sherri Ross, DOE-SR

Ms. Sherri Ross said she wanted to briefly provide an update of HTF closure decisions by discussing the status of regulatory drivers, schedule, and path forward. She provided a diagram of the HTF and said DOE consulted the NRC about accessing all the HTF tanks within the TER. She provided a copy of the "HTF Closure Regulatory Roadmap" chart before she discussed DOE's path forward in FY 2014. Ms. Ross explained that DOE would consider NRC's Consultative TER for closure of HTF before making any decisions. She said DOE was developing a National Environmental Policy Act (NEPA) Supplement Analysis, which would be decided by the SRS Manager, Dr. David Moody, in August 2014. She stated DOE planned to revise the WD and supporting Basis Document in order to support the NRC's consultative advice. She explained the WD and Basis Document would be signed by the Secretary of Energy and hopefully published by October 2014. Ms. Ross explained that the Assistant Manager for Environmental Management was anticipated to make a final decision about the "Tier 1 Closure Authorization" by October 2014. She stated that by October 2014, DOE planned to provide responses to all public comments about the Basis Document before publishing the information in the Federal Register. She provided a link where DOE would plan to post all documents.

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

CAB member Clint Nangle provided a brief S&LM Committee update. He announced the next FD&SR Committee meeting was scheduled for August 21, 2014, at the DOE Meeting Center. He also mentioned the FD&SR Committee did not have any open or draft recommendations to discuss.

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

CAB member Tom Barnes began the FD&SR Committee overview with a recommendation status update. He said recommendations 315 and 317 were open before he announced that the next FD&SR Committee meeting was scheduled for August 21, 2014, at the DOE Meeting Center.

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

CAB member Spinelli said the CAB's 2015 Membership Campaign was underway. She asked CAB members to encourage family members, friends, and coworkers to submit an application for membership on the CAB. She reminded CAB members who were approaching their two-year term limit to reapply by sending a completed application to the CAB Support Team by August 22, 2014. CAB member Spinelli encouraged everyone to visit the CAB Facebook page and website at cab.srs.gov before inviting everyone to the CAB's 20th Anniversary Celebration after the meeting.

Public Comments

Due to technical difficulties part of the public comment section, including comments from Mr. Sheally, was not recorded. However, Mr. Sheally briefly spoke and provided a letter on behalf of Ms. Betty Witham, public. A copy of this letter is attached to this document.

Mr. Tom Clements, SRS Watch, discussed how bringing more nuclear waste to SRS could potentially jeopardize current cleanup efforts as well as create more environmental and safety risks. Mr. Clements referenced several newspaper articles regarding the issue of bringing German fuel to SRS. Mr. Clements also referenced an article published in the February 14, 2014 Weapons Complex Monitor about whether or not Enterprise SRS was the right path for the future of SRS. A copy of each article Mr. Clements provided will be attached to this document.

-Meeting adjourned

All presentations are available for review on the SRS CAB's website: cab.srs.gov

Meeting Minutes
Savannah River Site (SRS) Citizens Advisory Board (CAB) – Full Board Meeting
Augusta, Georgia (GA)
July 22, 2014

Tuesday, July 22, 2014 Attendance:

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

DOE
Kristen Ellis, DOE-HQ
Angelia Adams, DOE-SR
Soni Blanco, DOE-SR
Avery Hammett, DOE-SR
Gerri Flemming, DOE-SR
Jim Folk, DOE-SR
JJ Hynes, DOE-SR
John Lopez, DOE-SR
Rich Olsen, DOE-SR
Phillip Prater, DOE-SR
Terry Spears, DOE-SR
Sandra Waisley, DOE-SR
Armanda Watson, DOE-SR

Agency Liaisons/Regulators
Rob Pope, EPA
Sean Hayes, GADNR
Jim Shaffner, NRC
Kim Brinkley, SCDHEC
Heather Cathcart, SCDHEC
Trey Reed, SCDHEC

Contractors
Jeanette Hyatt, SRNL
Terry Michalske, SRNL
Dewitt Beeler, SRNS
Gerald Blount, SRNS
Kim Cauthen, SRNS
Mtesa Wright, SRNS
Larry Ling, SRR
Jesslyn Anderson, Time Solutions
Melissa Johnson, Time Solutions
James Tanner, Time Solutions
Ashley Whitaker, Time Solutions

Stakeholders
Nancy Bobbitt
Tom Clements
Art Domby
Dawn Gillas
B.J. Howard
Annie Laura Stephens
Becky Rafter
Courtney Hanson

CAB Chair Marolyn Parson opened the meeting. CAB Facilitator, Ashley Whitaker, Time Solutions, led everyone in the Pledge of Allegiance and reviewed the agenda. She thanked everyone who attended the CAB's 20th Anniversary Celebration the night before. 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. She reviewed the correct procedure for renewal or expiration of position papers. She then invited CAB Chair Parson to begin her update.

CAB Chair Opening and Update - Marolyn Parson, CAB

CAB Chair Parson said she hoped everyone was able to attend the CAB 20th Anniversary Celebration the night before. She mentioned how much she enjoyed speaking with members of the original CAB since it was interesting to learn about what SRS issues were important in 1994. CAB Chair Parson called for discussion of the May Full Board meeting minutes stating she appreciated having the meeting minutes since it allowed her to reflect and recall any actions that were taken. There were no suggestions or comments regarding the minutes. She then opened the floor for a vote; the CAB, with no opposition and no abstentions, approved the meeting minutes with 16 votes.

CAB Chair Marolyn Parson continued her update stating CAB membership was at 22 members since two CAB members resigned since the May Full Board meeting. She explained that she and CAB Vice Chair Harold Simon participated in the national Environmental Management Site Specific Advisory Board (EMSSAB) and the SRS CAB was one of the eight EM boards. She explained why the CAB was chartered before she mentioned the next EMSSAB Chairs Meeting would be hosted by the Idaho National Laboratory (INL) Advisory Board on September 15-19, 2014, in Idaho Falls, Idaho. She said the INL Citizens Advisory Board was interested in the completion of the Integrated Waste Treatment Unit, which was being constructed to process remaining sodium bearing liquid waste. CAB Chair Parson explained that design and operational issues for the Integrated Waste Treatment Unit delayed a court ordered startup date, which meant no spent nuclear fuel (SNF) could brought into the INL until all the sodium bearing waste was processed. She showed a map stating that the INL, Hanford, and SRS were the three DOE High-Level Waste sites. She explained that Hanford had more waste tanks than SRS; however, the

waste tanks at SRS contained more curies than the other two sites. She said she and CAB Vice Chair Simon planned to inform the CAB of the INL tour and Chairs meetings. CAB Chair Parson stated she submitted a comment letter to DOE on July 19, 2014, about the scope of the Environmental Assessment (EA) on the proposed project to bring approximately one ton of used nuclear fuel (UNF), containing highly enriched uranium (HEU), from Germany for disposition at SRS. She explained she independently wrote the letter, and before the letter was mailed, she asked CAB members and the public to provide input. She noted that DOE did not ask for opinions on whether the project should be initiated or not, but limited their requests to suggestions of the scope of the EA. She said as a result, her comments were limited to the scope of the EA.

Voting on Renewal of CAB Position Papers

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

CAB Chair Parson read the position paper before opening the floor for discussion. CAB member Rose Hayes mentioned that Ms. Nikki Haley, Governor of South Carolina, and Ms. Catherine Templeton, Director of South Carolina Department of Health and Environmental Control (SCDHEC), both mentioned they planned to enforce Federal Facility Agreement (FFA) laws regulating the closure of waste tanks. CAB member Hayes asked if anyone knew the status of those two indications. Ms. Heather Cathcart, SCDHEC, said she could not address Governor Haley's statement; however, she said she planned to reference Ms. Templeton's June 16, 2014, letter during her update. Ms. Cathcart explained that the milestones in Appendix L of the FFA were associated with bulk waste removal and tank closures. CAB member Hayes asked if the letter clarified how SCDHEC planned to implement fines and if any court action was underway. Ms. Cathcart said the letter did address the fines, but there was no court action at that time.

CAB Chair Parson asked if the position paper, which focused on FY 2014 funding, should expire since 2014 was almost over. CAB member Nina Spinelli suggested letting the current position paper expire, in order to update the position paper to reflect the FY 2015 budget proposal. CAB member Spinelli said she felt the issue within the position paper was important; however, she said she did not want the position paper to be ignored since the title focused on FY 2014.

CAB member Louis Walters agreed the position paper should expire. He stated that the next position paper should state that any recovered funding should be moved to get tank cleanup back on schedule.

CAB member Spinelli asked for clarification on the process for drafting a position paper. CAB Chair Parson stated any CAB member could draft a position paper; however, the first draft had to be reviewed by the Executive Committee. CAB Chair Parson stated the Executive Committee then determined whether the draft position paper should be voted on at the Full Board.

CAB Chair Parson called for a motion. CAB member Spinelli made a motion and the CAB with 15 votes of approval, 1 opposition, and 0 abstentions, voted to let the let the current position paper expire in order to draft a more relevant position paper.

"Position Paper for the Savannah River Site's Citizen Advisory Board on using SRS for Interim Storage of Spent Nuclear Fuel"

CAB Chair Parson read the position paper before asking if there were any comments or small editorial changes. CAB member Michael Havird asked if the position paper should address canisters at the Waste Isolation Pilot Plant (WIPP). Mr. Terry Spears, DOE-SR, said the WIPP facility was a repository for transuranic (TRU) waste and was only for defense produced TRU waste, it had nothing to do with disposal of commercial fuel as stated in the position paper.

CAB member Hayes suggested changing the last sentence of the position paper to "The SRS CAB reminds DOE that SRS has never been tested for, studied for, or licensed for indefinite storage and/or a repository for SNF or High-Level Waste."

CAB Chair Parson said her only concern with CAB member Hayes' suggestion was that the position paper focused on interim storage rather than long-term storage. CAB member Hayes said, "Interim storage becomes long-term storage." CAB Chair Parson said she felt the CAB should not discuss long-term storage since the remainder of the positon paper referenced interim storage. CAB Chair Parson asked the CAB if anyone felt adding the sentence CAB member Hayes suggested changed the context of the position paper.

CAB member Walters asked if the 2048 date was accurate and if it was then adding it to the end of CAB member Hayes' suggested sentence.

CAB member Hayes asked if the sentence could be revised to say, "The SRS CAB reminds DOE that SRS has never been

tested for, studied for, or licensed for indefinite storage of SNF or High-Level Waste and encourages DOE to develop a plan for removal by 2048." CAB Chair Parson said she liked the second proposed sentence better than the first since the word "indefinite" was used instead of "long-term." CAB Chair Parson called for a motion since there were no additional comments. CAB member Hayes made a motion and the CAB with 16 votes of approval, no oppositions, and no abstentions voted to renew the position paper as it had been modified. This position paper has been attached to this document.

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

CAB member Earl Sheppard listed the WM Committee members. He provided a recommendation status update, stating recommendations 311 and 312 were open. He said he wished to change the status of recommendation 311 from "open" to "closed," since the WM Committee felt enough information had been provided. He announced the next WM Committee meeting was scheduled for August 12, 2014, at the DOE Meeting Center. He introduced Mr. Larry Ling, Savannah River Remediation (SRR) to begin his presentation.

PRESENTATION: Liquid Waste System Plan Revision 19 – Larry Ling, SRR

Mr. Larry Ling said the purpose of his presentation was to provide a briefing on revision 19 of the Liquid Waste (LW) System Plan. He provided a systematic diagram, which illustrated all elements, processes, and facilities within the LW system at SRS. He stated SRS was constructed in the early 1950's and explained there were five reactors that operated eradiating targets, which were sent to the reprocessing canyons in F and H areas. He said 51 waste tanks were constructed between 1954 and 1986, ranging from capacities of 750,000 gallons to 1.3 million gallons. He said F-Area had 22 waste tanks while H-Area had 29. He explained how the tank farms were connected by a 2.4 mile transfer line. He stated "sludge" and "salt" were the two waste forms from the tanks. He said SRR processed over 3.7 million gallons of sludge at the Defense Waste Processing Facility (DWPF) since 1996. He explained that SRR had also processed over seven million gallons of salt, which went to the interim salt processing facility known as the Actinide Removal Process (ARP) / Modular Caustic Side Solvent Extraction Unit (MCU). He explained how Saltstone Disposal Facility (SDF) and Saltstone Disposal Units (SDU) fitted into the process. He mentioned that Salt Waste Processing Facility (SWPF), which was scheduled to become operational in October 2018, was the key to the entire LW system. He discussed a "gear chart," which illustrated the high integration and synchronization of various LW operations. Mr. Ling said the purpose of the LW system plan was to integrate and document all necessary activities to safely receive, store, and process waste, while ultimately closing waste tanks. He explained that the LW system plan was a tool for decision makers to use when making key decisions. He explained the LW system plan was updated annually to incorporate advances in technology, changes in sequencing, acceleration opportunities, and funding adjustments. Mr. Ling provided an overview of the system plan revision 19, stating SRR began developing revision 19 in August 2013 by receiving inputs and assumptions from DOE-SR. He said the system plan was modified in April and May of 2014. He explained the new input included 407.1 million dollars for new Budget Authority (BA) to the LW contractor in fiscal year (FY) 2014, 430 million dollars per year to the LW contractor from FY 2015 to FY 2019, and 525 million dollars per year beginning in FY 2020 until the end of the program.

He discussed a chart titled, "Relative Buying Power," stating the red line represented the LW base scope. Mr. Ling mentioned the inputs and assumptions for revision 19 showed that once tanks 16 and 12 were closed there were no projected tank closures until the year 2024; however, he said SRR planned to lower risk reduction by removing tank waste until funding enabled waste tanks to be grouted. He discussed specific results of system plan revision 19 including why SWPF operations would not be supported at rated capacity. He explained that when comparing SWPF capability versus predicted throughput modeling, revision 19 showed a cumulative difference of more than 18 million gallons between FY 2019 and FY 2024, which added two years to the LW lifecycle. He addressed tank closure activities stating that the revision 19 inputs projected that tank grouting would continue in the year 2024. He discussed the importance of interim salt processing activities for revision 19 for FY 2014-2018. He said in FY 2018, interim salt processing at the Actinide Removal Process/ (ARP) Modular Caustic Side Solvent Extraction Unit (MCU) would shut down six months before the SWPF started up in order to modify and incorporate the transfer line to the LW system. He stated the sludge processing strategy was to synchronize DWPF canister production with ARP/MCU production before he addressed the SDU construction strategy. He explained that SDU six was expected to be operational in May 2017. He provided a summary chart of results that compared results of revision 18 and 19. He said SRR was evaluating an alternative case that would maximize salt treatment at SWPF at its rated capacity and provided a second chart of parameters for the alternative case. He said SRR was developing a revision 19 addendum that focused on maintaining risk reduction, removing waste from old-style tanks, and providing enhanced capability for feeding the SWPF. He said he hoped the revision 19 addendum would be complete in August 2014. He explained the results of revision 19 confirmed the importance of SWPF, near term salt processing, SWPF support projects, and SDU construction.

CAB member Hayes asked how many curies of waste had been processed. Mr. Ling said 414,000 curies had been disposed for Saltstone.

CAB member Sheppard asked what the capacity was for SDU tanks. Mr. Ling said the larger tanks had a capacity of 32 million gallons while the smaller SDU's had a capacity of 2.9 million gallons.

PRESENTATION: CAB Recommendation & Work Plan Status Update – Jesslyn Anderson, Time Solutions

Ms. Jesslyn Anderson, Time Solutions, provided an update of the recommendation status report and Work Plan progress. She stated the CAB adopted two recommendations in January. She said recommendations 307, 312, 315, and 317 were open. She provided an update of the CAB Work Plan and highlighted each committee's progress so far for the year.

Public Comments

Ms. Becky Rafter, Georgia Women's Action for New Directions (GAWAND), recognized Ms. Courtney Hanson, GAWAND, who would be leaving GAWAND. Ms. Rafter said Ms. Hanson had shown great support for GA and SC citizens while attending several CAB meetings. Ms. Rafter thanked everyone for recognizing Ms. Hanson's work and support.

Mr. Tom Clements, SRS Watch, thanked the CAB for renewing the position paper about SRS not accepting SNF. He said he posted a copy of the CAB's renewed position paper on the SRS Watch website and encouraged everyone to visit SRSwatch.org. He mentioned he posted an article on his website that discussed how 25 German groups planned to block any SNF shipments from the Jülich site since the German groups wanted a seismically approved storage facility to be constructed. He said it seemed that DOE had become embroiled in a domestic and commercial SNF situation in Germany. He said he was invited to do a speaking tour of Germany and he thought people in Germany would be learning a lot more about SRS.

Ms. Dawn Gillas, public, said the CAB renewed a position paper opposing any type of commercial fuel coming to SRS; however, she explained that not all members of the public agreed with the CAB's opinion. She said, "While I am not necessarily for it, I am for listening to the options, and keeping an open mind."

Ms. Gerri Flemming, DOE-SR, briefly introduced Ms. Melissa Johnson, Program Manager for Time Solutions, which was the contractor the CAB Support Team was employed by. Ms. Flemming also introduced Ms. Kristen Ellis, Director of the Office of Intergovernmental and Community Activities, from DOE-HQ to begin her presentation.

PRESENTATION: Environmental Management Stakeholder Involvement: Success Through Collaboration – Kristen Ellis, DOE-HQ

Ms. Kristen Ellis thanked Ms. Flemming for inviting her to attend the CAB 20th Anniversary Celebration stating it was a big deal to celebrate 20 years of community involvement. She said the purpose of her presentation was to provide an overview of the Office of Intergovernmental and Community Affairs. Ms. Ellis explained that EM had made significant progress towards cleaning up the environmental legacy of the Cold War since only 16 sites, out of 107, needed to be cleaned up. She stated a recent cleanup accomplishment was the "K-25" at the Oak Ridge facility. She provided one illustration that showed how EM funding was budgeted from 1989 through 2013. She also showed a second illustration for how projected funding would be divided from 2013 through 2060. She stated public and intergovernmental involvement was essential to EM success and the completion of significant environmental restoration. Ms. Ellis provided an organizational chart to show how the Office of Intergovernmental and Community Affairs was organized under the Office of External Affairs. She mentioned the 1992 Federal Facilities Environmental Restoration Dialogue Committee, which convened a working dialogue among federal and state agencies, tribal nations, and stakeholder groups. She said the goal of the Facilities Environmental Restoration Dialogue Committee was to develop consensus policy recommendations, aimed to improve the process by which federal facility cleanup recommendations were made. Ms. Ellis listed various groups and intergovernmental organizations that EM supported through grants and cooperative agreements before she discussed the Community Involvement Fund (CIF). She said the CIF provided grants to community-based and non-profit groups near EM sites to increase public participation in environmental cleanup efforts and decision-making processes. Ms. Ellis discussed EM Advisory Committees and commended the SRS CAB for its service to DOE and the communities impacted by SRS cleanup.

CAB member Spinelli asked if a community grant could assist with having a high school or college student as a CAB liaison. Ms. Ellis stated she knew other local SSAB's used the student liaison concept; however, she did not know if any particular grant applied to a student liaison. Ms. Ellis mentioned if the SRS CAB had an idea for a proposal, she could put the CAB in touch with the New Mexico Community Foundation to see if the CAB's request met the grant criteria.

Agency Updates

Mr. Terry Spears, SRS Deputy Manager, Department of Energy – Savannah River (DOE-SR)

Mr. Terry Spears thanked the CAB members for the time and advice they provide to DOE. He hoped everyone was able to attend the CAB 20th Anniversary Celebration the night before, stating it was a great opportunity to meet past CAB members while observing various successes of the CAB. He began his update by discussing the LW program, which had a goal to produce 125 canisters at the DWPF through FY 2014. He said currently approximately 90 percent of the 125 canisters were complete. He explained that salt waste continued to be processed through the Actinide Removal Process (ARP) / Modular Caustic Side Solvent Extraction Unit (MCU). He stated the ARP/MCU experienced an outage at the beginning of the year to install the Next Generation Solvent (NGS); however, he said ARP/MCU was currently up and running. Mr. Spears said 17,000 to 20,000 gallons had been processed through the ARP/MCU with a goal to produce 800,000 gallons of treated waste. He discussed tank cleanup stating that DOE continued to work on closing tanks 12 and 16. He explained that construction of key facilities such as SDU number six, continued. He stated the base mat of SDU six was recently completed and "vertical" construction would begin soon. Mr. Spears mentioned that construction of the SWPF was on schedule and the facility was approximately 70 percent complete. He said DOE anticipated that commissioning activities would occur in the near future in order to move closure to the late 2018 startup date. Mr. Spears discussed Soil and Groundwater cleanup stating that field preparation had begun for closure of four D-Area ash units. He discussed NM processing stating that the processing of sodium reactor experimental (SRE) fuel had resumed in H-Canyon. He said DOE anticipated using H-Canyon for plutonium oxide production to be used in MOX. He said DOE continued to upgrade the safeguards and security systems in H-Area for future missions. He said field activities to categorize the legacy TRU waste at SRS were complete. He stated approximately 125 shipments remained to complete the legacy waste disposition at SRS; however, he explained that DOE did not anticipate the WIPP facility being operational before the end of the FY to support the completion of its goal this FY. Mr. Spears said WIPP was recovering and re-entry efforts would probably continue for the next two years. He mentioned that CAB Chair Parson read through the comments that were being submitted for the German highly enriched uranium (HEU) EA, which the public comment period just concluded on last night. He thanked the CAB for providing comments to the EA. He said as the National Environmental Policy Act (NEPA) process continued, DOE anticipated another public meeting; however, as part of the assessment, in the end DOE would either find there was no significant impact to the work or there would be a requirement, based on the analysis, to conduct an Environmental Impact Statement (EIS). Mr. Spears discussed key personnel changes stating that Mr. Mark Bolton, Wackenhut, replaced President Randy Garver, Wackenhut. He also mentioned Mr. Dwayne Wilson, SRNS, was replaced by Ms. Carol Johnson, SRNS, as the new Executive Officer for SRNS. He explained that Mr. Stuart McVean, SRR, was named the President of SRR. Mr. Spears said DOE looked forward to working with these new managers in the future.

CAB Chair Parson asked Mr. Spears what contractor would perform the EA for the German HEU fuel project. She also asked if Germany was paying for the Environmental Assessment (EA) process. Mr. Spears answered that Germany provided the funding and the Science Application International Corporation (SAIC) would be conducting the work. CAB Chair Parson asked why DOE decided to perform an EA rather than only performing an EIS. Mr. Spears said the mission to remove the graphite and HEU fit within an existing facility that had been doing separations work within the NM processing facilities for several years. Mr. Spears explained that DOE felt the decision warranted an evaluation to determine if the mission was in fact consistent. He said analysis would determine if there were significant differences and environmental impacts that should be studied through the EA.

Mr. Rob Pope, Environmental Protection Agency (EPA)

Mr. Rob Pope began his update by congratulating the CAB on 20 years. He said Superfund had always been a community-oriented program, so the CAB fit nicely into the overall goals of EPA. He said EPA was concerned with D-Area, since it was one of the closest areas to the Savannah River. He said EPA and SCDHEC were concerned about the large ash basins, which were actually filled with water. Mr. Pope sated he was pleased that DOE continued working the D-Area project to clean up the ash basins. He said the goal was to consolidate and "cap" the four ash units so no more ash would be released to the floodplain or Savannah River. He said final decision documents for tanks five and six would be available in the next few months. He explained that tanks five and six were operationally closed and grouted; however, the decision document was an FFA document that transferred tanks five and six from the SC permit into the FFA. He said the second document related to groundwater in

southern L-Area. He said EPA made a "slight mistake" on how they would handle waste from sampling in L-Area and planned to issue an "amended decision document" explaining that EPA would handle the waste in a better way. He discussed tanks and the LW system plan. Mr. Pope said construction of the SWPF was delaying many things. He said LW system plan revision 19 provided ideas about how waste was managed inside tanks and the possibility of reusing tanks. He said EPA was still evaluating those ideas since there were advantages and disadvantages. He stated he attended planning meetings for how to pull the schedule back for closure of tank 12 by September 30, 2015. Mr. Pope explained that if DOE requested an extension for completion dates of tanks 12 and 16, EPA and SCDHEC had to determine whether the extension request was based on technical reasoning or something else. Mr. Pope said if EPA determined DOE could have reached the date, then EPA would go into dispute. He announced that DOE was hosting the TREAT workshop on Wednesday, Thursday, and Friday of dates. He said both Kyle Bryant, Kim Brinkley, and he would be speaking at that meeting.

CAB member Walters asked why EPA was concerned about the reuse of tanks. Mr. Pope said EPA and SCDHEC both originally understood that once a waste tank was emptied, it would be grouted. Mr. Pope explained that the tanks were well beyond their design-life, which was a key reason DOE was already working so hard to close the tanks. He stated that EPA never planned on tanks being reused, but that did not mean they would not have to eventually be reused.

CAB Chair Parson asked why the D-Area ash basins were a big risk. Mr. Pope stated the ash could damage the sensitive environment around wetland area. CAB Chair Parson asked what "capping" meant. Mr. Pope said capping would stop all infiltration and lower the water table in that area so groundwater could not interact with the ash. Mr. Pope said capping was a permanent solution, but the cap would have to be maintained.

CAB member Hayes asked if eight waste tanks were leaking or suspended in the groundwater. Mr. Pope said eight of the tanks were in contact with groundwater; however, he explained that no tanks had active leak sites since the contents were maintained below the leak sites. Mr. Jim Folk, DOE-SR, said a report was released annually which discussed the contents and leak sites for each tank.

Ms. Heather Cathcart, South Carolina Department of Health and Environmental Control (SCDHEC)

Ms. Heather Cathcart began her update stating SCDHEC continued to focus on the need for High-Level Waste risk reduction at SRS. She said SCDHEC continued to review draft portions of the tank 16 Closure Module in advance as a way to shorten the regulatory time frame. She explained that SCDHEC recently received briefings on sampling and characterization plans for tank 12 and revision 19 of the LW system plan. She mentioned that revision 19 forecasted that every LW milestone for bulk waste removal, tank closure, and waste treatment would be missed, which would result in a total cumulative project delay of more than 200 years. She said revision 19 clearly pointed to funding as a major contributor to delay. Ms. Cathcart explained that given the prediction, Ms. Catherine Templeton, Director of SCDEHC, wrote a letter to Secretary Moniz on June 16, 2014. She stated that SCDHEC was pleased with the progress at underway at D-Area stating dewatering efforts for the 488-2D ash basin had begun. She explained that the remaining ash in the basin would be placed in the 488-4D landfill and closure activities were anticipated to commence in the fall. She mentioned a revised implementation schedule for the project would be submitted to the regulators soon. A copy of Ms. Templeton's letter to Secretary Moniz has been attached to this document.

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

Mr. Sean Hayes began his update stating that GADNR recently completed all evaluative exercises for the year, which he said would allow him to attend all future 2014 CAB Full Board meetings. He stated that GADNR had been conducting training exercises with Plant Vogtle. He mentioned the total workforce at Plant Vogtle had surpassed the actual number of residents living within the 10-mile Emergency Planning Zone, which meant GADNR was focusing on dealing with the influx of people while also updating all emergency plans.

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

CAB member Spinelli reviewed her presentation from the previous day. She thanked everyone for attending the 20th Anniversary Celebration and mentioned the Aiken Standard published a nice article about the event. She encouraged CAB members to reach out to other community groups and think of new outreach efforts to attract potential members.

Public Comments

Mr. Tom Clements, SRS Watch, discussed the German fuel EA. He said EIS involving major proposals related to SRS were prepared in the past, but no decisions were ever made. Mr. Clements said some of those EIS that never resulted in decisions included: 1) The new production reactor, which was proposed in the early 1990's to produce more nuclear weapons materials, 2) The modern pit facility to build a new facility to make the plutonium core of nuclear weapons, 3) The global nuclear energy partnership. Mr. Clements said he thought the German fuel EA would "die a silent death," since he felt the Germans were going to withdraw their interests in the proposal. Mr. Clements said a Statement of Intent was signed around the end of March or April to pursue the research to remove the uranium; however, he explained that part of that agreement was that there would be a NEPA document. Mr. Clements stated the NEPA document had been fast tracked because the license had expired at the German Jülich facility so the German's intended to remove the spent fuel from the site or either construct a new storage facility. Mr. Clements commented that he clarified at the July 10, 2014, Governor's Nuclear Advisory Council (GNAC) meeting that the German's were unfortunately driving the DOE schedule.

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

CAB member Hayes reviewed her presentation from the day before providing a recommendation status update. She stated recommendation 307 would remain open. She announced the next NM Committee meeting was scheduled for August 26, 2014, at the DOE Meeting Center.

Draft Recommendation Voting

"Planning for Disposition of SRS Canisters and L-Basin Materials"

CAB member Hayes reviewed each item number of the draft recommendation before opening the floor for voting. There was no additional discussion and the CAB approved the draft recommendation with 16 votes of approval, 0 oppositions, and 0 abstentions.

"Chemical Separation or Partitioning and Transmutation (P/T) of Used Nuclear Fuel and Defense High-Level Radioactive Waste"

CAB member Hayes reviewed the draft recommendation before asking if there were additional comments. There were no additional comments and the CAB adopted this recommendation with 16 votes of approval, 0 oppositions, and 0 abstentions.

Copies of these adopted recommendations are attached to this document.

PRESENTATION: Building 235-F Project Status Update – Dewitt Beeler, SRNS

Mr. Beeler said the purpose of his presentation was to fulfill a NM Committee 2014 Work Plan topic by providing information regarding ongoing risk reduction activities associated with building 235-F. He provided a copy of the "SRS Waste and Material Flow Path" to show where building 235-F was located at SRS. He provided background information about building 235-F stating the facility had several missions in the past, but most recently used plutonium 238 to fabricate fuel to power deep space missions. He stated there residual plutonium 238 in the Plutonium Fuel Form (PuFF) facility. He explained the driver for handling the residual material in the PuFF was if an earthquake occurred and initiated a "full facility fire" there would be an unmitigated dose to the people working in the immediate area. He stated the dose consequences for the "seismically initiated full facility fire" scenario were documented in the "Building 235-F Safety Basis" and "Building 235-F Deactivation Project Plan." Mr. Beeler said the residual material remaining in the facility was last measured in the year 2006. He discussed the facility was safely maintained in the "surveillance and maintenance mode" with the objective to remove and immobilize the materials in the PuFF cells to below 100 millirem. He said the end state for the facility would be determined through a Core Agreement with regulators. He provided an overview of NM recommendation #293 and explained that DOE issued an Implementation Plan to the Defense Nuclear Facilities Safety Board (DNFSB) on December 5, 2012. He stated DOE was currently in the process of implementing the plan.

He said the six concerns that were a result of the DNFSB recommendation included: 1) Immobilize and/or remove the residual Pu-238, 2) Remove all transient and fixed combustibles that were not directly necessary for activities, 3) Ensure all necessary electrical equipment was in a safe configuration, 4) Evaluate operability of early detection and alarm systems, 5) Ensure an integrated emergency response plan was in place, and 6) ensure periodic coordinated drills in response to a simulated event at 235-F were conducted. He said DOE was preparing to enter the cells in order to immobilize and remove the residual Pu-238;

however, he explained safety requirements had to be established before going into the cells. He stated almost all the transient and fixed combustibles had been removed and a program was established to make sure all were removed. He said DOE was in the process of ensuring that all necessary electrical equipment was in a safe configuration by de-energizing all components that were no longer needed in the facility. Mr. Beeler said the facility's early Fire Detection and Alarm System (FDAS) was being updated. He explained that emergency response plans and coordinated drills had been implemented last year and this year. He discussed the current status of building 235-F, stating DOE continued to implement actions in response to DNFSB Recommendation 2012-1. He said there were funding challenges but when budget sequestration began in fiscal year (FY) 2013, the majority of the FY 2013 actions were completed on schedule. Mr. Beeler listed several key accomplishments such as replacing the facility roof in year 2012. He stated the transient combustible control program plan, fixed combustible removal plan, and de-energization plan were all developed and implemented. He mentioned the technical work to upgrade the existing FDAS was completed. He noted that Emergency Preparedness drills were planned and conducted in F-Area and adjacent construction sites. He said a core Project Management Team as well as a detailed Project Deactivation Plan that covered the full life-cycle of the project were both developed. He explained the key plans for FY 2014 involved crew retention and training, use of the mock-up facility, begin field work, development of technical documentation for facility activities, and implementation of a "Safety Basis Implementation Plan" to implement the portions of the "Deactivation Safety Basis." He provided a chart of the current project schedule and explained that all FY 2013 actions were completed. Mr. Beeler stated the project anticipated a funding profile of up to 9 million dollars per year and that the current FY 2014 funding level for 235-F risk reduction activities were established.

CAB member Hayes asked how many millirem would be released if a seismic event and fire occurred at building 235-F. Mr. Beeler said that 11.6 millirem could be released if a fire occurred.

CAB Chair Parson asked how the materials would be decontaminated once removed from the facility glove boxes. Mr. Beeler explained that workers inside glove boxes brought materials over to a "glove port," which had a "bag out port." He said the "bag out port" was sealed and attached to the glove box. He said people with their hands in gloves, work that part over inside that "bag out port" before the package was placed into another container, sealed, and measured. Mr. Beeler said once the container was placed into another container, which would be the third barrier, the container would then go into the normal SRS process to be taken to E-Area where it will be measured, validated, and sit until a disposition path to WIPP was restored.

CAB member Spinelli asked what would occur if a full facility fire occurred. Mr. Beeler said building 235-F catching fire would be handled the same way as any other fire that occurred on SRS. He said there was not a more specific answer because it depended on the exact situation. Mr. Rob Pope asked about the diameter of the 29,000 millirem exposure. Mr. Beeler said the 29,000 millirem was located around the 235-F only.

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

CAB member Clint Nangle listed the S&LM Committee members before reviewing the purpose of the S&LM Committee. He provided a recommendation status update, stating the S&LM Committee did not have any draft or open recommendations. He explained the S&LM Committee was working to develop a draft recommendation about the effectiveness, unique abilities, and national importance of SRNL. He announced the next S&LM Committee meeting was scheduled for August 26, 2014, from 4:30 – 6:20 P.M. at the DOE Meeting Center and introduced Mr. John Lopez, DOE-SR, to begin his presentation.

PRESENTATION: Savannah River Site Budget Update – John Lopez, DOE-SR

Mr. Lopez said the purpose of his presentation was to discuss the Federal Budgeting Process, SRS budgeting challenges, and the funding table for FY 2013-2015. He provided a diagram for the Federal Budgeting Process. He said the inside of the circle represented the budget execution year DOE was working in, which he said would be FY 2014 for the purpose of the presentation. He stated that DOE began budgeting efforts two years in advance and explained how the outer circle of the diagram represented DOE beginning to plan for FY 2016. He discussed the rest of the diagram before he described budget challenges for SRS. He said there was a lapse of appropriations October 1 – October 17, 2013 and a continuing resolution (CR) was approved through January 15, 2014. He explained a final appropriations was approved on January 18, 2014. He said for FY 2014 the Congressional Budget Request was 1.2 billion dollars and DOE-SR actually received 1.255 billion dollars. Mr. Lopez mentioned DOE-SR was planning for another CR for FY 2015 since that was what DOE-HQ seemed to expect. He provided a chart of the Major SRS Cleanup Program Areas, which were called Performance Baseline Summaries (PBS). He said the Office of Management and Budget (OMB) placed "Category B restrictions" on the money for each PBS control point, which did not allow DOE-SR to move money between any of the funding sources unless authorized by OMB. He discussed a chart titled, "FY 2015 SRS Environmental Management Budget Request." Mr. Hintze explained that 11C Nuclear Materials (NM), 12 Used Nuclear Fuel (UNF), 13 Solid Waste, 30 Soil and Groundwater Remediation were the SRS Risk Management

Operations Program Baseline Summaries (PBS). He explained how PBS 14 Liquid Waste (LW) included individual control points, or "buckets" of money. He also discussed the amount of funding for PBS 100 Community and Regulatory Support and PBS 20 Safeguards and Security. He said DOE-SR submitted the FY 2015 budget request to Congress in February 2014; however, he said DOE had heard possibilities of a CR, which meant an appropriation might not be available at the beginning of the year. He listed and explained FY 2014 and 2015planned accomplishments for PBS 11 NM, PBS 12 UNF, PBS 13 Solid Waste, PBS 14 LW, PBS 20 Safeguards and Security, and PBS 30 Soil and Groundwater Remediation.

CAB member Hayes asked what projects were included under the PBS 11C NM and PBS 12 UNF. Mr. JJ Hynes, DOE-SR, said PBS 11C covered projects related to H-Canyon, HB Line, F-Area, and the F-Area laboratory while PBS 12 covered L-Area. CAB member Hayes asked what PBS applied to DWPF. Mr. Lopez explained that DWPF was covered under PBS 14 C.

CAB member Spinelli asked if the LW disposition program was entirely covered under PBS 14. Mr. Lopez said the LW disposition program fell under PBS 14C.

CAB member Robert Doerr asked how a CR could impact SRS and the funding amounts from the EM Budget Request. Mr. Lopez explained that he felt SRS would not be impacted too badly if a short-term CR was enacted.

Mr. Pope asked what the President's budget looked like compared to the House and Senate markup. Mr. Pope also asked if there were many differences between the two markups. Mr. Lopez said he had not seen the Senate markup, but he knew the House markup for the Risk and Operations (R&O) Management Operations amount was 598, which he explained went down a little bit. Mr. Lopez said he thought the Senate markup was possibly higher than the President's Budget Request, which meant there were large differences between the House and Senate at that time.

CAB member Walters said at the 20th Anniversary Celebration it was stated that the CAB helped save SRS over an estimated 100 million dollars over the 20 year period. He asked Mr. Lopez how that information could be reflected in the budget configuration. Mr. Terry Spears explained that his comment about the CAB saving DOE an estimated 100 million dollars was based on his experience of serving at SRS and interfacing with the CAB over the past 20 years. Mr. Spears said there was no cost estimates directly correlated to his statement. CAB member Walters asked Mr. Lopez if a category was used to calculate funds that were generated from work being done for other companies. Mr. Lopez explained that DOE-SR hoped to use TVA funds to perform work at SRS; however, OMB said the money had to go back to the Treasury.

Mr. David Hoel, public, asked Mr. Lopez if the OMB Budget targets that DOE received at the beginning of the cycle were divvied up by site and PBS. Mr. Lopez replied, "Yes." Mr. Hoel asked if OMB decided whether the funding request that was sent to Congress met the regulatory commitments or not. Mr. Lopez said that was correct stating, "We are required to submit our request to meet those requirements and then what OMB does for it after that is out of our hands."

CAB Chair Parson asked if there was still hope that Congress would get an appropriations bill. Mr. Lopez said DOE-SR had been asked to begin planning for a CR.

PRESENTATION: <u>Update on the Environmental Management National Laboratory</u> – Terry Michalske, SRNL

Dr. Michalske stated the purpose of his presentation was to satisfy a 2014 S&LM Work Plan topic by providing an update on the business status and direction of SRNL. He said SRNL had been operational since SRS opened, and was designated as a national laboratory 10 years ago. He explained the two types of national laboratories were "single purpose" and "multi-program" laboratories. He mentioned "single purpose" laboratories had smaller staffs and operated with a budget range of at least 30 million dollars, while "multi-purpose" laboratories had annual budgets of one billion dollars, employed more staff, and were regional economic engines. Dr. Michalske discussed how SRNL was a smaller "multi-program" national laboratory. He stated SRNL measured its value by the amount of people who paid SRNL to perform work. He said SRNL worked with more than 100 companies and universities, more than 20 federal agencies and departments, and 54 countries. He said 58 percent of the work performed at SRNL applied to National Security, 35 percent applied to Environmental Stewardship, and 7 percent applied to Clean Energy. Dr. Michalske said SRNL had four core nuclear capabilities, which included: 1) Environmental Remediation and Risk Reduction, 2) Nuclear Materials Processing and Disposition, 3) Nuclear Detection, Characterization and Assessments, and 4) Gas Processing, Storage, and Transfer Systems. He explained the core nuclear capabilities were the "products" SRNL sold to customers. He provided another chart titled, "National Laboratory Safety Data 2008-2012" stating that SRNL had been the safest national laboratory in the DOE complex for eight years. He provided pictures of the SRNL main campus, Applied Research Center, Aiken County's Savannah River Research Campus, and the Aiken County Technology Laboratory. He also provided pictures of the unique facilities SRNL used to manage radioactive and non-radioactive materials.

He said SRNL was serving the national environmental cleanup mission by serving at every cleanup facility in the DOE complex. He said SRNL was the only U.S. laboratory that had contracts with the Tokyo Electric Power Company (TEPCO) to support Fukushima cleanup efforts. He said the research conducted over the last five years had been converted into five billion dollars of savings. Dr. Michalske said SRNL provided national security for the world through port security, tritium expertise, using the world's only radiological crime FBI laboratory, and the mobile plutonium facility. He provided pictures of how SRNL contributed to regional clean energy initiatives through hydrogen research, safe nuclear fuel, wind energy, natural gas, and solar research. He explained that innovation at SRNL could be an economic engine for the region, which was why it was important for various technologies to be introduced into the market. He provided pictures of various technologies before discussing how SRNL was a catalyst for future growth. Dr. Michalske explained that future targets for SRNL involved expanding EM business role, both in the DOE complex and via international opportunities, developing innovative approaches to nuclear materials management, applying existing core competencies to targeted clean energy business opportunities, and expanding support to national security customer base.

CAB member Hayes asked if advanced technologies being conducted at SRNL could become the bridge to clean energy technologies. Dr. Michalske said absolutely, but SRNL was focused on applying learned knowledge and innovation to the future in order to pave the way for future technologies. CAB member Hayes asked what current technologies were being developed or evaluated at SRNL. Dr. Michalske said he said a few of the new research areas involved natural gas utilization, and miniaturizing chemical plants.

CAB member Spinelli asked if SRNL was able to keep money that was earned in licensing new technologies. Dr. Michalske explained that any left over money was able to be used by SRNL. He said a program divided the total amount of money between SRNL, the particular organization within the lab, and the people at SRNL who actually developed the invention or technology.

CAB member Walters asked if SRNL researched clean coal technology. Dr. Michalske said SRNL recently licensed technology that would help capture CO2, which he said was the critical step in cleaning coal. CAB member Walters asked when that technology would be introduced. Dr. Michalske said it would be a while before the technology was introduced.

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

CAB member Tom Barnes listed the FD&SR Committee members before he reviewed the committee's focus. He provided a recommendation status update, stating recommendations 293 and 294 were open. He announced that the next FD&SR Committee meeting was scheduled for August 26, 2014, at the DOE Meeting Center. He encouraged all FD&SR Committee members to attend the meeting, either in person or online. He welcomed Mr. Gerald Blount, SRNS, to begin his presentation.

PRESENTATION: Phytoremediation at the Southwest Plume of the Mixed Waste Management Facility; Reducing Tritium Flux to Fourmile Branch – Gerald Blount, SRNS

Mr. Blount said the purpose of the presentation was to complete a 2014 FD&SR Work Plan topic by updating the CAB on progress in tritium flux reduction to Fourmile Branch (FMB), and the irrigation area expansions that had been installed. He stated that phytoremediation was the use of plants to perform environmental cleanup. Mr. Blount stated the phytoremediation project goals were to protect the water quality of the Savannah River since the river was a downstream drinking source. He said there were no downstream ecological or drinking water issues with releases from SRS. He said three corrective actions, under the Resource Conservation and Recovery Act (RCRA), were currently being performed on the groundwater adjacent to FMB. Mr. Blount explained that the RCRA permit goal for the phytoremediation corrective actions was to reduce the tritium flux to FMB by 70 percent. He provided a map to show the location of FMB and where it discharged into the Savannah River. He mentioned that due to tritium contributions from the adjacent F-Area Seepage Basin, H-Area Seepage Basin, and Southwest Plume Mixed Waste Management Facility (MWMF), FMB was the stream at SRS that discharged the highest amount of tritium into the Savannah River. Mr. Blount discussed the Southwest Plume, which was sourced from the old radioactive waste burial ground (ORWBG). He said the Southwest Plume was the largest tritium release source into FMB of any of the other adjacent plumes. He explained that tritium and volatile organic compounds (VOCs) flowed into FMB, before discussing remediation efforts. He said a 76 acre cap was placed on top of the ORWBG to reduce rainwater infiltration and tritium flux to the water table. He explained that a water capture dam was installed to collect water coming from springs that were discharging into FMB. He stated the water was then irritated to the forest in the immediate vicinity in order to disperse the water that was contaminated with tritium and volatile organic compounds through the atmosphere to be greatly dispersed through evaporation and evapotranspiration. Mr. Blount mentioned releasing tritium-contaminated water into the atmosphere greatly reduced the dose. He provided a diagram to illustrate how the phytoremediation system worked. He stated that dispersing the water into the

atmosphere caused the release to the environment and people to be 0.005 millirem per year at the SRS boundary, which he said was an extremely small dose that had very low potential of adding any carcinogenic effects into the atmosphere. Mr. Blount showed a color-coded picture to illustrate the amount of picocuries that were in the original tritium plume, spring, and dam locations before remediation efforts began. He then provided pictures of the water capture system and upgraded pumping system. He said when the irrigation process began this pond and 23 acres was irrigated onto; since then, we were approaching irrigation of approximately 60 acres between the eastern and western expansion areas. He said we wanted to expand the areas because we want to maintain a water level in this pond as low as possible so we promote water to flow to it, rather than have water stand up in it, then potential for water to bypass the pond. He provided a chart titled, "Tritium in Fourmile Branch," and said in the year 2000 there was a tritium concentration amount of 655 picocuries per milliliter in FMB; however, once the dam was constructed and water was being irrigated, the amount of tritium concentration decreased to about 200 picocuries per milliliter. Mr. Blount referenced the "spikes" of date on the chart by explaining that in the year 2005, expanding the irrigation system began with draining and refilling the pond, which caused the tritium amounts to increase to 642 picocuries per milliliter. He provided another chart titled, "Tritium Changes in Irrigation Pond," and he discussed how radioactive decay and the ORWBG cap caused the tritium concentration levels to decrease in the irrigation pond. He provided another chart that represented future changes in tritium in FMB stating that based on current tritium management, with future radioactive decay, the maximum concentration limit (MCL) should be achieved at FMB in less than 30 years. Mr. Blount said the phytoremediation project was performing as designed. He said with continued tritium management and radioactive decay drinking water standards for tritium in FMB could occur in less than 30 years.

CAB member Hayes asked what other contaminants, besides tritium, were located in the ORWBG. Mr. Blount said the ORWBG contained fission products like plutonium, uranium, strontium, cesium, and cobalt 60; however, he said a majority of the remaining contaminants had decayed. CAB member Hayes asked why it became so important to control the tritium instead of the other elements. Mr. Blount explained that tritium was very mobile and the other fission products were not.

CAB Chair Parson asked how the volatile organic compounds were handled. Mr. Blount said there were virtually no volatile organic compounds within FMB, but contaminants like cesium 137, strontium 90, and iodine 129, and tritium were above the drinking water standard. Mr. Blount said barriers were established into the F and H Area seepage basins. He then explained that "base" materials were injected between the barriers and FMB to neutralize the acids in order to reduce the metals in FMB to below drinking water standards as part of the RCRA permit requirements.

CAB member Louie Chavis asked if any aquatic plant was planted to help remediate the tritium in FMB. Mr. Blount stated there was a lot of aquatic vegetation in the creek; however, when you try to plant something that will absorb the metals, you then end up with contaminated vegetation, which has to then be cut, and disposed.

Public Comments

There were no public comments.

~Meeting adjourned

All presentations are available for review on the SRS CAB's website: cab.srs.gov

Position Paper for the Savannah River Site's Citizens Advisory Board on Using SRS for interim Storage of Spent Nuclear Fuel

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

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

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

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

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

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

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

b. Ensure that all near-term forms of storage meet high standards of safety and security for the multi-decade-long time periods that they are likely to be in use; active research should continue on issues such as degradation phenomena, vulnerability to sabotage and terrorism, full–scale cask testing, and other matters.

c. The processes used to develop and implement all aspects of the spent fuel and waste management system should be science-based, consent-based, transparent, phased, and adaptive. They should also include a properly designed and substantial incentive program

d. The United States should undertake an integrated nuclear waste management program that leads to the timely development of one or more permanent deep geological facilities for the safe disposal of spent fuel and high-level nuclear waste

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

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

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

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

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

a. The CAB is not taking any position on commercial nuclear power generation.
b. They are not concerned that the DOE would initiate a program that anticipated the unsafe storage of nuclear waste at SRS

The reasons for the CAB's opposition are:

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

The SRS CAB reminds DOE that SRS has never been tested for, studied for, or licensed for indefinite storage of spent nuclear fuel or high-level waste and encourages DOE to develop a plan for removal by 2048. The Savannah River Site Citizens Advisory Board wants the Department of Energy to know that it is opposed the use of SRS as a site for interim storage of spent nuclear fuel from commercial nuclear reactors.

Position Statement approved at July 2014 Full Board meeting. This paper will be up for renewal July 2015

Savannah River Site
Citizens Advisory Board

Recommendation 319

Planning for Disposition of SRS Canisters and L-Basin Materials

Background

Plans to disposition SRS defense waste in the form of DWPF canisters and L-Basin Materials (both domestic and foreign) to an off-site location has been in process for decades. Given the pending actions to make available a national deep geologic repository there is a need for pre-disposition tests and demonstrations.

The 1982 Nuclear Waste Policy Act (NWPA), amended in 1987 designated Yucca Mountain as the national site to be developed for America's permanent waste repository. This planning was interrupted in 2010 when the Obama administration directed the Department of Energy Secretary, Dr. Steven Chu, to withdraw its application from the Nuclear Regulatory Commission (NRC) for licensing the site for that function. Funding was also withdrawn. No technical basis was ever presented for such an action. A recent Government Accountability Office report found that there appears to be no scientific evidence supporting claims that the Nevada site is geologically inappropriate as a national waste repository. There is now no defined disposition planning for SRS canisters and L-Basin materials.

Following the withdrawal action for licensing Yucca Mountain, the President established a Blue Ribbon Commission (BRC) for the purpose of identifying alternatives to the Nevada site that could permanently accommodate America's current and future nuclear waste. The BRC released its final report in July of 2012 with general recommendations that generated the DOE 2013 Strategy for the Management and Disposal of Used Nuclear Fuel and High-Level Radioactive Waste. The 2013 Strategy calls for a national deep geologic repository to be made available by 2048. The repository is to be preceded by an Interim Storage Site that may be co-located with a Pilot Site.

Recent court actions in August 2013 (based on court challenges by Aiken County and the states of South Carolina and Washington) have directed the administration to resume the licensing procedure, indicating that the President exceeded his authority in cancelling the Yucca Mountain program since it was directed by a Congressional Act. A recent federal study recommended that planning for a federal repository commence immediately. The 2013 Strategy is uncoordinated and unfocused, leaving such requirements as" consent-based" undefined, not addressing the court's decision that withdrawing licensing procedures for Yucca Mountain was an illegal act, and providing no assurances that the Strategy will remain in tact almost nine potential presidential administrations later. The recent court decisions raise the possibility that Yucca Mountain may potentially be available sooner than 2048.

Discussion

Since the court rulings, and 2014 federal budgeting for Yucca Mountain licensing procedures make that program once again viable there is a critical need for preliminary planning to test and demonstrate disposition requirements for DWPF cans and L-Basin materials. DWPF canisters and L-Basin materials at SRS may be uniquely useful in determining the variable requirements throughout the DOE complex for packaging, transporting, and storing nuclear waste in a deep geologic repository. Such evaluations will be requisite to the site selection, development, and

ramp up of any repository receiving these used nuclear fuel and high-level radioactive waste materials.

Recommendations

Given the issues described above, the SRS CAB recommends that:

1. DOE develop a plan for pilot testing of used nuclear fuel and high-level radioactive waste as a basis for establishing the variable handling, shipping, and storage requirements for permanently disposing of such materials in a deep geologic repository.
2. DOE include in the plan's preliminary/pilot tests the utilization of SRS DWPF canisters and L-Basin materials (both foreign and domestic).

Savannah River Site
Citizens Advisory Board

Recommendation 320

Chemical Separation or Partitioning and Transmutation (P/T) of Used Nuclear Fuel and Defense High-Level Radioactive Waste

Background

Used nuclear fuel and defense high-level radioactive waste have been stored at commercial and government sites for over a half century at a cost of billions of taxpayer dollars, safety and health challenges, environmental threats, proliferation risks, and with no return on investment. Engineering and scientific principles were earlier ignored in some cases, resulting in exorbitant cleanup costs. Failed deep geologic repository programs in Kansas and Nevada have cost billions of dollars with no return on taxpayer investment. Congressional action in 1982 led to the expenditure of approximately $13 billion dollars for the development of a national repository at Yucca Mountain. The repository plan was cancelled prior to completion and stands incomplete and unused. A federal office, the Nuclear Negotiator Office, unsuccessfully attempted to locate consent-based nuclear waste storage sites on Native American reservations and in other communities between 1987 to 1994. That office was officially closed after additional taxpayer dollars were expended and there was no return on investment.

In January 2012, the special presidential Blue Ribbon Commission (BRC) issued a final report containing a series of recommendations, including the establishment of a consent-based pilot site, a possibly co-located consent-based interim storage site, and one or more consent-based permanent nuclear waste repositories. In response to the BRC recommendation for consent-based consolidated storage locations, the Department of Energy (DOE) issued a 2013 Strategy for the Management and Disposal of Used Nuclear Fuel and High-Level Radioactive Waste. The Strategy committed to protect public health and safety, security, and the environment through a "safe, long-term management and disposal program". The Strategy outlines a program which provides for siting, designing and licensing a pilot interim storage facility by 2021, a larger interim storage facility by 2025, and over the next ten years, the administration currently plans to make "demonstrable progress on the siting and characterization of repository sites to facilitate the availability of a geologic repository by 2048". Both defense high-level radioactive waste and commercial used nuclear fuel would be co-located at the geologic repository. In addition to the defense waste that must be cleaned up, there is approximately 75,000 tons of commercial used nuclear fuel currently awaiting disposition in 34 states at 103 nuclear power plants across America. The inventory of used nuclear fuel is increasing at an annual rate of some 2,000 tons per year. The nuclear industry claims that a "Nuclear Renaissance" is underway. If successful, spent nuclear fuel inventories will grow in proportion to the number of new reactors brought on line.

The DOE 2013 Strategy also included comments on the technical review by the Oak Ridge National Laboratory (ORNL) which found that "approximately 98 percent of the total current inventory of commercial used nuclear fuel by mass can proceed to permanent disposal without the need to ensure post-closure recovery for reuse based on consideration of the viability of economic recovery of nuclear materials, research and development (R&D) needs, time frames in

which recycling might be deployed, the wide diversity of types of used nuclear fuel from past operations, and possible uses to support national security interests".

Discussion

On March 19, 2013, David Huizenga, Senior Advisor for Environmental Management (EM), DOE, submitted a written statement in testimony before the U.S. House of Representatives Subcommittee on Energy and Water Development. In his statement, Mr. Huizenga reported that the nation faces cleanup of 88 million gallons of the "world's most dangerous radioactive wastes, thousands of tons of spent nuclear fuel (SNF), over ten thousand containers of excess plutonium and uranium, over five thousand contaminated facilities, millions of cubic meters of contaminated soil and billions of gallons of accumulated nuclear material from five decades of nuclear weapons development and government sponsored nuclear energy research. It is the world's largest environmental cleanup program, charged with cleaning up 107 sites across the country; an area equal to Rhode Island and Delaware combined".

"The price tag for cleaning up the Cold War legacy waste [alone] is estimated at over $300 billion, with a life span of at least 40 years. Budgetary issues continuously obfuscate the cleanup efforts. Federal funding becomes problematic for each Congressional budget call due to the scale and complexity of the challenge, combined with the country's increasing financial exigencies. Such issues as the expanding national debt and growing political pressures to reduce federal spending add to the funding challenges annually faced by DOE as it struggles to keep the EM legacy cleanup program above water." The cleanup effort would require the pilot site, interim storage site(s) and permanent repository discussed above.

The 2013 DOE Strategy, an integral part of the cleanup effort, projects a 34-year time span before a permanent disposal site is made available. By then, much of the nation's nuclear waste will have awaited dispositioning for almost a century. The cost to taxpayers for a resolution to this problem will have been in the hundreds of billions of dollars with no return on investment.

The ORNL evaluations indicate that the nation's used nuclear fuel has no value in terms of economics, R&D or national security. Therefore, there is no justification for maintaining it in any recoverable form. Technological procedures should be sought which essentially destroy much of its energy and ability to harm or pollute and eliminates or minimizes the costs for its storage.

Rather than one monolithic geologic plan, which has a history of failure, there are alternative approaches which could compliment the geologic repository approach that has previously been the focus of DOE nuclear waste management programs. At the 1999 NATO Advanced Study Institute, leading international experts presented research results indicating that chemical separation technologies, or partitioning and transmutation (P/T), have positive applications for nuclear waste management. Developing chemical separation technologies as one branch of the national repository program could accelerate the decay rate of nuclear waste, lower the material's volume, and reduce its half-life. Such approaches, depending on fuel types, might also be applied in the transformation of nuclear waste and UNF to more stabilized forms compatible with packaging and shipping requirements.

Research costs required to develop and achieve accelerated decay rates of nuclear waste can be partially offset by operating on the concept that "polluters pay". That approach could function to defray costs where existing and future UNF is concerned. While such advanced technologies might not turn the waste into "fairy dust", it could result in the need to store less of it, in a less radioactive form, for a shortened time period. That approach could not only substantially reduce the magnitude of the waste storage by eliminating the need to develop and maintain exorbitantly expensive permanent storage sites, it would support DOE's commitment to "to protect public health and safety, security, and the environment" through the development of a comprehensive plan to manage the nation's nuclear waste and UNF. Choppin and Khankhosayev (1999) claim "separation technologies are of crucial importance to the goal of significantly reducing the volume of high-level nuclear waste, thereby reducing the long-term health risks to mankind".

Some types of UNF and HLW stored at SRS could be used as test materials for investigating such technologies. The skills and facilities at the Savannah River National Laboratory (SRNL) could also be utilized in this effort. SRNL staff have gained considerable knowledge relevant to such technologies in their previous investigations in the areas of Melt-Dilute, Electrochemical Separation, Electrodialysis Separation, Selective Electrochemical Extraction, and Chromatographic Separation. R&D is also needed on the dry cask storage systems and their monitoring requirements in harsh environments in preparation for shipment to consolidation sites. SRS offers opportunities for such R&D through its available property and staff abilities. These potential technological options, in tandem with development of interim and permanent disposal sites, could greatly enhance DOE efforts to provide a national cleanup and nuclear waste management.

Recommendations

The Savannah River Site Citizens Advisory Board recommends that DOE:

1. Develop a systemic plan which outlines and prioritizes the development of advanced separation technologies.
2. Develop a strategy which integrates such advanced technologies with efforts to construct a repository.
3. Task the SRS SRNL with implementing an investigative program in support of the systemic plan and the integration plan.
4. Develop a funding approach adequate to the task of supporting the systemic plan, the integrative plan, and the investigative program assigned to the SRS SRNL.
5. Provide a draft plan and funding approach for public information and input by FY 2016.

References:

1. Department of Energy Strategy For The Management And Disposal Of Used Nuclear Fuel And High-Level Radioactive Waste, January 2013.
2. Categorization of Used Nuclear Fuel Inventory in Support of a Comprehensive National Nuclear Fuel Cycle Strategy, ORNL/TM-2012/308 (FCRD-FCT-2012-00232). Oak Ridge National Laboratory, Oak Ridge, Tenn., December 2012.
3. Chopin, Gregory R. and Mikhail Khankhasayev. 1999 Chemical Separation Technologies and Related Methods of Nuclear Waste Management: Application Problems and

Research Needs. Presented at the NATO Advanced Study Institute. May 1998. Dubna, Russia.
4. Chemical Separations in Nuclear Waste Management: The State of the Art and a Look to the Future. Gregory R. Choppin (Editor), Mikhail K. Khankhasayev, (Editor), and Hans S. Plendl (Editor). Kluer Academic Publishers. P.O. Box 17, 3300 Dordrecht, The Netherlands. 1998

D H E C
PROMOTE PROTECT PROSPER
Catherine B. Templeton, Director
Promoting and protecting the health of the public and the environment

June 16, 2014

Dr. Ernest Moniz, Secretary
United States Department of Energy
1000 Independence Avenue, SW
Washington, DC 20585

RE: Savannah River Site - Liquid Waste Milestones

Dear Secretary Moniz:

On May 29, 2014, the South Carolina Department of Health and Environmental Control (DHEC) received Revision 19 of the Savannah River Site (SRS) Liquid Waste System Plan. This plan projects that every single liquid waste milestone will be missed. This would result in a total cumulative delay of over 200 years for waste removal, tank closure, treatment startup and waste treatment completion milestones. These delays will not be tolerated by the State of South Carolina.

The thirty-seven million gallons of highly radioactive and toxic waste, stored in aging and degrading tanks at SRS, is the single largest environmental threat in South Carolina. DHEC has worked hard in concert with SRS to ensure waste treatment and tank closure. The path forward for success is clear, but the Department of Energy is not continuing to make waste treatment and tank closure at SRS a priority. The Liquid Waste System Plan acknowledges that lack of adequate funding is a major reason behind predicted program failure. DOE allocated significantly reduced funding for SRS in FY14, and inadequate funding is projected in FY15 and beyond. DOE decisions to disregard its commitments to SRS will be met with penalty assessments by the Department.

The Liquid Waste System Plan Revision 19 projects failure to meet all liquid waste milestones, including:

- 12 bulk waste removal milestones (FY16-FY19)
- 18 tank closure milestones (FY15-FY22)
- 1 Salt Waste Processing Facility (SWPF) startup date (October 2015)
- 2 SWPF treatment rate milestones (FY17 and FY18)
- 1 liquid waste treatment completion milestone (FY2028)

Based on current Department of Energy completion projections, penalties through the end of FY16 alone could be assessed at more than $193 million, with ongoing daily penalties of $105,000 (stipulated) for failure to startup SWPF and $10,000 per day for failure to close the agreed upon tanks.

The high level waste risk reduction milestones agreed to by DHEC and DOE are for the protection of the citizens and environment of South Carolina. DHEC will not agree to milestone extensions sought because of inadequate funding for SRS. DHEC calls upon DOE to take appropriate action to fund existing and additional processing capacities needed to meet its commitments. DHEC will fully exercise its authority for hazardous waste oversight, along with other environmental authorities, if satisfactory commitment to the high level waste schedule is not reached.

Sincerely,

Catherine Templeton

Catherine B. Templeton

cc: Dr. David Moody, SRS

The documents that are attached below were submitted during the public comment period; however, these documents were not discussed as part of the meeting.

July 21, 2014

To: Savannah River Site Citizens Advisory Board

I am writing as a concerned citizen of South Carolina. I am appalled at the apathy of the citizens for not speaking out about the nuclear waste at the Savannah River Site in Aiken County. High level waste is still there from the cold war 55 years ago and there is squabbling about funding for clean up, much less finding a permanent place for disposal. Now they want to add waste from Germany! The site is not compatible due to the proximity to the Tuscaloosa aquifer, the possibility of earthquakes and very sandy soil. An accident could definitely pollute water, soil and air—so much for jobs and development! We would become a wasteland.

Unfortunately the public has become disillusioned with government and feel that they have no impact however much they try. In my opinion this is of the greatest importance and should take priority in our state and Georgia. Accidents are inevitable and the idea that we should take on more waste is absurd. We need to concentrate resources on the cleanup of our waste and find a permanent and suitable disposal location. Taxpayers paid for the Yucca Mountain site and although not perfect, it is MUCH better than SRS. As far as jobs, there will be plenty with all the clean up involved and current waste moved to a safer destination!

BETTY WITHAM
Aiken, SC

Augusta Chronicle

Don't dump this on us

Permanent storage of nuclear waste is an alarming turn in SRS' mission

By Augusta Chronicle Editorial Staff
Sunday, July 6, 2014

Savannah River Site is not now, nor has it ever been, a dump for high-level nuclear waste.

But as long as the nation dithers on the mothballed Yucca Mountain repository, a dump is precisely what SRS moves a step closer to becoming under a proposal to import nearly one ton of highly-enriched uranium from Germany.

The Department of Energy's plan to ship 900 kilograms of used reactor fuel for processing and disposal at SRS, ostensibly for nuclear nonproliferation reasons, is out for public review and comment until July 21.

What the public should realize is that it doesn't matter which of the three "disposal" options the DOE pursues at SRS. The end result is the same – long-term storage at a facility that never was intended to be a high-level waste repository.

This plan essentially turns SRS, which has 713,000 people living within a 50-mile radius, into a nuclear Roach Motel. Highly radioactive material checks in, but it doesn't check out.

The end of the road for such waste was supposed to be the deep-geologic repository at Yucca Mountain, a cavern carved from igneous rock 1,000 feet below ground in a desolate section of Nevada desert on a federal reservation larger than the states of Massachusetts, Rhode Island and New Jersey combined.

That project – funded since 1982, selected in a process established by law in 1987 and under construction since 1994 – was summarily killed in 2009 during one of the first acts of President Obama and Senate Majority Leader Harry Reid, D-Nev.

Today, the $15 billion facility gathers dust, as does the 2012 report by Obama's "Blue Ribbon Commission" on nuclear waste, whose suggested Yucca Mountain "alternatives" include building interim regional storage sites to hold waste for up to 100 years.

Make no mistake – when this administration says "disposal" at SRS, it means just that. Permanent storage is the only option as long as Yucca Mountain remains off the table.

Sorry, Washington, but this community never signed up for that.

Backers of the importation plan, which include the Energy Department and area chambers of commerce, say the deal simply repatriates U.S.-originated uranium sent abroad during the Eisenhower-era "Atoms for Peace" research program to share nuclear technology with the world.

Opponents say Germany – which also lacks a long-term repository – simply is trying to rid itself of high-level waste by reclassifying commercial units as "research" reactors to make the material legal for export. The SRS Citizens Advisory Board already has voiced opposition to bringing spent commercial fuel to the site.

But politics and semantics aside, transporting *any* high-level waste to SRS without an exit strategy simply is a bad deal for the community any way you slice it. Where's the upside?

The area this work would occur, H-Canyon, already is federally funded. Beyond a handful of research jobs at the Savannah River National Laboratory – which developed the technology to extract uranium from the irradiated graphite fuel balls – who else benefits? The German government? A few shipping companies?

If we're missing something here, please, let us know. To date, there has been no economic-benefit analysis. And how extensive has the environmental study been?

This page has long been a proponent of SRS' defense and environmental missions, including the proposed mixed-oxide fuel facility that the Obama administration dubiously placed in "cold standby" earlier this year. We see clear value in that project, which would remove 34 metric tons of Soviet-era, weapons-grade plutonium from Russia and convert it to a form of fuel for nuclear power plants.

But there is little value in importing what is arguably commercial waste from a wealthy political ally when the United States has no permanent waste-disposal solution of its own.

The German deal would add as many as 100 canisters of high-level vitrified waste to the 3,800 already sitting at SRS with nowhere to go, and it could open the door for disposal agreements with other nations as well.

The DOE proposal is salt in the wound President Obama inflicted five years ago when he erased three decades of scientific study, legislative toil and taxpayer expenditures, all for the express purpose of improving the political fortunes of a lone senator from Clark County, Nev.

In addition to all the high-level waste being warehoused at federal facilities nationwide, this administration's nuclear-waste policy vacuum also slams the door on America's commercial nuclear power industry, whose plants are sitting on 72,000 tons of used nuclear fuel that has no place to go.

And after all that, this administration has the gall to ask us to accept hazardous waste from a foreign nation?

Until the political winds change and Yucca Mountain is put back on track, the Augusta-Aiken metro area's response to taking on "disposal" duties outlined in the DOE-Germany deal should be a resounding "no."

Back to Top

Aiken Standard

Editorial: New German waste another bad signal

Posted: Monday, July 7, 2014 12:01 a.m.

The possibility of more nuclear waste coming to Savannah River Site – this time from Germany – is another distressing sign that South Carolina is becoming a dumping ground for such material.

The Department of Energy, which oversees the Site, recently proposed to accept, process and dispose of used nuclear fuel from the European country, which contains approximately 900 kilograms of uranium. That equates to 1 million baseball-sized graphite spheres of highly enriched uranium coming to the Palmetto State with no end in sight for when it will leave.

The Citizens Advisory Board, which helps to provide feedback to the Department of Energy, has strongly recommended the agency not accept additional shipments of foreign nuclear material.

We urged the department to follow their recommendation. We've seen the Site already accept too many foreign shipments with little belief that they will ever be moved to a different storage facility.

This continues an ongoing broken promise to South Carolina, and Aiken County, where Yucca Mountain in Nevada was supposed to be the permanent repository for such material.

Instead, the Palmetto State has earned that designation by default.

Most nuclear waste material was intended to go to the site located near Las Vegas, but President Barack Obama scratched those plans for reasons that reek of politics.

Now, our state is continually threatened with becoming the dumping ground for waste. While it may have its economic benefits, the environmental and health risks of any kind of

mishap far outweigh any financial profit.

The German uranium program began as part of the Atoms for Peace Program under former President Dwight D. Eisenhower in order to make the material available to countries that wanted it for research.

The agreement stated that the U.S. was to take the uranium back; that's why the Site is being considered as a destination.

We urge the public to send input to the department by emailing Drew Grainger, National Environmental Policy Act compliance officer, at Drew.Grainger@srs.gov.

There appears to be no path toward disposing of this material, and the more our state accepts, the clearer it becomes that we're open to becoming a permanent dumping ground.

Greenville News

Taking in German waste is the latest federal task for the Savannah River Site

Nation's nuclear dump

Published: Sunday, July 13, 2014 at 3:15 a.m.

Too much high-level nuclear waste is already being stockpiled at the Savannah River Site, an ecologically sensitive location that wasn't designed for long-term storage of the dangerous material.

So the last thing we should be doing is importing more nuclear waste into the site from Germany. But that's the plan the federal government is working on.

The State newspaper reported that at a hearing in Columbia Thursday, federal officials said the German government is paying researchers at the site to study the waste.

Apparently, these studies require large samples. About 455 casks of German waste are scheduled to be shipped to the site over the next three years.

South Carolinians can reasonably fear that the federal government seems to be turning the Savannah River Site into the nation's nuclear dumping ground. Washington has already sent the nation's surplus plutonium to the site as well as other high-level nuclear waste.

And the federal government doesn't have a plan for ever removing the waste from the site.

Using the Savannah River Site for this purpose is irresponsible and shows a complete disregard by the federal government for the health and safety of South Carolinians, and Georgians for that matter. As its name implies, the site is located on the environmentally sensitive Savannah River. That location and the design of the facilities were never meant for long-term storage of dangerous materials like plutonium and spent nuclear fuel.

The truly disheartening fact is that the federal government does have a perfect site for the storage of this material. In fact, it has spent billions of dollars of our money building it. It is guaranteed by the Department of Energy to safely store this material without leaking for 10,000 years.

But Washington won't use it. That's because it's located at Yucca Mountain, Nev. And Senate Majority Leader Harry Reid, D-Nev., doesn't want it used. The Obama administration would rather placate Reid than develop a safe strategy for dealing with nuclear waste.

So Washington's decision is to avoid using the facility it spent billions to create just for this purpose and instead use a facility everyone knows isn't suitable for the task – and keep endangering the environment and the health of South Carolinians in the process.

There was another method Washington was considering to get the high-level waste out of South Carolina. That was to reprocess it into fuel for nuclear reactors. But the president has withdrawn funding for the reprocessing plant.

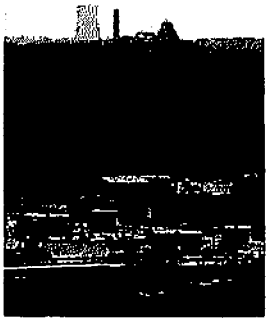
The line has to be drawn somewhere, and it should have been drawn long before importing high-level nuclear waste from other nations. State officials and the state's congressional delegation should join with Georgia authorities and block the German waste.

Then they should get to work on making more noise than Reid and push Washington to do the reasonable and safe thing – move the waste from the Savannah River Site to Yucca Mountain.

Spartanburg Herald

Editorial: German waste shouldn't go to SRS

GRE 4:19 p.m. EDT July 16, 2014



(Photo: FILE, The Greenville News)

A plan to ship spent nuclear fuel from Germany to the Savannah River Site near Aiken deserves close scrutiny, and if the transfer does not meet the requirements for such shipments, South Carolina should work actively to turn it away.

At issue is whether the nuclear waste is the product of nuclear energy research or whether it was used in the for-profit production of nuclear energy. If it is the latter, German law would prohibit the waste from being sent here, according to a report in *The Greenville News*. In addition, the spent fuel at SRS is supposed to be from research reactors.

That's an important distinction, but at the heart of this debate is the broader issue of the United States' lack of progress in finding a permanent repository for nuclear waste. Until there is a permanent solution for nuclear waste generated here, there can be no justification for bringing nuclear waste to the United States from non-research reactors overseas. The issue is even more important for South Carolina where SRS is home to an increasing amount of nuclear waste that was supposed to be reprocessed or moved to permanent storage, but instead sits on the site in storage systems that never were designed to be permanent.

Gov. Nikki Haley and the state's congressional delegation should be more loudly trumpeting the problems with the current state of nuclear waste disposal in this country. Even as politicians from Nevada, most notably Senate Majority Leader Harry Reid, fought vocally against the Yucca Mountain site, South Carolina became a de facto nuclear waste repository. The difference is, in Nevada the waste would have been stored well below the surface of the earth where it would be protected from natural disaster, theft or terrorist attack.

Although SRS says the federal Department of Energy will ensure that all laws are followed if the waste is brought here, one nuclear watchdog has concerns that Germany is trying to craft out of whole cloth a rationale for exporting the waste. "They're trying to redefine the reactors as being research reactors 25 years after they closed," Tom Clements told *The News*. "It's kind of sadly humorous. The Germans don't know how to remove that stuff, so basically we're trying to figure out how to remove it."

The Department of Energy and the state of South Carolina have a duty to ensure that Germany is not allowed to manufacture the rationale for bringing the waste into the United States. SRS has enough waste on its hands, at least until the federal government comes up with a real plan to deal with the waste that is being stored here. Since 1996, SRS has received 10,000 spent nuclear fuel assemblies in 500 casks. That is not the only nuclear waste at SRS, of course. For example, the site also houses 36 million gallons of high-level nuclear waste being stored underground.

It is worth noting that thousands of people are employed at SRS. Those jobs are valuable to South Carolina, and the state has enjoyed the benefits of having them. However, the federal government should not expect South Carolina to be a long-term nuclear waste storage site. And the federal government certainly needs to follow the rules when bringing spent nuclear fuel to our state. Spent fuel at SRS is supposed to be from research reactors, and the Department of Energy needs to ensure that it is. Our state leaders should encourage the federal government in that direction.

The state League of Women Voters issued a statement that sums up some legitimate fears. If the waste comes here there is no guarantee that it ever would leave, spokeswoman Suzanne Rhodes said in the newspaper report. "South Carolina citizens should be able to clearly understand that any international wastes received at SRS are a result of nonproliferation necessity or the political instability of the exporting country, not the simple convenience of the country of origin," she was quoted as saying.

In other words, as the United States seeks to find a solution for the waste that is generated domestically, there is no rationale for taking nuclear waste that a foreign country simply doesn't want to deal with on its own.

There might be less negative reaction to this proposed shipment if the federal government were not dragging its feet on Yucca Mountain. Congress has approved a national nuclear waste repository. A mechanism was created to fund it. Studies have shown it to be a safe and effective way to store waste. Considering all of those factors, the fight to open Yucca Mountain should be continuing. And until progress is made on that front, it is difficult to envision accepting large amounts of foreign nuclear waste to what has become one of the nation's long-term nuclear waste dumps.

Read or Share this story: http://gmol.co/1mMXIRp

MONITOR
WEAPONS COMPLEX

Waste Management ◆ Clean Up

Volume 25 No. 6 February 14, 2014

— *INSIDE HIGHLIGHTS* —

Senior management at the Hanford Waste Treatment Plant has not established a culture "in which quality is a core value," an internal review has found. 2

There appears to be ongoing discord between senior officials at DOE's Office of Environmental Management and Savannah River Site leaders over efforts to promote the "Enterprise SRS" vision for attracting more work to the site, *WC Monitor* has learned. 3

The long-running search for a new support services contractor for DOE'S Office of Legacy Management is now set to continue to stretch on, with the team of Wastren Advantage and S.M. Stoller filing a new challenge this week to DOE's decision to award the contract to Portage. 5

DOE is dissolving its Office of Health, Safety and Security in a new reorganization officially announced this week that DOE says is intended to better enhance its safety and security functions. 6

Bechtel National is looking to conduct a significant reorganization of its management at the Hanford Waste Treatment Plant that reportedly could see a key safety manager who has alleged she has faced retaliation for raising safety concerns moved out of her position, *WC Monitor* has learned 7

Rep. Doc Hastings, one of the strongest supporters of DOE's cleanup program in Congress, announced late this week that he will not seek re-election this fall. 8

Bill Lingard abruptly resigned from his position as URS President and Chief Operating Officer this week. 8

Washington state officials are calling on the Obama Administration to submit a new plan for addressing Hanford's tank waste that is "aggressive but realistic" when it submits a proposal to amend a 2010 consent decree that helps govern the cleanup of Hanford. 9

LATA Environmental Services of Kentucky, LLC, the cleanup contractor for the Paducah site, earned approximately 90 percent of its available Fiscal Year 2013 fee, according to information DOE released this week. 9

In an step towards starting D&D work at ETEC in California, DOE last week released an amendment to its notice of intent to prepare an environmental impact statement for cleanup work at the site. 10

On WIPP 11

The White House Office of Management and Budget has blocked funding from being used at the Waste Isolation Pilot Plant for thermal testing of disposal of high-level waste in salt, officials said this week. 11

United Kingdom Cleanup Focus 12

Questioning the U.K. NDA's decision last fall to extend for five years URS-led Nuclear Management Partners' contract at Sellafield, the British Parliament's Public Accounts Committee released a report this week calling for termination of the contract if NMP does not improve performance. . 12

At the DOE Operations Offices/Facilities 13

Wrap Up 15

Calendar 16

Weapons Complex Monitor ..... *A Business Service of ExchangeMonitor Publications, Inc.*
ExchangeMonitor Publications, Inc. ■ *4301 Connecticut Ave, NW; Suite 132* ■ *Washington, DC 20008* ■ *800-776-1314* ■ *subservices@exchangemonitor.com*

this results in a loss of executive continuity on major improvement initiatives."

The level of scrutiny the Hanford vit plant faces may also be playing a factor, according to the presentation. "The high level of oversight activity applied to the WTP Project results in a considerable demand on management's attention to support reviews, both technically and logistically," the presentation says, adding, "Managers reported spending the majority of their time in meetings, sometimes delivering or receiving the same information multiple times."

DOE Gives Bechtel Two Years to Make Improvements

In an effort to finally resolve the WTP's quality issues, DOE has directed Bechtel National to develop an "integrated, comprehensive Management Improvement Plan" that will address "all systemic QA program and implementation issues," according to an Oct. 28, 2013, letter from Office of River Protection Manager Kevin Smith, obtained by *WC Monitor* through a Freedom of Information Act request. "To support the future startup of the Waste Treatment and Immobilization Plant, BNI is to address the range of causal factors in sufficient breadth and depth to fully identify and resolve the contributors to the current programmatic integration and quality implementation issues in order to be fully compliant with DOE directives," Smith wrote.

DOE has given Bechtel National two years to make the improvements to its quality assurance program. "ORP expects that it will take BNI up to two years to complete all actions and demonstrate that all organizations are effectively implementing all requirements. During this period, ORP will perform additional assessments to ensure BNI has been successful in addressing all Quality Assurance program issues identified by the audit and the subject of the MIP," a Department official said this week in a written response. " BNI is aggressively taking actions to improve the WTP Quality Assurance Plan (QAP), and appropriate initial corrective actions are in place but have not been implemented or verified to ensure that current activities meet all requirements. ORP recognizes that it will take considerable effort and time to demonstrate a fully effective QAP," the official said.

Bechtel National currently expects to submit its Management Improvement Plant to DOE next month, Heaston said, noting that the contractor has already begun taking steps to make QA improvements. "The actions include completing a procedure use and adherence training session for all WTP managers and supervisors; issuing a policy on procedure use and adherence; implementing the use of pre-job briefings for some non-manual activities; designating a subject matter expert for each procedure to provide consistent guidance and interpretation to employees when implementing procedures; and clarifying accountability for corrective actions," she said. Heaston added, "Self-identification of issues and the performance of audits are important aspects of BNI's management activities. BNI will continue to self-identify issues, thoroughly investigate them and embed our learning into the WTP execution infrastructure to continuously improve throughout the entire tenure of the project."

—Mike Nartker

IS 'ENTERPRISE SRS' THE RIGHT PATH FOR SAVANNAH RIVER'S FUTURE?

There appears to be ongoing discord between senior officials at the Department of Energy's Office of Environmental Management and Savannah River Site leaders over efforts to promote the "Enterprise SRS" vision for attracting more work to the site, *WC Monitor* has learned. Enterprise SRS, an effort to bring future business and missions to the site, was launched in 2011 by DOE Savannah River management together with contractor Savannah River Nuclear Solutions, which runs the lab where much of the work would take place. But senior EM headquarters officials became concerned after EM was chastised in late 2012 by the White House Office of Management and Budget for spending cleanup funds on small modular reactors, a highly touted component of Enterprise SRS, officials familiar with the discussions told *WC Monitor.*

Enterprise SRS has attracted scrutiny from OMB officials, who questioned whether it may be a distraction from EM's mission of environmental cleanup and were wary of missions that would obligate a cleanup site years into the future. "It's like drawing a bull's-eye on the program for OMB," an official familiar with the talks told *WC Monitor.* While work has long been executed for other agencies and the private sector at Savannah River National Laboratory, launching a public campaign created problems for an otherwise laudable goal, the official believes. "It was the way it was executed and not the merits of program," the official said. However, another observer had a different take on the situation. "The concern at SR is that EM HQ is in a state of flux, [and] doesn't have a stable leadership to push-back or challenge OMB," that official told *WC Monitor.*

Despite the issues in 2012, Enterprise SRS continues to be prominently featured in presentations made in recent months by Savannah River leadership. However, it is unclear where the future of the program lies. It is not a funding line item, and instead acts as a brand for a host of

potential projects that is centered on a logo and slogan. An EM headquarters spokesman said last week that site officials were never directed to stop discussing Enterprise SRS publicly. However, DOE Savannah River Operations Office Manager Dave Moody, the public face of Enterprise SRS, declined a recent interview request by *WC Monitor* on the topic.

A Vision For the Site's Future

With cleanup activities expected to decline in the years ahead, Savannah River began to seek new missions to utilize its workforce and facilities in the future in an effort to prevent the perception that SRS is a "closure site." As a result, the Enterprise SRS concept was conceived a few months after Moody came to the site in late 2010 as a "transformational strategy" to bridge current work to future missions. "We believe that this would position the site to make a major contribution to the nuclear future of this country," Moody told *WC Monitor* when he laid out the strategy in June 2011. "There's not a successful business that doesn't build on what it's good at. And it really means that we're building on what we're good at, and those things really deal with nuclear."

In particular, officials hoped to boost the status of EM-focused SRNL by providing a slew of new missions—with the added bonus of helping share the operations cost of the facility. They laid out a vision that would transform the lab and the site from being cleanup-based to encompassing more work in national security and new energy technologies. The vision encompasses ongoing work at the site, such as nuclear materials disposition and high level waste cleanup, and more controversial speculative projects, such as small modular reactors and research and development on hydrogen-related energy production and used nuclear fuel recycling.

Nobody 'Thinks it Should Be a Closure Site'

Many locals have been enthusiastic supporters of efforts to create new work at the site. "I just see that the secure acreage there is unparalleled on the East Coast and it simply cannot be recreated," Rep. Joe Wilson (R-S.C.), whose district includes the site, told *WC Monitor* last month. Spreading the message on the potential of the site is important, Karen Patterson, Chair of the South Carolina Governor's Nuclear Advisory Council, told *WC Monitor*. "I don't see it as a closure site, nobody else down here sees it as a closure site or thinks it should be a closure site," she said, noting that there may be different views in other parts of the state. "I think we just need to put the right kind of bugs in their ear about why this is really a good place."

'Cleanup is the Budget King'

Some local groups, though, have been much more critical of Enterprise SRS. "It is more of a marketing ploy," Tom Clements of the South Carolina Chapter of the Sierra Club told *WC Monitor*. "They are looking back at the glory days of Savannah River and can't accept that it might be on more of a cleanup path. But they forget that cleanup is the budget king at the site, and they need to make sure it stays that way. I do think that they have lost their focus on that and need to regain it." He added, "I've said many times publicly that Enterprise SRS is a distraction from the main project at the site, which is cleanup."

However, Shelly Wilson of the South Carolina Department of Health and Environmental Control, which has been harshly critical of the Department in the last year for cutting funds to SRS cleanup, said she does not see Enterprise SRS as a distraction. "I don't believe that the lack of funding in high-level waste was in any way due to the look at future missions," she told *WC Monitor* last week. "We didn't feel like it was a distraction or really took anything away from the cleanup. Those new missions aren't something that we have authority over unless a permit is involved. We heavily look at the cleanup. We have been very satisfied with the cleanup pace in the past."

Are Savannah River SMRs Still an Option?

Among the most controversial aspects of Enterprise SRS have been efforts to lure small reactors to Savannah River. While an SMR has never been licensed and built, in recent years several reactor vendors have been marketed designs for small reactors. Savannah River officials in turn touted the site as a perfect testbed for the new reactors, and announced a goal to have the site largely powered by SMRs in 20 years (*WC Monitor*, Vol. 22 No. 47). In March 2012, the site said it had signed memoranda of agreement with three reactor vendors—Hyperion, Holtec and NuScale—to explore deploying reactors at the site.

But initial research into SMR deployment was taking place at SRNL using EM funds, a fact that irked the White House OMB, which quashed the work in the fall of 2012. "EM funds must be expended according to Congressional intent, on ongoing cleanup projects of radioactive and hazardous waste on the site and the EM program generally prioritizes its projects based on risk to human health and the environment," an OMB spokeswoman said at the time (*WC Monitor*, Vol. 23 No. 48).

With the work on hold, the chances for a small reactor at SRS suffered another setback more recently. In a snub to Savannah River, NuScale, which like SRNS is led by Fluor, gained a DOE grant last December for its SMR but announced it would seek to deploy its project in a western state rather than SRS. The company had originally been

enthusiastic about the site, NuScale Chief Commercial Officer Mike McGough told *WC Monitor*. "We expected that for obvious reasons it would emerge as a viable candidate," he said. " But going forward, in order to site a small modular reactor project, you can't just have a bunch of people sitting around a table saying 'Boy we'd like to put one of those here.' You have to have a utility or group of utilities to be the ownership consortium."

'A Lot of Confusion' in DOE on SMR Proposals

NuScale decided to shift its focus in part because talks with South Carolina utilities showed little interest, McGough said. But McGough believes that another factor was involved: Holtec was a competitor for the DOE grants offered for SMR design work—and last year South Carolina Gov. Nikki Haley in March threw her support behind Holtec. Soon after that, DOE announced that the first round of SMR funding would not go to either Savannah River proposal, and instead awarded funds to a B&W effort. "Unfortunately, Savannah River and South Carolina chose to be part of two proposals in round one of the DOE funding," McGough said. "Frankly that caused a lot of confusion among the DOE and we think it may have had a negative effect on the outcome of the first reward. We decided that we weren't going to do that again." NuScale went on to apply and win for a second round of funding with a proposal based on a consortium of utilities in western states.

Holtec still plans to move ahead with its plans for an SMR without the DOE funding grant, and is keeping Savannah River as one of several options being pursued. "As far as we're concerned, as we announced, we are full force ahead, continuing our program," Pierre Oneid, president of Holtec's SMR, LLC, told *WC Monitor*. "The Savannah River option, as far as we know, remains open. In our strategy its still one of the options we completely intend on continuing to pursue."

For its part, Hyperion is now known as Gen4 Energy, and last November was awarded a DOE grant for research and development into its advanced reactor design. The R&D effort is getting underway at the University of South Carolina. Savannah River remains an option for the company, but it is also open to considering deployment elsewhere, CEO Bob Prince told *WC Monitor*. "Savannah River saw it as an opportunity for them to reuse parts of the site and stepped forward and did that. I think that was brilliant. Any other site that wants to do that, it's more than OK with us," he said.

'DOE Does Not Toot It's Horn

Meanwhile, Patterson of the Governor's Nuclear Advisory Council said more efforts need to be made to gain support for Savannah River's future. "I know a lot of the legislators in the upstate view it as a negative. They would like to get rid of the Savannah River Site. I don't think anybody has done the right legwork to make the decisionmakers in the state understand what our resources really could be for the economic drivers," she said. "They think of it as a Cold War weapons site. DOE does not toot its horn. We don't ever talk about the good stuff we do particularly. We have to get people away from thinking that it just built nuclear bombs."

—Kenneth Fletcher

WAI-STOLLER TEAM FILES NEW PROTEST OVER LM SUPPORT SERVICES CONTRACT

The long-running search for a new support services contractor for the Department of Energy's Office of Legacy Management is now set to continue to stretch on, with the team of Wastren Advantage and S.M. Stoller filing a new challenge this week to DOE's decision to award the contract to Portage. WAI-Stoller Services, LLC, filed a new protest with the Government Accountability Office Feb. 12 over DOE's decision to award the contract to Portage for a second time after taking corrective action in response to earlier protests (*WC Monitor*, Vol. 25 No. 4). The GAO currently has until May 23 to make a decision. Both WAI and Portage declined to comment on the protest this week. DOE did not respond to requests for comment.

The new protest marks the latest turn in a procurement that has ran for more than three years, with DOE having issued a sources sought notice in October 2010 to help determine if the contract could continue to be set-aside for small businesses. DOE first awarded the new contract to Portage last April, prompting protests by the WAI-Stoller team and Navarro Research and Engineering. Last May, DOE chose to take corrective action in response to the protests by re-evaluating the eight bids submitted for the contract, and in late January the Department once again awarded the new contract to Portage.

The new Legacy Management contract is set to run for five years, consisting of a two-year base period and a three-year option period, according to DOE. Work to be performed under the new contract includes long-term surveillance and maintenance; information technology and records management; asset management; business; and program-wide support services. The incumbent contractor is Stoller (now

For the SRS CAB meetings of 7/21-22/2014

Dr. Dave Moody, Manager, Department of Energy (DOE); and Ms Marolyn Parsons, Chair, Savannah River Site Citizens Advisory Board (SRS CAB)

Re: Draft recommendation by the SRS CAB to DOE for the "Chemical separation or partitioning and transmutation (P/T) of used nuclear fuel and defense high-level radioactive waste"

Recommendation manager Rose Hayes and I have had extensive discussion of her ideas about transmutation for a number of years. I oppose her recommendation for the following reasons:

1. She commingles commercial and military spent nuclear fuel (SNF). The SRS CAB is charged with the responsibility of advising DOE on only its nuclear wastes at SRS. Her discussion of how much SNF is awaiting disposition in the USA is irrelevant (p. 1, her draft).
2. She also discusses HLW. On p. 2, she mentions "88 million gallons …" However, only about 30 million gallons of HLW remain at SRS. Here is what Baisden and Choppin had to say in 2007 about HLW:

   > The only disposal option for this class of waste [i.e., HLW] is burial in a deep geologic repository.

   I agree with Choppin. In preparation for geologic disposal, SRS is treating the residues derived from reprocessing its SNF by vitrifying the HLW in DWPF. Once reprocessed or in v-HLW canisters, transmutation is irrelevant.

3. Her principle argument is in favor of transmutation, but her citations in support of transmutation are old: 1998 and 1999. Since then, the arguments by scientists world-wide favor geologic disposal, including the National Academy of Sciences. We can see why transmutation is not favored by reading the publications of Choppin, whom she references as support for her position. From him, transmutation, if made to work can reduce the radioactivity of actinides. Regarding fission products, here is what Baisden and Choppin had to say in 2007:

   > In general, transmutation of long-lived fission products, although theoretically possible, is very difficult and would require significant development to be successful. Fission products under transmutation conditions are only consumers of neutrons and, unlike the actinides, do not produce additional neutrons useful for further transmutation. Consequently, the product of the capture cross section and the neutron flux must be higher than the decay constant of the isotope for it to be a realistic candidate for transmutation. Without prior isotopic separation, the transmutation of only a few long-lived fission products, namely iodine and technetium … are feasible. Thus, the best way to minimize the long-term

> radiological impact of most long-lived fission products is to separate and immobilize them in specially designed, stable waste forms.

I agree with Choppin here, too. We are reprocessing SNF at SRS in H-Canyon, and converting the waste residues into stable waste forms by vitrifying the residue at DWPF in canisters for storage in GWSBs.

4. From the World Nuclear Organization (2011) on transmutation, I collected this quote:

> Commercial application of partitioning and transmutation (P&T), which is attractive particularly for actinides, is still a long way off, since reliable separation is needed to ensure that stable isotopes are not transmuted into radioactive ones. New reprocessing methods would be required, including electrometallurgical ones (pyroprocessing). The cost and technology of the partitioning together with the need to develop the necessary high-intensity accelerators seems to rule out early use. An NEA study showed that multiple recycling of the fuel would be necessary to achieve major (e.g. 100-fold) reductions in radiotoxicity, and also that the full potential of a transmutation system can be exploited only with commitment to it for 100 years or more.

In comparison to the commercial SNF, when considering only DOE's SNF at SRS, the volume is simply too small to be considered for transmutation; besides, SRS is reprocessing some of its material in H-Canyon anyway.

Transmutation is too expensive and untried. From Choppin (viz., Baisden & Choppin, 2007), her source, "In addition to developing new chemical separation processes, a significant amount of development is needed." Shifting to transmutation may be a nice idea, but it is unrealistic today. DOE should reject her recommendation.

Sincerely,

W.F. Lawless, PhD,
Professional Engineer

References:

Patricia A Baisden, Gregory R. Choppin (2007), RADIOCHEMISTRY AND NUCLEAR CHEMISTRY – Nuclear Waste Management and the Nuclear Fuel Cycle.

World Nuclear Organization (2011), "Accelerator driven Nuclear energy", http://www.world-nuclear.org/info/Current-and-Future-Generation/Accelerator-driven-Nuclearenergy/