

Meeting Minutes
SRS Citizens Advisory Board – Combined Committees Meeting
Augusta, GA
October 29, 2012

Monday, October 29- Attendance:

<p><u>CAB</u> Thomas Barnes Artisha Bolding Dr. Donald Bridges Ed Burke Louie Chavis Mary Davis- <i>Absent</i> Robert Doerr- <i>Absent</i> Kathe Golden Dr. Rose Hayes Nina Hazen Stanley Howard Travis Johnson-<i>Absent</i> Cleveland Latimore Clinton Nangle Dr. Marolyn Parson Dr. William Rhoten-<i>Absent</i> Dr. Paul Shieh-<i>Absent</i> Earl Sheppard Harold Simon John Snedeker George Snyder James Streeter Ed Sturcken Sarah Watson</p>	<p><u>Agency Liaisons/Regulators</u> Shelly Wilson, SCDHEC Kim Newell, SCDHEC Van Keisler, SCDHEC Kim Brinkley, SCDHEC Heather Cathcart, SCDHEC Greg Mason, SCDHEC Scott Simons, SCDHEC Diedre Lloyd, EPA Rob Pope, EPA Kyle Bryant, EPA</p>	<p><u>DOE</u> Dr. David Moody, DOE-SR Patrick McGuire, DOE-SR Terry Spears, DOE-SR Doug Hintze, DOE-SR Bill Taylor, DOE-SR Gerri Flemming, DOE-SR Rich Olsen, DOE-SR Maxcine Maxted, DOE-SR Helen Belencan, DOE-SR Wade Whitaker, DOE-SR David Hoel, DOE-SR Chris Upshaw, DOE-SR Jennifer Nelson, DOE-SR</p>
	<p><u>Contractors</u> Ginger Dickert, SRR Kim Hauer, SRR L.T. Ling, SRR Benjamin Terry, SRNS Amy Meyer, SRNS Mtesa Wright, SRNS Tim Jannick, SRNL Bethany Raines, NOVA Ashley Whitaker, NOVA James Tanner, NOVA Jesslyn Anderson, NOVA</p>	<p><u>Stakeholders</u> Karen Patterson Nancy Bobbitt Clint Wolfe Bobbie Paul Annie Stephens Jim Hussey Murray Riley Susan Corbett Ed Frontier</p>

CAB Chair Donald Bridges welcomed everyone and thanked the CAB Support Team for the meeting arrangements. He commented that having the meeting in October was somewhat early since it is usually in November; however, he hoped to still do the same amount of work as last time. He introduced two people to give comments; Mr. Pat McGuire, DOE-SR, and Mr. Joe Lyon, NOVA.

Mr. Patrick McGuire, DOE-SR, informed the CAB about the contractor change from V3 Technical Services to NOVA Corporation. He also went on to introduce Ashley Whitaker as the Board Administrator and Facilitator, James Tanner as Meeting Coordinator, and Jesslyn Anderson as Committee Information Coordinator. Mr. McGuire invited Mr. Joe Lyon, Program Manager for NOVA Corporation, to say a few words about the contractor transition.

Mr. Lyon introduced himself to the board and spoke briefly about NOVA Corporation. CAB facilitator, Ashley Whitaker, NOVA, welcomed everyone to the meeting. She reviewed the Meeting Rules of Conduct and quickly discussed the day's agenda. She also introduced the new CABNET meeting feature, which allows anyone with a wireless device to access meeting materials without having to have a paper copy.

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

CAB member Kathe Golden listed the A&O Committee members, and stated the focus of the committee. She reminded everyone that the CAB would be voting on the CAB Chair and Vice Chair the next day. She mentioned that the CAB will be voting for Committee Chair positions at the January Full Board, so interested individuals should notify the CAB Support Team if they wanted to run for one of those positions. She addressed membership before reviewing topics discussed at the last committee meeting. CAB member Marolyn Parson asked Ms. Gerri

Flemming, DOE-SR, what the tentative dates were for the Education Process Session and new member orientation. Ms. Flemming stated the dates were not established yet; however, the CAB would be notified.

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

CAB member Parson listed the FD&SR Committee members, and stated the focus of the committee. She gave a recommendation status update, stating that recommendation 279 is open and received a response. She continued that recommendations 283, 293, and 294 were pending. She said the CAB received a response for recommendation 283 from the Department of Energy (DOE) on January 19, 2012; however, at the April 21, 2012 FD&SR Committee meeting, it was decided not to close the recommendation. She also stated that the committee decided to write a letter to Dr. David Moody, Site Manager, concerning recommendation 283. She briefly read over the remaining recommendations and highlighted what each asks of DOE. She stated the next FD&SR Committee meeting would be held on December 4, 2012, and reviewed presentation topics scheduled for that meeting.

PRESENTATION: Annual Environmental Report, Benjamin Terry, SRNS

Mr. Benjamin Terry, SRNS, introduced himself and began his presentation of the Annual Environmental Report. He stated that data included in his report ranged from January 1, 2011 to December 30, 2011. He said the purpose of his presentation was to provide the CAB, and general public, with an understanding of the results found within the Savannah River Site (SRS) Annual Environmental Report. He said the data recorded in the report shows that operations at SRS had a minimal impact on the environment, and radioactive and contamination discharges are well below regulatory standards for the protection of the environment and public health.

Mr. Terry described the SRS Environmental Compliance Program and discussed specific regulatory standards that ensure the protection of the public and environment; he stated that the most prominent program standard is DOE Order 458.1. He explained that the environmental monitoring program is comprised of two components: “effluent monitoring” and “environmental surveillance.” He provided a diagram that represented four different exposure pathways to members of the off-site public. CAB member Rose Hayes asked Mr. Terry to define “untreated water.” He responded by saying untreated water is water directly from the stream. Mr. Terry continued his presentation by discussing non-radiological and radiological effluent monitoring of the water and air. He stated that for 2011, non-radiological effluent monitoring found that industrial wastewater, stormwater outfalls, and air emissions were completely compliant with permit requirements. He provided diagrams showing the different locations where water and air samples were collected. He stated that each map represented specific radiological water and air surveillance locations, as well as results for the samples that were collected. When reviewing water samples, he said several types of fish are also collected. CAB member Hayes asked why this report focused only on Bass if so many other types of fish were studied. He replied that Bass were the highest amount of fish collected this year. CAB Chair Bridges asked if SRS contributes to mercury contamination. Mr. Terry replied that SRS contributes a very small amount compared to other industries in the area; however, the Savannah River National Laboratory (SRNL) is working to quantify the amount of mercury contamination SRS is responsible for. CAB Chair Bridges asked about the amount of off-site measurements in South Carolina as compared to Georgia. Mr. Terry said he was unable to quantify a particular amount; however, Ms. Kim Brinkley, SCDHEC, stated the state is currently comparing data with SRS data and results should be released around the January timeframe. Mr. Terry discussed SRS deer hunts and the necessary dosage limits of animals released to the public. CAB member Hazen asked if hunters are informed that animals on site have been exposed to radioactive materials.

Mr. Terry continued that before each hunt, all hunters receive a briefing. Mr. Terry mentioned that normally irrigation is not included within the total “liquid releases” responsible for “potential off-site doses” however, this year it was included. He stated that when adding together all “atmospheric releases and liquid releases,” the maximally exposed individual would have experienced a dose of 0.21 millirem. He concluded his presentation by summarizing that this year’s environmental report demonstrates that exposure rates at SRS are well below regulatory standards, and doses to maximally exposed individuals remain low.

CAB member Hayes asked what would happen if a sample taken from the water exceeded the contamination regulatory limits. She also asked how intervention strategies could be implemented if scientists do not know where the contamination is coming from. Mr. Terry said that the five streams at SRS are continuously monitored through a process known as the “enhanced tritium monitoring program,” since tritium represents 99 percent of the

radionuclides that are discharged from SRS. He explained to CAB member Hayes that there are ways to pinpoint contaminated areas through studies that occur several times a week and with the use of automatic online monitoring equipment. He stated that a weekly report is also issued for downstream locations that use the Savannah River as a drinking source. CAB member Hayes asked how a contaminated area could be pinpointed. Mr. Terry answered that there are various instruments, already in place, that notify personnel of changes in the water levels.

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

CAB member Hayes listed the NM Committee members, and briefly reviewed the committee focus. She provided a recommendation status update, stating that recommendations 280, 281, and 282 were open. She stated that the committee has two pending recommendations: 286 and 287. She reviewed a joint recommendation that was drafted with the Waste Management Committee; however, she said this recommendation would be discussed at the upcoming WM meeting on November 13. She spoke about two draft recommendations that would be discussed later in the meeting before mentioning that Ms. Maxcine Maxted, DOE-SR, would present an update on L-Basin Cobweb Materials the next day.

Recommendation Discussion

“Disposition of Spent Nuclear Fuel from L-Basin through H-Canyon Considering the Plutonium Processing Impacts Likely to be Encountered”

CAB member Hayes reviewed the proposed recommendation. Once she finished reading the recommendation, Mr. Patrick McGuire, DOE-SR, suggested the term “nuclear waste” be changed to “other nuclear materials.” Dr. Moody, Site Manager, suggested rephrasing one of the recommendation items and mentioned that the current administration is using the term “Used Fuel” instead of “Spent Nuclear Fuel.” CAB Chair Bridges explained that the CAB is accustomed to using the term “Spent Nuclear Fuel,” but they would try to accommodate the suggestion. CAB Chair Bridges asked Mr. McGuire about the impacts of processing plutonium and spent fuel simultaneously. Mr. McGuire replied that co-processing is cost effective since it maximizes the capability of the H-Canyon.

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

“Contingency Budget Planning Input for Severe Budget Cases”

CAB member Nangle provided a brief background of this recommendation, and Mr. McGuire asked if DOE-SR has given the CAB any reason to believe that it is not addressing priorities on a risk-based schedule approach. CAB member Hayes stated that the CAB recognizes DOE-SR is using a risk-based approach and hopes DOE-SR continues to communicate with the CAB in the future. CAB Chair Bridges addressed Mr. McGuire’s statements by reiterating that this recommendation is simply “a deep budget cut scenario.” Mr. Doug Hintze, DOE-SR, summarized that DOE-SR already does what this recommendation requires and suggested that writing a letter would be more appropriate than a recommendation. CAB Chair Bridges told Mr. Hintze the CAB is simply offering up a “philosophy” for a “deep budget cut view” and that the CAB hopes to continue being updated of future budget changes. CAB member Hayes stated the committee would consider the comments and make a decision the next day.

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

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

CAB member Nangle listed the S&LM Committee members before giving a recommendation status update. He stated recommendations 288 and 289 were open, and recommendation 292 was pending. He announced the date for the next committee meeting, and reviewed topics to be discussed at the meeting. He introduced Mr. Rich Olsen, DOE-SR, to begin his presentation.

PRESENTATION: EM Performance Measures Update-Rich Olsen, DOE-SR

Mr. Rich Olsen, DOE-SR, stated he was fulfilling a CAB Work Plan requirement asking DOE to periodically provide updates of performance and cleanup of SRS. He mentioned the presentation would only focus on fiscal year (FY) 2012 since budgets for 2013 were not finalized. He continued by providing background information about the SRS Cleanup Program stating, "The current lifecycle estimate indicates Environmental Management (EM) cleanup completion in 2042." He referenced a diagram representing the four major areas of the cleanup program: liquid waste, solid waste, nuclear materials, and soil, groundwater and facilities. He reviewed the various types of waste classified under each major cleanup area. He then reviewed a chart that represented performance measures for each cleanup area. Mr. Olsen provided pictures, units of measurement, completion percentages, and estimated completion years for all fifteen performance measures that fall under the major areas of the cleanup program. Regarding the amount of significant progress that was made during FY 2012, Mr. Olsen stated, "This was the best year ever for shipments of transuranic (TRU) waste to WIPP."

CAB Chair Bridges asked how many shipments of TRU per year would be needed to keep up with ongoing activity. Mr. Terry Spears, DOE-SR stated the amount of shipments would be significantly less than currently made. CAB Chair Bridges asked if WIPP could accept all the waste shipped to it. Mr. Spears replied that WIPP is capable of accepting all shipments and is probably experiencing its record volume of waste receipts. Dr. Moody said that SRS is attempting to expedite the process by finalizing sending six shipments to WIPP per week. CAB member Hayes asked Dr. Moody what is the maximum capacity at WIPP. Dr. Moody replied there is no physical limit, but there are legislative limits to the amount of material that can be disposed at WIPP. CAB Chair Bridges asked if tunnels are continuously dug at WIPP, which Dr. Moody confirmed. CAB member Edward Burke asked what percentage of Newly Generated TRU waste is from current ongoing operations and what amount will come from the Mixed Oxide Fuel Fabrication Facility (MOX). Mr. Olsen replied that once MOX begins operations, it could produce several hundred cubic meters of TRU per year. CAB member Burke asked if 75 percent of the Newly Generated TRU waste would be coming from MOX, Mr. Olsen said it would; however, he said the Newly Generated TRU waste will be shipped to WIPP and not accumulated at SRS. CAB Vice Chair Harold Simon asked if SRS will be able to expedite future tank closures earlier than 2022 by using the information learned from 1997 and 2012 tank closures. Mr. Terry Spears stated that the goal to close all remaining tanks by 2022 depends on future budget levels and the completion of the SWPF.

Mr. Olsen continued his presentation by describing Mixed & Low Level (M&LL) waste, which are the other components of solid waste disposal. He briefly defined the two types of low level waste, while explaining the processes that are involved for determining final disposition locations. He explained that M&LL wastes are measured as a combined number but is classified as either Legacy or Newly Generated waste. He stated that all M&LL Legacy waste, dated prior to 2008, has been disposed, but SRS has a target that M&LL Newly Generated waste can never exceed 400 cubic meters at any point in time. CAB member Parson asked why 400 cubic meters was selected as the target to never exceed for M&LL Newly Generated waste. Mr. Terry Spears answered that he did not recall exactly how the figure was derived, but he believes it was an estimate for the amount of waste volumes potentially produced. CAB member Hayes asked what will occur if the benchmark of 400 cubic meters is reached. Mr. Olsen stated if the waste is accumulated at SRS but has not been disposed of, it could either be disposed at SRS or it could be shipped; if it is mixed than it will be shipped to WIPP.

Mr. Rich Olsen shifted to the three measures of nuclear materials, which included the blend down and shipment of Highly Enriched Uranium (HEU), plutonium, and Used Nuclear Fuel (UNF). He pointed out that the process was complete for shipping 336 trailers to Tennessee Valley Authority (TVA). CAB member Hayes asked why the term "trailers" is used as the unit of measurement for blending and shipping HEU. Mr. Olsen stated that shipments are tracked at SRS using that term, but regarding information being released to the public, the specific tonnage is not allowed to be revealed. He stated that there is one unit of measurement for plutonium disposition, which is the 3013 type container. He explained that the goal is to dispose of 5,600 containers, either by dissolving and processing it through the liquid waste process, preparing a shipment to WIPP, or preparing the material into an oxide as part of the MOX operation. He stated the unit of measurement for UNF is "bundles," and he explained the amount currently at SRS. CAB member Hayes asked if there will be several assemblies within one bundle. Maxcine Maxted, DOE-SR, stated four to five assemblies make up one bundle.

Mr. Olsen addressed soil, groundwater, and facilities by discussing progress made to waste site remediation, facilities Deactivated and Decommissioned (D&D), and reduction of the industrial footprint. He stated waste site remediation is approximately 77 percent complete, and is estimated to be fully completed by 2034. He explained that budget issues and prioritization of other activities resulted in no D&D activities being done in 2012. He said the industrial footprint was reduced to a total of 85 percent in 2012, which is the equivalent to 265 square miles. He stated that DOE-SR will continue to update the CAB of performance measures for the key operational areas of EM cleanup operations at SRS.

PRESENTATION: Budget Overview-Doug Hintze, DOE-SR

Mr. Doug Hintze, DOE-SR, said the CAB's input for FY 2014 was received and passed along to Headquarters (HQ). He stated DOE-SR is currently putting together a package that will justify the types of funding that should continue through FY 2014. He discussed FY 2013, stating SRS is operating under a Continuing Resolution (CR) based upon the funding received for FY 2012. He explained that the CR continues through March 27, 2013, but a conditional funding profile must be developed before then so the remainder of the year can be funded. He explained that the presentation he was giving that day was in the perspective of DOE-SR having to operate under the CR for an entire year. He continued that in 2012, carry-over from the previous year's budget and American Recovery and Restoration Act (ARRA) funding, were two things, in addition to the new budget authority, which determined DOE-SR's budget. He stated that SRS was able to account for the deficit by implementing the Pension Relief Act, which requires DOE to contribute approximately \$120 million instead of \$400 million; however, to account for the remainder of the shortfall, scopes were cut. Mr. Hintze stated that decisions to defer work were prioritized and determined by analyzing the Integrated Priority List (IPL).

He summarized his presentation by stating if appropriations received in March 2013 were in line with President Obama's budget request, then spending would be ramped up for the second half of the year. However, he stated if funding continued at the current rate, scope reductions would continue in order to function through the end of the year.

CAB Vice Chair Simon asked Mr. Hintze to explain the internal five percent holdback with the passage of the six month CR. Mr. Hintze explained the effects of a sequestration, which would go into effect January 2, 2013, and explained that DOE decided to have a five percent holdback to lessen the budget impact if the sequestration occurred. CAB member Golden asked about the likelihood of more work reductions occurring. Mr. Hintze stated that approximately 900 people have been affected by voluntary packages, staff augmentation, and craft worker reductions.

Waste Management (WM) Committee Overview-Edward Burke, Chair

CAB member Burke listed the WM Committee members, and briefly stated the committee's focus. He provided a recommendation status update, stating that the committee had four recommendations to discuss. He announced information regarding the next WM Committee meeting and reviewed topics that would be discussed.

Recommendation Discussion

"Separation of National Nuclear Waste Programs"

CAB Chair Bridges began the discussion for this recommendation. Dr. Moody asked if the recommendation was addressing defense High-Level Waste, since there is no commercial High-Level Waste. Dr. Moody stated if the recommendation is comparing wastes, it should compare defense waste, which includes used fuel and High-Level Waste, and discuss how each is separated from the commercial program. CAB Chair Bridges stated since there are vast amounts of spent fuel at SRS, they should try to separate the spent fuel and learn from it. Dr. Moody explained since used fuel has several configurations, none of the fuel would be a "uniformed feed" for reprocessing, which means disposal is its optimal path. Mr. Terry Spears, DOE-SR, suggested changing the term "National Nuclear Waste Disposition Program" to "the ultimate disposition of High-Level Waste and spent nuclear fuel is undefined at this point." Mr. Bill Lawless, a member of the public, said he supports this recommendation since resources already at SRS could be used to eliminate additional spending.

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

“Tanks 18 & 19 Backfill”

CAB member Burke read the recommendation before opening the floor for comments and questions. Ginger Dickert, SRR, stated even though four tanks had been closed, there were still other pieces of equipment that had not been scheduled or prepared for closure. She said that removing the equipment would be a more significant risk reduction activity, and stated what the CAB was recommending may not be consistent with other recommendations. CAB member George Snyder expressed his concern with the cost of undertaking the recommendation and asked the CAB if this should really be a priority. Bill Lawless, a member of the public, suggested the CAB include previous recommendations as footnotes, since it has already been recommended to remove the remaining pieces of the infrastructure. CAB member Golden said maybe the CAB should not worry too much about making the area look pretty since the budget is so limited.

“The SRS CAB Concerns Regarding Interim Storage of Commercial Spent Nuclear Fuel and other Nuclear Wastes and Materials at the Savannah River Site”

CAB member Burke provided a brief background of the recommendation before opening the floor for suggestions. CAB member Burke discussed the CAB’s desire to be informed if plans are underway for new materials to be stored at SRS. Mr. Patrick McGuire, DOE-SR, explained that there are some “special nuclear materials” that the CAB would like to be notified of before a decision is made to bring the materials to SRS; however, DOE-SR is unable to disclose that information until after the material has arrived. CAB Chair Bridges asked Mr. McGuire, Mr. Spears, and Mr. Moody if they found any part of this recommendation to be unworkable. Mr. McGuire stated he was concerned with item number “6C” on the recommendation. Ms. Shelly Wilson, SCDHEC, addressed the issue stating she appreciated the recommendations intent; however, having SCDHEC mentioned in this recommendation could potentially establish some “unrealistic expectations”, which SCDHEC does not have the authority to make. CAB member Burke suggested removing letter “C” from number six on the recommendation which resulted in CAB member Watson asked if item number two of the recommendation should be clarified. CAB member Burke explained to CAB member Watson that he wished not to delete that point and they could address any other issues after the meeting. Ms. Wilson suggested removing the reference to SCDHEC in the recommendation. A copy of this recommendation has been attached to this document.

“Trial Storage Program for SRS High-Level Waste Canisters”

CAB Chair Bridges briefly discussed background information for this recommendation and asked for the title to include “Demonstration Storage at WIPP.” CAB member Hayes suggested adding an additional bullet point that read, “Acquire knowledge of actual costs of actions described above,” which CAB Chair Bridges stated was a good point to include. Dr. Moody suggested adding “and evaluate shipping containers” to the first bullet point. Karen Patterson, a member of the public, suggested adding “New Mexico” within the first recommendation. She also asked Dr. Moody if WIPP is being evaluated to accept commercial waste, to which Dr. Moody replied, “the community of Carlsbad, New Mexico is requesting that DOE evaluate WIPP for commercial used fuel disposal.” Karen Patterson suggested removing the bullet point that says “Assessments on the performance of canisters in a salt environment,” stating the recommendation only pertains to surface storage. Terry Spears, DOE-SR, suggested including the phrase “ultimate disposition of High-Level Waste and spent nuclear fuel” within the first sentence of the recommendation, and asked for the term “stable borosilicate glass” to be simplified. In reference to Karen Patterson’s question about WIPP being evaluated for expansion of its mission, Mr. Spears stated that “plutonium is a transuranic waste and is part of the waste that we disposed for years at WIPP, therefore, it is not a new mission for WIPP.” Dr. Moody added to Mr. Spears comment stating that WIPP is not being evaluated since the process is currently being done. Terry Spears suggested adding the term “at WIPP” to the first recommendation. Bill Lawless, a member of the public, proposed using the new glass waste storage building as a shipping facility, while using the remote handled transport vehicle to ship vitrified High-Level Waste from SRS to WIPP at no additional cost. CAB Chair Bridges commented that the CAB should compose another recommendation about the information Mr. Lawless provided. CAB Chair Bridges asked Dr. Moody if composing a recommendation on the material Mr. Lawless provided would be useful. Dr. Moody replied that the CAB might want to wait for a response for this recommendation before composing a new recommendation. A copy of this recommendation has been attached to this document.

Public Comments

Mrs. Susan Corbett, South Carolina Sierra Club, applauded the CAB for thinking carefully about bringing the spent nuclear fuel to Savannah River Site since the waste would be there for a long time. She expressed her desire for the waste to remain where it is for DOE to get busy with a consent-based approach to find a repository like Yucca Mountain for the waste to go.

-Meeting Adjourned

Meeting Minutes
SSR Citizens Advisory Board-Full Board Meeting
Augusta, GA
October 30, 2012

Tuesday, October 30- Attendance:

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

Agency Liaisons/Regulators
Shelly Wilson, SCDHEC
Kim Newell, SCDHEC
Van Keisler, SCDHEC
Heather Cathcart, SCDHEC
Thomas Rolka, SCDHEC
Scott Simons, SCDHEC
Rob Pope, EPA
Kyle Bryant, EPA

Contractors
Gene Rhodes, SREL
Ginger Dickert, SRR
Steve Thomas, SRR
Mtesa Wright, SRNS
Susan Blas, SRNS
Richard Reichel, SRNS
Jeannette Hyat, SRNL
Ashley Whitaker, NOVA
James Tanner, NOVA
Jesslyn Anderson, NOVA
Bethany Raines, NOVA

DOE
Dr. David Moody, DOE-SR
Patrick McGuire, DOE-SR
Terry Spears, DOE-SR
Doug Hintze, DOE-SR
Bill Taylor, DOE-SR
Gerri Flemming, DOE-SR
Wade Whitaker, DOE-SR
Rich Olsen, DOE-SR
Maxcine Maxted, DOE-SR
Karen Guevara, DOE-SR
Jennifer Nelson, DOE-SR
David Hoel, DOE-SR
Brian Hennessey, DOE-SR

Stakeholders
Karen Patterson
Nancy Bobbitt
Rick McLeod
Bobbie Paul
Ed Frontier
Suzanne Rhodes

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

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

CAB Chair Bridges welcomed everyone back to Augusta, Georgia. He provided a CAB membership update, stating that nine members seek reappointment and there are potentially five new members. He briefly provided background about the board membership and application processes before reviewing the schedule for upcoming committee meetings. He stated that in October, he and CAB Vice Chair Simon, attended the Environmental Management Site Specific Advisory Boards (EMSSAB) meeting in Washington, D.C. He briefly summarized specific topics that the collective group of EMSSAB boards must approve and send to HQ. CAB Chair Bridges shared that in September he attended a Leadership Community Forum in Aiken, South Carolina, which overall seemed to be a positive interchange between community members and local civic and political leaders. He mentioned that at the beginning of October, he attended the Tank 18 & 19 Closure Celebration, which he felt was an impressive ceremony. He then asked the CAB Support Team to distribute concrete paperweights, which SRR constructed, to each CAB member.

He discussed the four letters to be sent to EM, which the CAB would vote on. CAB member Hayes expressed her desire for each of these proposals to include some form of data as a means to understand the costs involved. The first letter received 19 votes of approval with no oppositions or abstentions. The second letter received 17 votes of approval with no oppositions, and two abstentions. Before voting began for the third letter, CAB member Parson expressed her concern that the terms “jeopardize compliance with regulatory milestones” were included within this

letter, since it is unusual that an agency would allow something to interfere with their compliance. CAB member Burke commented that he is opposed to the CAB making a statement about not cutting any particular area at all since every area has some room for cost reduction efforts. The third letter received 13 votes of approval, four oppositions, and no abstentions. The fourth letter was approved with 20 votes and no oppositions or abstentions. These are attached to the document.

CAB Bridges continued his update by stating there was an Environmental Justice (EJ) meeting scheduled to be held in Washington, D.C. in Spring 2013; however, the trip was on hold due to budget constraints. He said the CAB could experience a few cost saving measures, but those efforts will have to be dealt with once the 2013 budget is finalized. Dr. David Moody, DOE-SR, stated he understood each concern; however, DOE is willing to listen to proposals for ways to minimize the effects of potential changes. Rob Pope, EPA, expressed his appreciation for having the Live Meeting alternative for Committee meetings, but expressed his desire for an audio option. Ms. Gerri Flemming, DOE-SR, stated that Live Meeting does have the ability to do audio, but since there is an additional fee included in adding audio, she did not feel need to add audio until participation increased. CAB Chair Bridges said the emphasis for this year is to send more recommendations to DOE while receiving more input from individual CAB members and the public.

CAB Vice Chair Simon provided an update from the EM SSAB Meeting that he and CAB Chair Bridges attended in Washington, D.C. He summarized various presentations and topics that were presented before he described new techniques the CAB could use to increase public outreach efforts. He reviewed the upcoming Chair Meetings schedule before stating that in 2014, the EM SSAB Meeting will be held at SRS. CAB Vice Chair Simon completed his update by expressing his satisfaction with the overall process, content, and participation of the meeting.

Ashley Whitaker, NOVA, reminded CAB members to briefly examine CAB member Hazen's Waste Management Symposia Draft paper in order to vote on it later in the meeting. The paper received 19 votes of approval with no oppositions or abstentions.

Agency Updates

Dr. David Moody, SRS Manager-Department of Energy-Savannah River (DOE-SR)

Dr. David Moody, DOE-SR, began his update with a reminder to drive safely since deer hunts are currently underway on site. As Veteran's Day approaches, he expressed appreciation and support of the veterans employed at SRS. He continued by addressing the CR, stating that SRS does not have to recognize the five percent cut; however, FY 2012 budget issues forced DOE to reduce personnel for 2013 by approximately 900 employees. Dr. Moody stated that DOE recently submitted a plan that asks Congress to redistribute the amount of operational funds in order to have more construction funding to construct SWPF in 2013. CAB Chair Bridges asked what the SWPF startup date would be if Congress acted on the submitted plans. Dr. Moody replied that the current level of progress in FY 2013 should continue; however, the current start date stated in the draft negotiation is 2018.

He provided an update on TRU waste stating that SRNS achieved the repacking of the 5,000 cubic meters of Legacy TRU waste; however, SRNS is now determining how to handle the remaining 100 cubic meters of very difficult waste. Dr. Moody stated that Legacy TRU waste will continue being shipped off-site, while DOE continues to look for a solution that will adjust funding so that all the Legacy TRU waste can be dispositioned by the end of 2013.

Dr. Moody commended the CAB for its interest in H-Canyon, which currently has several projects underway. He mentioned an agreement was just signed with Canada for SRS to process 23,000 liters of solution Canada has been unable to disposition. He explained that the material will be processed through H-Canyon, blended down, and then sent as fuel to the Tennessee Valley Authority (TVA) beginning in 2013 and ending in 2016. CAB member Golden asked Dr. Moody if DOE would be allowed to keep the funds generated from this new agreement. Dr. Moody stated that DOE should be able to collect the money since this work will be performed under a "work for others" contract. Dr. Moody stated that DOE is evaluating every avenue to continue processing used fuel through H-Canyon, including capturing some of the return from the material going to TVA.

Dr. Moody mentioned that the HB line began purifying plutonium in order to provide feed to the MOX facility. He explained the current process is to package the plutonium and ship it to WIPP; however, if there is plutonium that

only requires minor purifications, SRS is starting to dissolve and purify that material before adding it to the stockpile of MOX feed. CAB Chair Bridges asked if these operations were being done on a preliminary basis and if the process could hold up the facility capabilities while waiting on a final decision on the EIS. Dr. Moody answered that the operations are preliminary, but are not holding up the operations or capabilities of the facility.

CAB member Howard asked for a brief update on the status of the Small Modular Reactor (SMR) program. Dr. Moody stated that since SRS is operating under a CR, DOE-SR is restricted to fund overhead activities in support of SMRs. Dr. Moody stated that this inability has not lessened the site's desire to move forward; however, the CR prohibits DOE-SR to spend any additional funds. CAB member Hayes asked Dr. Moody to address the lead test assemblies being evaluated at Idaho, that were sent from Oak Ridge, in order to settle the controversy surrounding the difference between reactor grade plutonium MOX and weapons grade plutonium MOX, and if either will be acceptable for use in the country's reactor fleet. Dr. Moody replied that NNSA could come to the next meeting and address this issue since there are several policy issues involved in management and continued storage of used fuel.

Mr. Robe Pope, Environmental Protection Agency (EPA)

Mr. Rob Pope, EPA, began his update stating that the EPA's budget is currently stable since the agency is also operating under a six month CR. He stated that at the end of 2012, a majority of the ARRA work will be complete for SRS and other DOE sites across the country. He praised SRS, along with each federal agency, for completing Recovery Act projects in order to reduce risk and costs. CAB Chair Bridges asked for the difference between Oak Ridge and Savannah River Site on how they completed certain ARRA projects. Mr. Pope mentioned that Oak Ridge successfully completed several ARRA projects; however, they were not of the magnitude as projects SRS completed.

Mr. Pope stated that the proposed plan for Tanks 17 and 20 has been completed and a record of decision for the tanks, being placed in the maintenance and monitoring phase should come by the end of 2013. CAB member Parson asked what EPA's role is as the monitoring continues for tanks 18 and 19 over the next decades. Mr. Pope replied that the record of decision will result in these tanks still being overseen by SCDHEC and EPA under the Federal Facilities Agreement (FFA).

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

Ms. Shelley Wilson began her agency update commenting on CAB member Parson's question to Mr. Pope. She stated that SCDHEC performs ongoing monitoring under the FFA and the hazardous waste permit for the closed tanks at SRS. She noted that SCDHEC also coordinates monitoring with the Nuclear Regulatory Commission (NRC) on a regular basis about how monitoring will continue. Ms. Wilson asked Mr. Van Keisler, SCDHEC, to provide an update on soil and groundwater.

Mr. Van Keisler began his update stating that a meeting was held on the performance report for the M-Area inactive process sewer lines, along with six documents being reviewed. He mentioned tours were given of the Liquid Waste facilities and the Savannah River National Laboratory (SRNL). He then reviewed the accomplishments for FY 2012.

Ms. Wilson expressed her appreciation of the CAB's commitment to focus on High-Level Waste treatment and tank closure, which SCDHEC feels is a top risk reduction priority. She offered some perspective on other DOE site across the country stating that South Carolina has cooperated with DOE to accomplish tasks relative to the High-Level Waste arena. She continued that in the near future, she does not foresee any problematic regulatory or technical issues since SRS has a regulatory path forward for the tank closure and treatment. She feels that maintaining focus and receiving the correct funding will allow SRS to reach regulatory milestones and reduce risk.

She mentioned her second issue involves interim storage and transferring waste or materials from one state to another. Ms. Wilson explained that states were successful if they had the authority and federal law to address concerns about transferring the material across states; however, if the federal law is uninvolved, states are usually defeated. She said a bill was recently proposed to Congress regarding interim storage that could possibly give the states a stronger voice, but it does not fully protect the states' interests. She suggested the CAB should look at interim storage in the future, while remembering how important it is to have a strong state voice that is clearly spelled out in the form of a federal law.

CAB Chair Bridges asked if the states tend to agree and focus on a compromise instead of a defined federal law. Ms. Wilson asked him if he was referring to compliance milestones or waste shipments. CAB Chair Bridges asked her if interim storage was declared to be at SRS, does she think the state would accept that or demand a federal law. Ms. Wilson stated it would probably vary depending on the state. She used the example that WIPP serves the nation by disposing of all the national TRU waste in one state; however, WIPP has a clear state decision-making voice.

CAB member Hayes asked if Ms. Wilson could describe the type of tanks at SRS since there was a recent leak at Hanford. Ms. Wilson stated she did not know if any of the tanks at SRS were the same as in Hanford. She also said that if DOE did propose to construct new tanks, SCDHEC has standards for new tanks specified in its current regulations. CAB member Hayes asked if there are certain types of tanks that all sites use. Ms. Wilson replied that SCDHEC does have construction standards for tanks. Mr. Terry Spears, DOE-SR, addressed the leak at Hanford before he mentioned that there are no standards for tanks throughout the DOE complex. He stated that every site chooses its own tank designs and DOE-SR is confident that the double shell tanks at SRS will remain safe for several years. CAB member Parson asked Ms. Wilson if she could describe any new or ongoing projects at SRS that have raised her concern about interim storage. Ms. Wilson stated that she did not know of any specific projects on the horizon.

Public Comments

Ms. Bobbie Paul, a member of the public, asked what the CAB's role is for the entire MOX process, since there currently is no customer for MOX fuel. She shared her concern about the testing of MOX, before mentioning the recent crack in one of the double walled tanks at Hanford. She mentioned how disappointed she was that no one from the Georgia Environmental Protection Division attended the meeting; however, she was pleased to see that the CAB included Environmental Monitoring on the Work Plan.

Waste Management (WM) Committee Overview-Edward Burke, Chair

CAB member Burke began the WM Committee update by reviewing his presentation from the day before. He said recommendation 269 is open while recommendation 290 is pending. He provided information regarding the next committee meeting before discussing a draft letter he hopes to send to Dr. Moody, who could possibly forward it to HQ. The draft letter asks DOE to expand the CAB's scope to include all activities at SRS. CAB member Hayes expressed her desire for the letter to be put through as soon as possible. CAB member Burke acknowledged her concern and said his goal was to have the letter finalized and ready for voting at the January Full Board meeting. CAB member Burke began the recommendation discussion and voting portion of his committee update.

Recommendation Discussion:

“Separation of National Nuclear Waste Programs”

CAB member Burke presented this recommendation, which had no edits to be discussed.

Recommendation Voting:

CAB member Burke read each recommendation, and then CAB Chair Bridges called for a motion. The CAB voted to approve the recommendation with 19 votes of approval with no oppositions or abstentions.

Recommendation Discussion:

“Tanks 18 & 19 Backfill”

CAB member Burke expressed his desire to table this recommendation since there are other projects at SRS that need more focus at this time.

Recommendation Voting:

This recommendation was tabled and may be voted on at a later date.

Recommendation Discussion:

“The SRS CAB Concerns Regarding Interim Storage of Commercial Spent Nuclear Fuel and other Nuclear Wastes and Materials at the Savannah River Site”

CAB member Burke briefly read the recommendation while pointing out specific changes that were made the day before. He stated that South Carolina has been successful in the areas where they’ve had an enforceable agreement so it is very important that if the CAB moves forward with a future recommendation, it would support bringing materials into the state if moving the materials was subject to an enforceable agreement. CAB Chair Bridges asked Dr. Moody if recommendation “6C” was in place for WIPP, and Dr. Moody replied, “Absolutely.”

Recommendation Voting:

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

Recommendation Discussion:

“Trial Storage Program for SRS High-Level Waste Canisters”

CAB member Burke read each recommendation before opening the floor for discussions. CAB Chair Bridges asked DOE if this recommendation had the proper flow in what it was asking. Dr. Moody confirmed the recommendation was in proper order.

Recommendation Voting:

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

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

CAB member Hayes reviewed her presentation from the day before. She provided a recommendation status update stating that the committee currently has three open, two pending, and three draft recommendations. She welcomed Ms. Maxcine Maxted, DOE-SR, to present an update on materials discovered in L-Basin.

PRESENTATION: Update on L-Basin “Cobweb” Materials- Maxcine Maxted, DOE-SR

Ms. Maxcine Maxted, DOE-SR, began by stating “bundles” are used in L-Area since they are easier to handle and allow for better capacity within L-Basin. CAB Chair Bridges asked if any rods are stored in L-Basin. Ms. Maxted replied that L-Basin has something that could be considered as a rod; however, the rods at SRS are “pencil thin” compared to larger commercial fuel rods. She stated the purpose of her presentation was to provide an update on the cobweb materials discovered within L-Basin. She mentioned that samples were collected; however, tests revealed that the material is not increasing or moving to another area of L-Basin. CAB member Hayes asked whether the material was growing in the water, since tests determined the material was not growing on top of bundles. Ms. Maxted responded that the material has not spread since the initial assessment in November 2011. CAB member Hayes asked how much of L-Basin has been affected by the cobwebs. Ms. Maxted replied that the material was only found in seven percent of the 3,650 bundles stored in L-Basin. She continued by providing a diagram to show L-Basin’s location at SRS. She provided several images to explain that a qualitative assessment was conducted in order to determine whether the cobwebs had a low or high density level, ranging from one to five.

She explained that DNA testing classified the material as a type of heterogeneous bacteria, which means it can only survive on external nutrients and organic carbon sources. Ms. Maxted stated that scientists tried to determine where a carbon source originated; however, scientists were unable to find a location and carbon levels did not increase. She mentioned that in June 2012, another qualitative assessment determined that the density levels remained the same, which meant the material was “maintaining itself.” CAB Chair Bridges asked what the material felt like. Ms. Maxted replied that the material has a “stringy” texture, but no one has been able to touch it because it breaks into several pieces. However, Ms. Maxted stated when scientists vacuumed up the material, it did not come back. She stated that a cost effective and timely disposition of the material is being evaluated but the cobwebs are currently not affecting the aluminum, fuel, or water quality in L-Basin.

CAB member Golden asked about the quality of water in L-Basin. Ms. Maxted replied that in order to prevent corrosion, the water is more purified than drinking water. CAB member Golden asked what happens when evaporation occurs and if there is detectable current flowing through the basin. Ms. Maxted stated there is a fill system used to regulate and adjust water levels, but there is no forced flow or forced cooling of the material stored in L-Basin. CAB member Hayes asked if the scientists will continue to monitor the material. Ms. Maxted explained that a mechanical means of removal is being evaluated; however, depending on the amount of funding received, scientists may or may not be able to further evaluate the material outside its natural environment.

Recommendation Discussion:

“Draft Recommendation Disposition of SNF from L-Basin through H-Canyon Considering the Plutonium Processing Impacts Likely to be Encountered”

CAB member Hayes read this recommendation. CAB Chair Bridges asked if item number four in the recommendation could be eliminated since Mr. Patrick McGuire stated that DOE has that information available to give to the CAB. CAB member Hayes chose to eliminate the fourth recommendation item.

Recommendation Voting:

CAB Chair Bridges called for a motion for the recommendation to be accepted. The CAB voted to approve the recommendation with 18 votes for approval, no oppositions, and no abstentions.

Recommendation Discussion:

“Contingency Budget Planning Input for Severe Budget Cases”

CAB member Hayes mentioned that this was a joint recommendation with the S&LM Committee. She briefly read this recommendation before opening the floor for comments. CAB Chair Bridges said that the words “risk based” were removed since CAB members realized, in later discussions, that DOE has a different viewpoint of that terminology.

Recommendation Voting:

CAB Chair Bridges called for a motion to accept the recommendation. The CAB had 18 votes for approval, no oppositions, and no abstentions.

Administrative & Outreach Committee Report-Kathe Golden, Chair

CAB member Golden asked for anyone interested in chairing a committee to inform the CAB Support Team since committee elections would be held at the January Full Board Meeting. She stated that the Speakers Bureau presentation had been edited and a training session was being planned for anyone interested. She said that everyone could begin voting for CAB Chair and Vice Chair and the results would be announced by the end of the day.

Public Comment:

Ms. Suzanne Rhodes, League of Women Voters of South Carolina, expressed her appreciation for the CAB's desire to ensure cleanup stays on track at SRS. She mentioned that the CAB should take other opinions of reprocessing of SNF from other independent agencies.

Mr. Kyle Bryant, EPA, provided information about the next EJ meeting scheduled for Thursday, November 1, 2012 in Columbia, South Carolina. CAB Chair Bridges asked if a CAB member would like to cover this meeting, which CAB member Nina Hazen volunteered to do.

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

CAB member Parson stated the committee has one open recommendation and three pending recommendations. She continued with announcing when the next FD&SR committee meeting would be before introducing both presentations.

PRESENTATION: Radioecology Initiative- Gene Rhodes, SREL

Mr. Gene Rhodes, SREL, discussed several objectives he would cover within his presentation, and briefly explained the different elements of radioecology. Throughout the presentation, he explained why radioecology research remains a strategic initiative at SRS. He stated that radioecology research has been conducted for more than 60 years because there are several unique data sets, facilities, and amounts of expertise at SRS. He mentioned that today, there are no educational programs in radioecology in the United States. CAB Chair Bridges asked about the lack of educational radioecology programs. Mr. Rhodes answered that over time the lack of funding and decommissioning activities occurring at SRS explain the loss in interest in radioecology for this part of the country. He continued by explaining the need for radioecology at SRS, around the United States, and internationally. He provided several pictures of locations at SRS where radioecologists could play a role in understanding possible environmental impacts. He expressed his desire to see SRS become the "go to place for expertise in radioecology" while research, education, and knowledge transfer increase around the world. He continued by describing the role of the National Center for Radioecology (NCORE), which was created by the SRNL in order to maintain the scientific discipline of radioecology in the United States. He stated that in 2010, NCORE, six universities, and two international organizations joined together to begin rebuilding the educational framework for radioecology. He listed several recent accomplishments NCORE has received along with new courses available at local universities, internships, and graduate level recruitment opportunities for 2013. Mr. Rhodes discussed the areas of radioecology that SREL will be focusing on in the future.

CAB member Golden asked if there other fields of study that are easily transferable to radioecology. Mr. Rhodes answered that individuals working in nuclear chemistry and ecology are likely to be interested in radioecology; however, as SREL moves forward in various nuclear missions; it wants individuals with unique training to have the ability to continue studying resources at SRS. CAB member Hayes asked if the Par Pond radioecology laboratory still existed, why it was established, and what was discovered. Mr. Rhodes responded that it was established in order to do research at Par Pond, attract Dr. Ward Wicker to come to SRS, and give SREL an opportunity to have a place to learn from radiocesium.

CAB member Parson asked if the radioecology database can be found on DOE's website. Mr. Rhodes stated that he plans for different databases to be placed on the website; however, those materials are currently unavailable. She also asked Mr. Rhodes what he believes is a very important tool to conduct radioecology research. Mr. Rhodes said that updated equipment and tools are necessary in order to "understand the pathways that radionuclides take in the environment." CAB member Parson asked for an example of how radioecology research is used to solve a problem. He explained that when an organism is exposed to radioactive material, it forms new protein profiles. Once scientists have identified new protein profiles, they can go into the environment and compare other organisms to determine the specific locations and the types of radioactive contaminants the organisms were in contact with. CAB Chair Bridges asked if the radionuclides stay in one location or typically disperse. Mr. Rhodes replied that some radionuclides move, and others do not, but results usually depend on conditions within the environment. CAB Chair Bridges asked if SREL has a main competitor within the United States. Mr. Rhodes replied that in the United States, the network of

radioecologists has been established; however, the graduate training programs have decreased. Rob Pope, EPA, asked what colleges currently have a radioecology program in the United States. Mr. Rhodes named several universities that teach radioecology courses; however, there is no radioecology program established.

PRESENTATION: Integrator Operable Units Program, Brian Hennessey, DOE-SR

Mr. Brian Hennessey, DOE-SR, began by stating the purpose of his presentation and briefly discussing the background of the Integrator Operable Unit (IOU) program. He provided a map of SRS that included color-coded areas to represent watersheds and groundwater discharge areas. Mr. Hennessey used a map to list the six IOU's, which are Upper Three Runs, Fourmile Branch, Savannah River/Floodplain Swamp, Pen Branch, Steel Creek, and Lower Three Runs, and explained how each IOU drains specific areas at SRS. He explained the different purposes of the IOU program before mentioning that data is evaluated and compared to screening levels in order to prevent risk to humans and environment. He discussed a diagram representing the three phases of the IOU program; each individual IOU has its own work plan and three phases. He said the second diagram within his presentation, Program Involvement, symbolized the various organizations that have examined streams at SRS. Mr. Hennessey reviewed the complete IOU schedule before showing a third diagram that represented the Savannah River/Floodplain Swamp and Lower Three Runs, which are the next two IOU's to be included in a periodic report. CAB Chair Bridges asked for Mr. Hennessey to point out the Savannah River/Floodplain Swamp on a map.

CAB Chair Bridges asked if there are contaminants that originated off-site that are brought onsite. Mrs. Susan Bloss, SRNS, said there are stations within the SRS boundary to sample incoming contaminants.

Mr. Hennessey continued his presentation by providing a status update for the Savannah River/Floodplain Swamp and Lower Three Runs IOU's. He stated that no early actions were taken pertaining to the Savannah River/Floodplain Swamp; however, with ARRA funds, early actions were taken at Lower Three Runs IOU to remove contaminated soil, construct additional fencing, and post additional warning signs around three areas where cesium-137 contamination was identified. CAB member Hayes asked where the three areas of contamination occurred. In reference to CAB member Hayes' question, He provided a diagram and several pictures that pointed out the specific contaminated areas and fence extensions constructed at Lower Three Runs.

CAB member Hayes asked if an individual canoeing would be affected by the contamination since cesium-137 usually occurs in the sediment. Mr. Hennessey mentioned that cesium-137 has been found above the water line and shores where, at one time, the water was higher. Rob Pope, EPA, mentioned that Lower Three Runs is "unmaintained," which would make it difficult for an individual to stay in a water vehicle, therefore, possibly coming in contact with the contamination. CAB member Hazen asked if there is any way to track animals that were once onsite. Mr. Tom Rolka, SCDHEC, stated that game animals are monitored from the state boundary and five miles out. Mr. Hennessey continued his presentation stating that in late August, DOE, EPA, and SCDHEC took a walk through the cleaned up area and confirmed the removal actions were complete. The last diagram within his presentation discussed work plan approvals, recent periodic reports, and upcoming milestones for each of the six IOU's. He stated that phase three at Lower Three Runs will begin in a few years since it is the closest IOU to being completed.

Due to the remote location of Lower Three Runs, Rob Pope, EPA, clarified that the number chosen for the amount of cleanup was based upon the likelihood of an adolescent trespasser coming in contact with the cesium-137 contamination rather than an industrial worker. CAB member Burke asked how many hours per year would a trespasser spend in that area. Mr. Hennessey explained the calculations were done by multiplying "18 hours a day, 90 days per year, and ten years." CAB Chair Bridges asked for a clarification of risk levels the NRC uses. Mr. Hennessey stated there are certain regulations that require evaluation to occur in order to reduce risk if the amount of contamination exceeds the established range; however, if the contamination is lower than the established range, nothing has to be done.

CAB member Golden asked if individuals hunting near SRS are informed about controls and barriers in place. Mr. Hennessey stated that individuals participating in SRS deer hunts do receive a briefing, but there are signs posted around the barrier of SRS to guarantee that hunters understand the risks involved. Mr. Hennessey stated that due to the decay of cesium and little human interaction, a majority of the nature at SRS is thriving.

Results of Chair/Vice Chair Elections

CAB member Golden revealed the results of the Chair/Vice Chair election. CAB members voted to elect Mr. Don Bridges as the CAB Chair and Mr. Harold Simon as the CAB Vice Chair.

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

CAB member Nangle stated the committee has two open recommendations and one pending recommendation. He provided the date for the next S&LM committee meeting and reviewed the topic to be discussed at this meeting. He welcomed Rick McLeod, SRSCRO, to begin his presentation.

PRESENTATION: SRS Community Reuse Organization (CRO), Rick McLeod, SRSCRO

Mr. Rick McLeod, SRSCRO, began his presentation explaining that “section 3161 of the Defense Authorization Act of 1993” established 15 Community Reuse Organizations (CRO); however, only eight exist today. He continued his presentation by stating the purpose and functions of SRSCRO. He provided a map of how SRSCRO spans across two states, five counties, and has 22 members. He provided two lists that represented the appointing entities responsible for establishing by-laws and the SRSCRO Board of Directors. He stated that SRSCRO focuses its efforts on economic development, education, and developing a strong community voice. Mr. McLeod stated that economic development is maintained through Asset Revitalization, the Nuclear Workforce Initiative (NWI) created educational opportunities, and communication between SRS, the Blue Ribbon Commission (BRC), and Yucca Mountain all of which help to contribute to a stronger community voice.

Mr. McLeod stated that recently a real estate license agreement was enacted, through the CRO, that allows SRSCRO to work on converting real property to personal property. He continued his presentation by providing pictures of excess assets and asset removal projects, such as removing the old steam line and railroads throughout SRS. For each removal project he discussed, there was a breakdown of the amount of material and costs associated with its disposal. He listed several asset removal projects that SRSCRO may be potentially working on in 2013. Mr. McLeod discussed SRSCRO’s educational philosophy, stating that the creation of the NWI in 2009 has provided several educational avenues for members of the community. He mentioned that SRSCRO has continued establishing its community voice through press conferences, research studies, and position papers. Mr. McLeod listed several examples of how SRSCRO continues to promote economic development, establish educational opportunities, and strengthen its community voice.

Public Comments

Ms. Bobbie Paul, Women’s Action for New Directions (WAND), stated she was excited about all the issues that were discussed at the meeting. She expressed her concern about the lack of Georgia representatives in attendance at the meeting. She also stated her desire to restore environmental monitoring and sampling in Georgia.

-Meeting Adjourned

EM SSAB Chairs Meeting
Washington, D.C.
Draft Chairs' Recommendation
October 3, 2012

The EM SSAB has noted with considerable interest and support that the Waste Isolation Pilot Plant (WIPP) has been remarkably successful in disposing of transuranic waste (TRU) throughout the DOE complex for approximately ten years. The success of the TRU waste program is among DOE's most notable achievements during this time frame.

The EM SSAB is also aware that the mission of the WIPP is being assessed for possible expansion to include disposal of some surplus plutonium from defense programs weapons production activities and certain other nuclear waste such as Greater-Than-Class-C Waste from NRC-related programs.

The success and activity of the WIPP program represents an opportunity for the DOE to make still further progress in addressing some of DOE's legacy waste streams.

The EM SSAB encourages the DOE to evaluate additional storage and disposal options for DOE legacy waste that could result from an expansion of the WIPP disposal mission.

For example, one specific test program that would support this concept involves shipment of a small number of SRS Defense Waste Processing Facility Canisters from SRS to WIPP for storage and evaluation for disposal. Such a test program would permit DOE to evaluate significant issues in DOE's complex-wide high-level waste disposition program such as:

- Shipment container development issues
- Packaging and shipment/receipt issues for both the shipper and the receiver
- Other transportation issues
- Dealing with consent-based approvals

It is the intent of this test program to provide valuable input and to serve as a precursor for the DOE program for the disposal of DOE's high-level waste.

EM SSAB Chairs Meeting
Washington, D.C.
Draft Chairs' Recommendation
October 3, 2012

The EM SSAB would like to offer one recommendation that should increase the effectiveness and timeliness of addressing the disposal of DOE high-level waste.

It is recommended that DOE work with other national leaders to separate the disposition programs for the Defense Program high-level waste and the commercial nuclear industry high-level waste.

The DOE high-level waste program is at a more advanced stage relative to disposition than the commercial nuclear power industry waste-disposal program. For example, DOE presently has over 3,000 canisters at SRS awaiting the next step in the disposition process. Further, the waste form characterization and content is well known and understood. The same will be true for the waste forms in canisters that will be produced at Hanford and Idaho.

Also, the amount of DOE high-level waste is only 10% of the commercial nuclear volume. It is the intent of this recommendation to afford DOE an opportunity to address a much reduced quantity of high-level waste with well known forms. Disposition of the smaller volume in this manner could serve as an excellent learning tool for addressing the commercial high-level waste-disposition program.

EM SSAB Chairs Meeting
Washington, D.C.
Draft Chairs' Recommendation
October 3, 2012

The EM budget is composed of several components, including costs to maintain the EM complex in a safe 'operations ready' state, out-year compliance costs to meet future regulatory milestones, current-year compliance costs to meet regulatory milestones in the current fiscal year and other costs not directly tied to regulatory milestones.

Included in these costs is funding for the development of new technology that will improve the productivity of cleanup projects across the complex. The enhanced solvent for the Salt Waste Processing Facility at SRS is an example of a successful R&D project.

As the current federal budgeting activities continue to constrain EM cleanup activities, the EM SSAB recommends that DOE not constrain funding in areas of technology research and development. The EM SSAB recognizes that without innovative solutions for the future, the cost and timing of cleanup projects could jeopardize compliance with regulatory milestones and extend cleanup costs beyond reasonable expectations.

PRE-DECISIONAL DRAFT

EM SSAB Chairs Meeting
Washington, D.C.
Draft Chairs' Recommendation
October 3, 2012

The EM SSAB recommends that DOE place more emphasis and priority on evaluating technologies that could make recycling excess materials cost effective. Decontaminating these materials for resale can have many positive benefits:

- Saving space in onsite CERCLA disposal cells
- Adding more dollars for cleanup from the sale of excess
- Reducing cumulative environmental insult
- Reducing long-term monitoring and stewardship costs

To facilitate continuous cost-effective recycling, the EM SSAB recommends that DOE identify and establish a national recycling center of excellence, incentivize contractors to recycle and repurpose items, and add a recycling and repurposing element to future Requests for Proposals.

PRE-DECISIONAL DRAFT

**Savannah River Site
Citizens Advisory Board**

Recommendation #299

Separation of National Nuclear Waste Programs (Defense Nuclear Waste and
Commercial Power Nuclear Waste)

Background

The Defense Programs (and SRS) Waste Disposition Program, relative to high level nuclear waste, is at this point uncertain. The SRS canisters consisting of waste from the Defense Waste Processing Facility (DWPF) are presently in storage awaiting shipment to a federal repository.

Federal planning on further actions relative to disposition, for both the SRS waste canisters and similar waste from other sites, is awaiting a path forward to be developed primarily from a report issued by the Blue Ribbon Committee on America's Nuclear Future in January 2012. Definitive plans by DOE, NRC, EPA, and perhaps others, are likely to be developed in the 2013 timeframe. All estimates seem to indicate that actual disposition could take many decades (some estimate on the order of 50 years).

As discussed in the report, the general approach seems to be development of interim storage facilities for consolidation of commercial SNF followed by, but in conjunction with interim storage, expedited work on a final disposition repository. As noted earlier, this process is expected to take a very long time.

There is, however, one distinct measure that could serve to expedite this process somewhat. That is to separate the Defense Programs (DP) nuclear waste program and the much larger commercial nuclear waste program. This affords the national leaders an opportunity to conduct a disposition program on a smaller, more mature program, and use the experience gained to assist in development of the disposition program for the larger commercial nuclear waste.

Discussion

As noted above, much of the Defense Programs waste program is much more mature than the waste program for the commercial nuclear waste. For example, SRS has more than 3,500 canisters awaiting shipment to a federal repository, the next step in the disposition process. Every opportunity should be taken to use these canisters in the waste disposition learning process. Consider the following:

- Defense waste is considerably smaller than commercial waste in quantity. Defense waste volume is approximately 10 percent of the commercial waste volume.
- Defense waste (particularly the waste canisters) is well-prepared for ready disposition relative to the outer container (durable stainless steel cylinder), the waste form is stable (borosilicate glass), and the constituents are well-known and understood. (Meets all known specifications).
- Since the Defense waste seems to be in an advanced state of preparation for disposition, many of the lingering technical questions for commercial fuel do not apply to much of the Defense waste.

These circumstances suggest the real advantage of separating the DP Wastes from Commercial nuclear power waste is to learn from activities relative to the smaller, more mature DP waste and use the information gained to assist in development of a much larger, less mature program.

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

reuse, preparation for disposition, and disposition. Further, much could be learned from dealing with “consent-based” approval issues.

It is understood by the CAB that such a move will involve considerable interaction with a number of other federal levels; however, this opportunity should be explored and discussed at the highest levels.

Such a program may create some opposition at the local and state levels. Some states may view this as a step forward while other states may view it as a measure that reduces the focus on dealing with the large waste program. If this action is represented as one that is taking positive measures for progress, while the larger program is being actively addressed, it may be broadly embraced.

Recommendations:

The Savannah River Site Citizens Advisory Board recommends that DOE:

1. DOE-SR present the concept of separating the Defense Programs program high level waste program from the commercial nuclear power waste program to HQ, and heartily endorse such an approach.
2. DOE-SR develop a “white paper” on this topic presenting more in-depth support and data for the concept and forward the “white paper” in support of this concept.

Recommendation #299
Adopted October 30, 2012
Sponsored by the Waste Management Committee

**Savannah River Site
Citizens Advisory Board**

Recommendation #300

The Savannah River Site Citizen's Advisory Board Concerns Regarding Interim Storage of Commercial Spent Nuclear Fuel and Other Nuclear Wastes and Materials at the Savannah River Site.

Background

The 1982 Nuclear Waste Policy Act (NWPA) provided for the establishment of a permanent repository for nuclear waste in the United States. The Act stated that federal efforts during the previous 30 years (approximately 1952 to 1982) had not been adequate in devising a permanent solution to radioactive waste. The Act, Sec. 111, found that High Level Radioactive Waste and Spent Nuclear Fuel create potential environmental, public safety and health hazards. These wastes and by-products, according to Congress, require safe and environmentally acceptable methods of disposal rather than the existing practice of accumulating Spent Nuclear Fuel from nuclear reactors and radioactive waste and materials from other sources at multiple locations across the country. Provisions in the Act allow for utilizing between 9-10 percent of space in the repository for the storage of High Level Radioactive Waste resulting from atomic energy defense activities.

The Nuclear Waste Policy Act (NWPA) directed DOE to consider at least five sites, and select two, on which to develop deep geologic repositories for the disposal of High Level Radioactive Waste and commercial Spent Nuclear Fuel. The NWPA also directed DOE to begin disposing of the High Level Radioactive Wastes or Spent Nuclear Fuel by Jan. 31, 1998.

In 1986, DOE selected three out of nine potential repository sites for further study. In 1987, Congress amended the 1982 NWPA and designated Yucca Mountain as the only site to be considered, and authorized DOE to site an interim storage facility (called "Monitored Retrievable Storage" in the act) to store limited amounts of Spent Nuclear Fuel temporarily prior to sending it to a repository.

In 2002, based on technical evaluations, DOE recommended to President Bush that a nuclear waste repository be developed at Yucca Mountain. Nevada objected, as allowed by the NWPA, and both houses of Congress voted to override Nevada's objections. DOE began work on the license application. In 2010, President Obama halted consideration of Yucca Mountain, DOE filed a motion to withdraw the application from Nuclear Regulatory Commission (NRC) review, and NRC stopped the technical review of the application. Several entities, including South Carolina and Aiken County, sued DOE for not following the requirement of the NWPA. As of this writing, the final outcome of the suits is pending.

Also in 2010, President Obama chartered the Blue Ribbon Commission (BRC) on America's Nuclear Future to develop recommendations regarding the disposition of Spent Nuclear Fuel (known as the "back end" of the nuclear fuel cycle). The BRC recommendations included (1) a consent-based approach to siting future nuclear waste management facilities, (2) prompt efforts to develop one or more consolidated storage facilities to serve as interim storage for High Level Radioactive Waste and Spent Nuclear Fuel prior to disposal in a geologic repository and (3) recognizing the need to develop one or more geologic disposal facilities.

Discussion

The withdrawal of the Yucca Mountain license application has left the SRS vitrified High Level Waste without its legislatively-designated permanent disposal site, thus requiring DOE to either maintain the waste in long-term interim storage at SRS, or find an alternate disposal site.

The NWPA made DOE responsible for commercial Spent Nuclear Fuel beginning in 1998. The 1987 amendments to the NWPA authorized DOE to site an interim storage facility for the temporary storage of commercial Spent Nuclear Fuel, and because the BRC recommended developing interim storage facilities, DOE could consider siting such an interim storage facility at SRS. The CAB believes this is very likely given that SRS already is storing vitrified High Level Radioactive Waste destined to be disposed with the commercial Spent Nuclear Fuel, and the location of the SRS relative to many commercial power reactors.

DOE has a history of transferring nuclear materials to the SRS for disposition and then abandoning or indefinitely postponing the disposition. Foreign research reactor spent fuel has been received at SRS for decades, originally to be dispositioned through H-Canyon and the Defense Waste Processing Facility (DWPF). It is now languishing in L-Basin with plans to transfer most of it to long-term dry storage at SRS. Excess weapons plutonium from Rocky Flats, Hanford, and other DOE weapons sites, was transferred to SRS in order to close sites, or meet legal obligations to host states, and is awaiting disposition through MOX. The disposition plan for this plutonium is currently in its fourth iteration.

The CAB has repeatedly chastised DOE for abandoning disposition plans, essentially making SRS a *de facto* long-term storage facility. The CAB recognizes, and appreciates, that the Site's infrastructure and human resources are critical to the success of eventual disposal of these materials. However, we believe interim storage of Spent Nuclear Fuel at SRS until a repository is identified would provide little benefit to SRS or the surrounding communities, and we are skeptical that any fuel brought here for storage would leave in our lifetimes. The CAB has previously recommended that the Yucca Mountain facility be considered for interim storage of nuclear wastes and materials. Therefore, the CAB is reluctant to endorse the transfer of commercial Spent Nuclear Fuel to SRS solely for interim storage. We are, however, not prepared to take a final position at this time.

The CAB is aware that the SRS Community Reuse Organization (SRSCRO) is preparing a study regarding the drawbacks and benefits of bringing Spent Nuclear Fuel to SRS for long-term interim storage. We will request that the SRSCRO make a presentation to the CAB once the study is complete, and at that time will probably forward a recommendation based on our assessment of the study's findings. We do not believe that a decision regarding interim storage should be made by DOE before this study has been published and evaluated by local communities and the CAB.

Recommendation

Meanwhile, in the spirit of the BRC recommendation regarding using a consent-based approach to siting future waste disposal facilities, the CAB expects DOE to involve affected stakeholders in any discussions regarding the potential transfer of commercial Spent Nuclear Fuel to an interim storage location. In addition, if SRS is to be considered as a potential interim storage location, the CAB expects DOE to engage the state of South Carolina and other stakeholders about the state's expectations in any discussions regarding the potential transfer of commercial Spent Nuclear Fuel to SRS.

The Savannah River Site Citizens Advisory Board recommends that DOE:

1. Inform the CAB of any plans or discussions for bringing any new nuclear wastes or commercial spent nuclear fuel to SRS (within the bounds of national security requirements).
2. Advise the CAB of those existing or potentially generated wastes that are under consideration to be stored at SRS in an interim storage status.
3. Keep the CAB informed about the status and plans for the creation of a permanent repository for nuclear wastes that is capable of receiving legacy or other wastes or nuclear materials stored at SRS
4. Not transfer any commercial spent nuclear fuel to SRS for any purpose until after the SRSCRO study is completed, and stakeholders have reached a conclusion on the appropriateness of such an activity
5. Make no decision regarding the use of SRS as an interim storage site for commercial Spent Nuclear Fuel until establishing and using a consent-based decision process.
6. Ensure that any nuclear materials or wastes brought to the site a) be processed in a manner that prepares for them for disposition, b) after processing have a defined, scheduled, and viable path to disposition, c) be the subject of a formal and enforceable agreement with the State of South Carolina.

Savannah River Site Citizens Advisory Board

Recommendation #301

Demonstration Storage at WIPP Program for SRS High Level Waste Canisters

Background

The ultimate disposition of High Level Waste and Spent Nuclear Fuel is undefined at this point. A framework for the program was presented in a Blue Ribbon Committee (BRC) Report on America's Nuclear Future in January 2012. Definitive plans by DOE, NRC, EPA, and possibly others, on a path forward are being actively developed. What is clear to date is that all of the nation's nuclear waste will ultimately be stabilized in some manner and later shipped to a federal repository for final disposition. It is a program that will take decades to complete and will require a massive effort to carry out.

The SRS, of course, will necessarily be a part of that program and will be limited by the constraints and schedules developed for the national program. The SRS Nuclear Waste Disposition Program is far advanced over most of the Defense Waste activities of the other DOE sites and most of the commercial nuclear waste activities at large. SRS has approximately 3,500 canisters of defense nuclear waste ready for shipment to a final disposition repository. These canisters are very robust (durable stainless steel cylinders) and the waste content is a stable borosilicate glass with the constituents well-known and characterized. These canisters with their advanced state of preparation for disposition offer DOE the opportunity to develop some experience that will be useful in carrying out the national program on a much larger scale.

Discussion

One idea that seems worthy of consideration would be to ship a small number of SRS canisters to another location for storage as a trial test and storage program. The Waste Isolation Pilot Plant (WIPP) would be an excellent location to receive these canisters and store them as the program is being evaluated.

WIPP is a disposition facility for transuranic waste (TRU) in New Mexico. The TRU is placed in tunnels over 2000 ft. deep in a salt formation where it will be isolated forever. The WIPP has been very active for more than 10 years, and waste disposition is carried out efficiently and effectively. The WIPP is being evaluated for an expansion of its mission. If the WIPP mission could be expanded to allow the storage of a few SRS canisters, perhaps later the eventual disposition of these few SRS canisters, DOE would have the opportunity to learn a great deal for the larger national waste disposition program.

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

For example if a few SRS canisters were shipped to WIPP for temporary storage it would allow DOE to develop experience in the following areas:

- Develop and evaluate shipping containers for the SRS canisters.
- Experience in developing the needs of a shipping facility
- Experience in developing the requirements of a receiving facility
- Experience in handling and transporting these canisters
- The learning process for consent based approvals.
- Assessments on the performance of canisters in a salt environment.

- Acquire knowledge of actual costs of actions described above.

If this test and storage program were carried out, it offers the advantage of showing real progress on a much earlier timescale than would otherwise be possible. All of this work should be a real boon to the national waste disposition program.

Recommendations:

The Savannah River Site Citizens Advisory Board recommends that DOE:

1. DOE-SR work with WIPP personnel in New Mexico to develop a plan for such a Demonstration Storage Program at WIPP for SRS High Level Waste Canisters.
2. Forward the Plan to HQ with the recommendation that DOE present this concept to other national leaders for consideration in national BRC implementation plans.

Recommendation #301
Adopted October 30, 2012
Sponsored by the Waste Management Committee

**Savannah River Site
Citizens Advisory Board**

Recommendation #302
Contingency Budget Planning Input for Severe Budget Cases

Background

With the coming of the next election cycle, and the existing Spartan budget climate, it seems entirely plausible that the Site could be faced with severe and deep budget cuts. In the view of the CAB, the Site may have to assess priorities in an unprecedented manner.

The CAB has consistently indicated to DOE that our top priority is addressing cleanup activities related to the liquid radioactive waste system. The CAB has also indicated strong support for processing of the Spent Nuclear Fuel (presently stored and being increased by continuous incoming foreign and domestic shipment for the next few years). We also recognize that to keep this high priority activity ongoing it will be necessary to maintain the integrated production system operable which includes:

- H-Canyon processing
- Waste Tank processing activities
- Interim Salt Waste Processing Activities
- Construction and Operation of Salt Waste Processing Facility
- Continued operation of the Defense Waste Processing Facility.

Each of these individual systems listed above have surprisingly high costs even if operated at minimum safe operating conditions (safe, stable condition with no production throughput) compared to full operations. For example, the minimum safe operating condition costs for H-Canyon is on the order of \$150 M per year while full operations conditions increase these costs to \$170 M per year. Full operations costs over non-operating costs are a modest 13 percent increase. It is quite likely that the same relative costs for the other facilities listed above have comparable ratios of full operations to minimum safe operations costs.

Discussion

The CAB continues to reaffirm that we support dealing with all aspects of cleanup in the manner much as you have proposed in the plans set forth in FY 2011 and FY 2012, as well as earlier years. We also understand that we are making some input on hypothetical conditions that we hope will never come to reality. However, if deep cuts do occur, we encourage a “risk-based” approach to cleanup, and in our view, that would include dealing with High Level Waste and Spent Nuclear Fuel first. This condition suggests that if faced with deep budget cuts we would encourage that these critical facilities be kept in some ongoing operational status. In no scenario would it be cost-effective in our view to keep these facilities in minimum safe operating condition as opposed to full operations.

These views are expressed in light of the well-known condition that “the SRS High Level Liquid Waste represents the largest hazard in the state of South Carolina.” We feel that continually addressing this high risk radioactive waste should be maintained even if some other creditable environmental cleanup activities are impacted. We feel that no good purpose would ever be served by maintaining these facilities noted above in any minimum safe operating condition for any significant time period. The risks are real and the stakes too high to ever deal with these hazards without giving it our best effort as we have consistently done in past years.

Recommendation:

The Savannah River Site Citizens Advisory Board recommends that DOE:

1. Assess the contingency budget input provided herein and commit to dealing with the cleanup consistent with emphasis on production extending from used nuclear fuel processing through production of high level waste canisters.

Recommendation #302

Adopted October 30, 2012

Co-sponsored by the Nuclear Materials Committee and Strategic & Legacy Management Committee

Savannah River Site Citizens Advisory Board

Recommendation #303

Disposition of Spent/Used Nuclear Fuel (SNF/UNF) from L-Basin through H-Canyon
Considering the Plutonium Processing Impacts Likely to be Encountered

Background

Both defense and commercial nuclear waste have been stored in interim sites across America since the 1950s, without a consent-based process. The Savannah River Site (SRS) has served as one such site. It has become clear that a disposition path for the radioactive materials stored at SRS will not have a disposition path for many more years.

The 1982 Nuclear Waste Policy Act (NWPA), amended in 1987 to designate Yucca Mountain as the national site to be developed for America's permanent waste repository, has been bypassed. The Obama administration has 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.

Following the withdrawal action for licensing Yucca Mountain, the President established a Blue Ribbon Commission (BRC) for the purpose of identifying alternatives to Yucca Mountain that could accommodate America's current and future nuclear waste. The BRC released its final report in July of 2012 with general recommendations that must be evaluated by various relevant federal and state agencies. Recommendations emerging from those evaluations will then be subject to consideration by effected agencies in order to select actions that may constitute a national waste management program. The BRC also included the recommendation that actions to establish interim or permanent repositories be consent-based.

Compounding the issue is the likelihood that Yucca Mountain could again come under consideration as a permanent deep geologic deposit for America's commercial and defense nuclear waste with any administrative policy change. A recent Government Accountability Office found that there appears to be no scientific evidence supporting claims that the Nevada site is geologically inappropriate as a national waste repository.

Further compounding the issue is the history of consent-based attempts to site nuclear waste storage systems in America's states, Indian Reservations, and other communities. A Nuclear Negotiator Office was established through the 1987 amendment of the 1982 NWPA congressional act. That office approached a series of state governments, Indian Reservations and economically depressed communities with financial incentives to volunteer for nuclear waste storage. All offers were rejected and the Nuclear Negotiator Office was closed in 1994.

Discussion

The Savannah River Site (SRS) has been the interim storage site for defense waste (in the form of DWPF canisters) and other nuclear materials (both domestic and foreign Spent/Used Nuclear Fuel-SNF/UNF) for half a century. A series of disposition campaigns to process the SNF/UNF have been considered, with some funded and implemented, but without being integrated into a

cradle to grave nuclear waste management system and without a federal repository to receive shipments of the processed waste. None of the SRS storage programs have been consent-based.

One system, the Defense Waste Processing Facility, vitrifies radioactive waste from the SRS tank streams. The vitrified waste is then stored in an interim site that houses the resultant glass logs in steel canisters surrounded by sub-surface concrete vaults.

Another system involves utilizing the decommissioned L Reactor cooling pool, holding 3.4 million gallons of water, as an interim wet storage site for 15,000 assemblies containing both domestic and foreign research reactor spent nuclear fuel. The pool now contains 13,000 assemblies. Current planning for the management of L-Basin radioactive materials includes processing certain SNF/UNF through H-Canyon where the highly enriched uranium is captured (and reused) and the waste is processed through the High Level Waste System to the DWPF where it is deposited in canisters in a glass matrix). There is a concern that this material is not scheduled to be processed in the H-Canyon. If the delay continues the H-Canyon may not be available. The process time for this SNF/UNF is on the order of 10 years and there is a valid question whether the H-Canyon will be operated long enough to complete the materials in the L-Basin. The H-Canyon operability remains subject to such intervening variables as administrative policy changes and congressional funding.

Additionally, as an interim wet storage site, L-Basin is reaching full capacity. There is an ongoing consideration for expanding storage capacity in the basin. The racks into which the assemblies are stacked must be designed around a fixed geometry for spacing the radioactive contents to control criticality. There are 3,650 available positions, with 3,174 positions filled and remaining space to add around 15 additional racks (or 450 storage positions) in the pool. Any rack designs must be seismically qualified in case of earth movement (quakes).

Like all federal nuclear systems, L-Basin funding is subject to administrative and congressional discretion for operations funding. A 2011 study on fuel and basin life extension was conducted by the Savannah River National Laboratory which concluded that the fuel presently in the basin can be safely stored for an additional 50 years, contingent upon the continuation of existing management activities and implementation of several augmented program activities. The management and augmentation activities include periodic examination of the bundled fuel assemblies, assessment of fuel in isolation containers, and basin concrete assessment. There must also be a continuation of the basin water chemistry, corrosion evaluation, structural integrity evaluations, aging facility management assessments and infrastructure maintenance. These requirements for continued storage of spent fuels face potential challenges. Structural integrity of both fuel and their containers is a constant challenge. Another constant challenge to the L-Basin pool is the risk of basin contamination and requisite cleanup. There is presently such an invasion under study. The costs of operating L-Basin are currently around \$40 million per year.

While consideration is also ongoing for dry storage alternatives at L-Basin, questions have evolved on the efficacy of dry storage considering such safety issues as terrorist threats. Internationally, materials that have been selected for dry-cask storage have been cooled for several years before entering the system.

Considering the above cited problems for continued on-site storage of SNF/UNF, their costs, and the likelihood of a national nuclear waste repository becoming available in the near future, the most practical solution for dispositioning radioactive materials from L-Basin is to utilize H-Canyon process operations to process it through H-Canyon for injection into the high level waste stream entering the DWPF vitrification system. Processing the materials through H-Canyon has

the advantage of utilizing that unique facility and its skilled personnel for several years. Further, converting the L-Basin SNF/UNF fission products into vitrified glass logs has several advantages. They are more easily and safely stored than maintaining SNF/UNF in any storage configuration. The vitrified material is less subject to threat by terrorist actions. Finally, as a result of the other advantages, the option of canister storage for vitrified materials is a more pragmatic and practical option than extended wet storage of SNF/UNF or wet storage of SNF/UNF supplemented by dry-cask systems.

There have been some complications to the possible processing of the SNF/UNF in H-Canyon due to a preferred alternative recently published in an on-going Supplemental Environmental Impact Statement for the Disposition of Surplus Plutonium by the National Nuclear Security Administration. It appears likely that H-Canyon will now be used partially for processing some of the plutonium for use in the Mixed Oxide Facility. If this is the case it is not clear to what extent the H-Canyon could process the SNF/UNF on-site or how long it would take.

However, it seems imprudent to continue to keep SNF/UNF in a somewhat vulnerable storage configuration when such an attractive and reasonably affordable option is available to configure it into the most stable, technically advanced, and attractive configuration possible. Further, it is noted that maintaining H-Canyon with no processing done at all costs \$150 M per year while operating at full capacity only costs \$170 M per year. From a relative standpoint the costs increases for full operations seem modest.

Recommendations

Given the disadvantages of the current wet storage system, processing obstacles, lack of an available national repository for years to come, need for additional storage space facing SNF/UNF on the SRS site, and all the associated costs, it is recommended that DOE:

1. Authorize and fund the processing of L-Basin SNF/UNF in H-Canyon as a matter of urgency considering the considerable length of the SNF/UNF campaign and the possible limited life of H-Canyon.
2. Reassess the SNF/UNF processing time and capacities for H-Canyon considering that plutonium will likely be processed in H-Canyon (as a result of a related plutonium disposition program) and may possibly extend the end point for H-Canyon operations.
3. Establish the length of the processing campaign of the SNF/UNF in H-Canyon considering the parallel processing needs of the plutonium being processed for the Mixed Oxide Program.
4. Develop a System Plan to document the revised H-Canyon schedule and the impact on the DWPF schedule.
5. Continue processing the L-Basin SNF/UNF through H-Canyon after the vulnerable fuels have been processed.