

**Meeting Minutes  
May 23-24, 2011  
Savannah, GA: Full Board Meeting**

**Monday, May 23-Attendance:**

<p><b><u>CAB</u></b> Thomas Barnes Tabitha Barrett-<i>Absent</i> Dr. Emile Bernard Paul Boynton Dr. Donald Bridges Ed Burke Louie Chavis Mary Davis Kathe Golden-<i>Absent</i> Judy Greene-McLeod Dr. Rose Hayes Stan Howard Dr. K. Jayaraman-<i>Absent</i> Travis Johnson Cleveland Latimore Denise Long Clinton Nangle-<i>Absent</i> Dr. Marolyn Parson Harold Simon John Snedeker George Snyder Skyee Vereen Dr. Gerald Wadley Sarah Watson Alex Williams</p>	<p><b><u>Agency Liaisons/Regulators</u></b> David Williams, EPA Kyle Bryant, EPA Van Keisler, SCDHEC Shelly Wilson, SCDHEC John Simpkins, SCDHEC</p>	<p><b><u>DOE/Other</u></b> Dr. David Moody, DOE-SR Doug Hintze, DOE-SR Karen Guevara, DOE-SR Becky Craft, DOE-SR Patrick McGuire, DOE-SR Terry Spears, DOE-SR Wade Whitaker, DOE-SR Dr. Karen Hooker, DOE-SR Rich Olsen, DOE-SR Gerri Flemming, DOE-SR</p>
	<p><b><u>Contractors</u></b> Paul Sauerborn, SRNS Jeannette Hyatt, SRNS Beth Bilson, SRNS Paul Deason, SRNS Dave Olson, SRR Doug Bumgardner, SRR Nancye Bethurem, SRR Erica Williams, V3 James Tanner, V3 Jenny Freeman, V3 Ashley Whitaker, V3</p>	<p><b><u>Stakeholders</u></b> Tom Clements Manuel Bettencourt Donna Antonucci</p>

CAB Facilitator, Jenny Freeman, opened the meeting by stating the ground rules, welcoming attendees, and reviewing the day's agenda. She introduced four presenters, who would be providing overviews of Savannah River Site (SRS), Savannah River Nuclear Solutions (SRNS), Savannah River National Laboratory (SRNL), and Savannah River Remediation (SRR).

**SITE OVERVIEWS**

**Overview of Savannah River Site (SRS), Dr. Dave Moody, Manager**

Dr. Moody introduced the new Strategic Vision of the Site, and said SRS is in the process of making a few changes. He said it would be sent out in a few weeks. He briefly overviewed the Site's Strategic Vision, and said it has been worked on since he arrived at the site six months prior. He said the plan includes the vision that SRS is the key site in determining the nuclear future of America. He added that SRS will pursue small modular reactors as a key element of this future, which he said is an enabler on meeting the president's goals of going green. He spoke about the research effort on hydrogen, which is ongoing at SRNL. Dr. Moody said the site is also looking at being a center for the backend of the fuel cycle for development of reprocessing technologies. He said SRS is not shutting down H-Canyon, stating it is the key to the future vision of the site. He said they are modifying its applications. He then reviewed some slides that showed the Strategic Vision of SRS.

CAB member Alex Williams asked, in regards to the SRS 20-year going green vision, will it make a national impact or will it only affect SRS. Dr. Moody said in 20 years, he is looking at impacts on SRS, but plans to look for alternatives for petroleum. He hopes SRS can demonstrate that going green is viable so it can be picked up nationally.

### **Overview of Savannah River Nuclear Solutions (SRNS), Beth Bilson**

Ms. Bilson stated the purpose of her overview, listed the number of people who work at SRS, including the number of SRNS employees. She reviewed SRNS' safety performance and the SRS budget for SRNS. She continued by showing a graph that displayed the 2010 SRNS community contributions.

She discussed what SRNS does onsite, listing Environmental Management (EM) missions. She then reviewed the SRNS National Nuclear Security Administration (NNSA) missions, as well as the Recovery Act portfolio. She showed a brief video, and then provided an overview of the workforce restructuring happening with SRNS. She listed SRNS' keys to future missions, and then provided a summary, which reviewed information on safety, operational excellence, expedited cleanup, and future missions.

### **Overview of Savannah River National Laboratory (SRNL), Dr. Paul Deason**

Dr. Deason provided a slide with SRNL "at a glance," which included background info on SRNL such as staff numbers, its safety ranking, and capabilities. He spoke about the evolution of SRNL and showed photos of SRNL's laboratories. He said the lab's greatest strength is its employees. He stated SRNL is a multi-program national laboratory, which includes Environmental Management, National and Homeland Security, and Energy Security. Dr. Deason provided a slide of SRNL's innovation impacts on broad national priorities. For example, SRNL has provided rotary microfilter technologies for EM missions, SODAR testing to measure offshore winds for Energy Security, and technologies that accelerate tank closures and reduce lifecycle costs at SRS and Hanford.

He continued with information on the National Center for Radioecology (NCoRE), and overviewed the MicroCED program. He listed current and future energy security initiatives, which include hydrogen, bio-energy research, offshore wind and data assessment, batteries and energy storage, small modular reactors, grid integrated renewable projects, fuel cycle R&D, and carbon management.

He provided information on national and homeland security, discussing the expanded FBI Forensics Laboratory at SRNL, the renewed accreditation for the SRNL Nuclear Forensics Analysis Center, and the integrating and testing of RAD monitors for port cargo containers for the Domestic Nuclear Detection Office (DNDO). He summarized his presentation showing a graph titled, "SRNL Nuclear Knowledge: Key to Our Nation's Future."

CAB member Ed Burke asked what percentage of SRNL's overall costs is funded by private industries or residuals from previous work done for private industries. Dr. Deason said national labs have a limit on how much private money they can take in. He said SRNL has anywhere between 1 to 2 percent.

CAB member Alex Williams asked what is SRNL's success rate in hiring minority expertise in its staff portfolio. Dr. Deason said it's not an easy task, but they work hard at this with internships and post doctoral students. He said they bring in the next generation through those programs.

### **Overview of Savannah River Remediation (SRR), Dave Olson**

Mr. Olson started with a Liquid Waste Operations Overview and defined SRR's focus, which is safety. He stated the challenge SRR faces, and showed a graph that depicted the amount of waste in volume, as well as its radioactivity. CAB Chair Don Bridges asked when the number of gallons of liquid waste would start going down. Mr. Olson answered when the Salt Waste Processing Facility (SWPF) starts up in 2014, and SRR can get more than one million gallons of salt being moved out, with an increase in numbers as high as 9, 10, or 11. CAB member Rose Hayes asked if the curies would vary as water is added during the cleaning process. Mr. Olson said the curies will continue to go down.

He then reviewed the solution SRR is focusing on, which includes steps such as radio nuclides to glass, chemicals to Salt stone, and tanks cleaned and closed. He overviewed the Sludge Waste Treatment, stating there will be 7,500 canisters when the project is completed in 2024. He said they put “bubblers” in place. CAB Chair Bridges asked if there was any erosion in the melters. Mr. Olson said there is not. CAB member Emile Bernard asked how the bubblers have performed so far in the tanks. Mr. Olson answered the bubblers have exceeded capacity so far, and there have been no failures thus far. He continued that there are two Defense Waste Processing Facility (DWPF) Glass Waste Storage Buildings. CAB Chair Bridges asked when building 2 will “fill up.” Mr. Olson answered it will fill up in 2016 at the current production rate.

Mr. Olson reviewed information on near-term Salt Waste Treatment, and showed photos of the facilities involved. He then overviewed the supplemental Salt Waste Treatment, speaking about at-tank treatment technologies such as the Rotary Microfilter, the Small Column Ion Exchange, the Spent Resin Disposal, and the Next Generation Solvent. He said there is a design in progress for supplemental Salt Processing capability to start-up in 2013. He continued with the tank closure progression, and a graph titled, “Changing the Landscape.”

He showed a graph on SRR’s present day and future, and showed videos concerning advances in tank cleaning and residue sampling. CAB member Bernard asked about the consistency of the waste left in the tanks. Doug Bumgardner, SRR, answered it is residual sludge and like the consistency of peanut butter.

Mr. Olson stated that the SRR Liquid Waste Program was awarded \$200 million in ARRA funding in September 2009. He listed the expected results, and then summarized his presentation.

## **COMMITTEE REPORTS**

### **Nuclear Materials (NM) Committee-** *Rose Hayes and John Snedeker, CAB NM Co-chairs*

CAB member Hayes began by introducing the members of the NM Committee, and reviewed what the committee has been discussing. She said she recently looked through NM Committee recommendations. She spoke about Yucca Mountain and said the idea of a National Repository is on hold; she then defined the different variations of disposition.

She then reviewed the committee’s recommendations, stating that Recommendation 263 was adopted by the NM Committee on May 19, 2009. She said it had four parts, and one part had not received a response. She said they are waiting for DOE to determine if the Blue Ribbon Commission will address it. She continued with Recommendation 266, stating it was adopted on September 29, 2009; she explained what this recommendation entailed. She reviewed the remaining recommendations and asked if anyone on the board had any suggestions on modifying or closing recommendations, to start that discussion at that point.

### **Waste Management (WM) Committee-** *Emile Bernard, CAB WM Chair*

CAB member Bernard introduced Arnold Edelman, DOE-HQ, who led a discussion on Greater than Class C (GTCC) Waste via teleconference. Mr. Edelman introduced Jamie Joyce, who was joining him on the conference call. Mr. Edelman said the Draft Environmental Impact Statement (EIS) for GTCC was published in the Federal Register for public comment on February 25, 2011, and closes on June 27, 2011. He said there have been eight public hearings since April; he listed the different locations where these hearings were held. He said in terms of the message he’s been hearing from people is to not bring the waste to their sites/areas, and that it would be more prudent that the waste be stored at or near the site of generation. He defined the no-action alternative within the Draft EIS. He said many people felt that alternative methods to geologic disposal should not be considered. He continued that many people felt that since Waste Isolation Pilot Plant (WIPP) is limited currently to disposal of defense transuranic waste, the mission of WIPP should not be expanded to include nondefense transuranic waste. He said the community

surrounding Carlsbad felt that WIPP could handle GTCC waste. He listed all the different arenas from which they have heard opinions on the EIS.

He said after the public comment period ends, they will review the comments and edit the document. He said they hoped to have a final Draft EIS that will contain a preferred alternative, but the current draft does not. He said they hope to have this document worked out by early 2012. He said although they will have a final Draft EIS next year, they will not be able to issue a Record of Decision (ROD) until they prepare a report to Congress that identifies the alternatives, and potential impacts and costs, to await Congressional action. He explained that some of the actions and locations they are looking into may require regulatory changes, and provided examples.

CAB member Hayes said at the hearing held in North Augusta, it was understood that SRS is a site that is being considered for a facility that will reprocess and/or store GTCC waste. She said she made the comment that SRS already has an extensive inventory of waste. She continued by stating there is no disposition path or repository, and said there have been no studies that indicate that SRS is appropriate for long-term storage or receipt of these materials. She noted criticisms from others in North Augusta during the meeting. She asked if there has been any reconsideration on allowing the public to review and comment on what will be sent forward as the final draft, and has there been any reaction to her comments at the meeting concerning it being inappropriate for SRS to receive and store GTCC waste.

Mr. Edelman said at this point in time, they are following the process in which they will prepare a final EIS, which will go through internal departmental review. He said after it is finalized, it will go out to the public for comment. He said the way in which the NEPA regulations are developed, they won't be able to issue a ROD sooner than 30 days after the final EIS is issued, but it will be a lot longer because they will be submitting a report to Congress. He said at that time, the public will be able to comment on the final EIS to DOE and on the report to Congress in terms of Congressional action. He said if there are any significant changes to the alternatives being evaluated, they would have to issue a supplement to the EIS that would be available for public comment, or would potentially reissue the EIS. He said so far they haven't received any comments that would require that.

To answer CAB member Hayes' second question, Mr. Edelman said they haven't received many written comments related to SRS, but he said they will be looking at the information in the EIS. He said SRS is not one of the best performing sites for the receipt of GTCC waste in terms of long-term effects to the health of citizens and the environment. He said that information, other issues, and comments will be combined for a decision.

CAB member Bernard asked if there is a possibility of processing GTCC waste to reduce and separate the most active elements of that waste ahead of time. Mr. Edelman answered there are three different types of waste: activated metals, the sealed sources, and the other waste. He said the activated metals are primarily coming out of the core of a nuclear reactor, so volume reduction is possible if the materials are surveyed and only the stuff that is activated above the GTCC level is cut; he stated this is not a volume reduction or treatment. In terms of the sealed sources, he stated the radionuclide material is in containers or small shielded containers, and he said he's not sure if much can be done about that; he listed some possible routes. He then reviewed the other waste types and what could possibly be done with those.

Mr. Jamie Joyce, DOE-HQ, added with the sealed sources there are some recycling capabilities, but for the purposes of the Draft EIS, the volume is based on the assumption that the source would not be recycled. He said many of the other wastes Mr. Edelman spoke of are made up of debris. He listed some other areas where the wastes could be processed. He also addressed waste grouting possibilities.

CAB Chair Bridges said it seemed like the most sensible solution for GTCC waste would be to dispose of it in WIPP. He asked if it would be useful for the SRS CAB to make a recommendation to that effect. Mr. Edelman said he would give an answer to that, but he doesn't want to bias the CAB. He added that any input is appreciated.

CAB member Bernard wrapped up this committee update by introducing his committee's members, reviewing recommendations, and listing tasks his committee members would be undertaking. He invited everyone to attend his June 28 committee meeting in Aiken, SC. He also brought up the topic of Focus Groups, to be considered by the CAB, to help with public outreach.

**Strategic & Legacy Management (S&LM) Committee-** *Jerry Wadley, CAB S&LM Chair*

CAB member Jerry Wadley introduced his Vice Chair and committee members. He announced the next S&LM committee meeting coming up on June 14. He said his committee has two open recommendations: 262 and 272. He said both open recommendations still have elements that are ongoing; he said they will remain open for the remainder of the year. He asked for a show of hands of which members would like to tour H-Canyon at SRS. Ms. Freeman said she counted 17 votes. CAB member Wadley said he feels it is important for the CAB members to see H-Canyon. He then led a discussion on a proposed recommendation, "FY 2013 Integrated Priority List (IPL) and Budget Input."

**Recommendation discussion:**

**"FY 2013 Integrated Priority List (IPL) and Budget Input"**

CAB member Wadley highlighted the draft recommendation, stating H-Canyon is an important asset, given the current and future capabilities of H-Canyon. He explained the president's proposed 2012 budget cuts call for H-Canyon to be shut down and systems flushed by December 31, 2011. He said the recommendation proposes that for fiscal year 2013, H-Canyon and the HB-Line be fully funded, to operate at levels that allow disposition of plutonium at HB-Line and processes Used Nuclear Fuel (UNF) at H-Canyon. He added the CAB recommends that PBS 12 L-Area be fully funded and overviewed the remaining proposed recommendations in the draft.

CAB member Burke asked Shelly Wilson, SCDHEC, if H-Canyon shut down, would it have any implications for any agreements between SCDHEC and the Federal government, or the state of South Carolina and the Federal government. Ms. Wilson said it would not as there are no regulatory agreements that govern reprocessing at H-Canyon.

CAB member Hayes said there is a public law, 106398, that indicates that H-Canyon will continue to be funded. She said it is going to be an issue of having a problem, and a law that would solve the problem, but the law is being overlooked.

CAB member Denise Long said that every business she knows of would love to fully fund everything that it's doing, but there are budget restraints. She said if they don't have the money to fund stuff, she doesn't know how the CAB can ask them to fully fund it.

Doug Hintze, DOE, explained the budget process, stating the end result is the President's Budget. He said when the budget comes out, the response that DOE is going to give is that it fully support's the president's budget request. He said there has never been a year that he can remember that everything that was wanted to be funded was fully funded. He said the CAB will probably not receive a response from DOE other than one that says it fully supports the president's budget request. CAB Chair Bridges replied that he understands everyone has budget concerns and perhaps the phrase "fully fund" may not be the best one, but there are four or five projects on the site that are what he considers major projects; he put H-Canyon and HB-line in that category. He said other projects should suffer from budget constraints before these projects are affected.

CAB member Hayes asked who determines the "need" or "lack of need" for H-Canyon. Mr. Hintze, DOE, answered that many people determine the need and work on the prioritization of projects. He said the prioritization starts at the Site, SRS, and once it gets up to DOE Headquarters, it reaches the Office of Environmental Management. He said this office has a priority list as well, which includes all of the EM projects and programs. He said some of the projects on SRS's priority list aren't as high on the EM list. He said the list then goes to DOE. He added there is some input from Congressional channels. He said the need

is determined by the priorities of the organization as the list goes up. Karen Guevara, DOE, added that from an EM perspective, the need for H-Canyon has always been to stabilize residues and materials onsite in preparation for a final disposition path. She said the question now being asked is “are there additional missions that H-Canyon could fulfill”? She stated one problem is that the people who are interested in H-Canyon’s capabilities are not the same people who are funding it.

Pat McGuire, DOE, said H-Canyon is a national asset and stated its capabilities; however, the process that H-Canyon has is the Purex Chemistry Process. He said by the nature of that chemical extraction process, it separates plutonium and uranium from the material that was in the reactors. He added the fact that the plutonium can be separated is not consistent with the nonproliferation position that America is encouraging other countries to implement. He continued that in the highest levels of DOE, some are beginning to question if that is the right disposition path to take for UNF. He said it has been done safely in H-Canyon for many years, but many are questioning it because we need to abide by the same rules this country is setting for other countries. He said this topic is very complicated, but discussions will continue on.

## COMMITTEE REPORTS

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

Ms. Parson introduced her Vice Chair and committee members, and reviewed her committee’s last meeting, which was on April 12, in Aiken. She stated there were no open or pending recommendations. She said she is investigating the “Action Memorandum and Responsiveness Summary Issued for the In Situ Decommissioning of the 105 C Disassembly Basin at SRS.” She announced her committee’s next meeting, which would be held on June 14, in Aiken.

### **Administrative Committee-** *Sarah Watson-CAB Administrative Committee co-Vice Chair*

Ms. Watson introduced the members of the Administrative Committee, and reviewed what the Administrative Committee is working on. She commented on the two-slide per page presentation printing and the CAB’s new, shorter website address. She stated the membership campaign is underway, and encouraged current members to contact others to apply, and to reapply if necessary. She listed the current members who are eligible to reapply for membership; she said they must reapply to the CAB Support Team by August 10. She addressed the topic of the Speakers Bureau, and overviewed what progress is being made. She said the Administrative Committee still needs CAB volunteers and participation for the Speakers Bureau. She said they hope to create an informational video to provide to the public at SRS tours. She announced the spring 2011 issue of the Board Beat would be available the next day. She reviewed the online meetings, stating the CAB is the only SSAB that currently uses online meetings; she encouraged everyone to attend more meetings online and to spread the word to others.

## PUBLIC COMMENTS

Tom Clements, Friends of the Earth, said it’s good to see that the Defense Waste Processing Facility is processing more containers. He said he hopes that will continue as they move towards closing those tanks. He said he was recently in Washington and he met with the DOE Inspector General and the head of the Mox Program, but still couldn’t get any information on the operation schedule of the Mox Plant. He continued that it is looking at new reactors, which he listed, and said Mox would have to be tested for six years inside of the reactor which is a huge problem for the plant operations. He said it could be running at 50 percent or below capacity for the first eight years or more of operation. He said DOE is not informing the members of the South Carolina Delegation about this problem, stating he met with six of the offices of delegation.

He continued that the term “Spent Nuclear Fuel” is defined by the Nuclear Waste Policy Act of 1982, and he is not aware of any changes in the definition under U.S. law. He said he thinks DOE is using the new term “Used Nuclear Fuel” because it has implications that it can be reused.

He said the conversation the CAB had about H-Canyon has been going on for more than 20 years. He said he has met with Secretaries of Energy for 20 years and DOE still doesn't have a way forward. He said the description of H-Canyon as a national treasure only came up after there appeared to be a threat of closing it. He said it is getting to be a little late for DOE to come forward and say they need H-Canyon for missions and that DOE should've completed those missions by now. He said he thinks DOE is dragging its feet on the issue because of the amount of money H-Canyon brings to the site. He said he doesn't think the CAB has asked the right questions.

Mr. Clements continued that the Blue Ribbon Commission (BRC) will be making its draft recommendations in July. He said the subcommittees of the BRC made their recommendations in draft form on May 13 and he said one of their draft recommendations will probably be "Consolidated interim storage of spent nuclear fuel." He said it's not clear on if it will be at all sites or if it will be a final recommendation in July. He asked the CAB to keep in mind Dave Hepner's presentation to the CAB, which he gave on March 24, 2009, where he spoke about Energy Parks. Mr. Clements provided an overview of this presentation.

He said he attended the Small Modular Reactor Conference in Columbia on April 19 and 20. He said there were only vendors at this convention. He said Mike Navetta, who was listed as Energy Park Manager, gave a presentation.

He said that some people are already advocating that Spent Nuclear Fuel (SNF) be brought to SRS for interim storage. He said he views this as the Yucca Mountain alternative. He urged the CAB to pay close attention to the BRC in July, and who is advocating that SRS be available for interim storage of SNF.

**~Adjourned~**

**Meeting Minutes  
May 23-24, 2011  
Savannah, GA: Full Board Meeting**

**Tuesday, May 24 Attendance:**

<p><b><u>CAB</u></b>          Thomas Barnes          Tabitha Barrett-<i>Absent</i>          Dr. Emile Bernard          Paul Boynton          Dr. Donald Bridges          Ed Burke          Louie Chavis          Mary Davis          Kathe Golden-<i>Absent</i>          Judy Greene-McLeod          Dr. Rose Hayes          Stan Howard          Dr. K. Jayaraman-<i>Absent</i>          Travis Johnson          Cleveland Latimore          Denise Long          Clinton Nangle-<i>Absent</i>          Dr. Marolyn Parson          Harold Simon          John Snedeker          George Snyder          Skyee Vereen          Dr. Gerald Wadley          Sarah Watson          Alex Williams</p>	<p><b><u>Agency Liaisons/Regulators</u></b>          David Williams, EPA          Kyle Bryant, EPA          Van Keisler, SCDHEC          Shelly Wilson, SCDHEC          John Simpkins, SCDHEC</p>	<p><b><u>DOE/Other</u></b>          Doug Hintze, DOE-SR          Karen Guevara, DOE-SR          Becky Craft, DOE-SR          Patrick McGuire, DOE-SR          Terry Spears, DOE-SR          Maxcine Maxted, DOE-SR          Allen Gunter, DOE-SR          Wade Whitaker, DOE-SR          Dr. Karen Hooker, DOE-SR          Rich Olsen, DOE-SR          Gerri Flemming, DOE-SR</p>
	<p><b><u>Contractors</u></b>          Paul Sauerborn, SRNS          Jeannette Hyatt, SRNS          Chris Bergren, SRNS          Doug Bumgardner, SRR          Nancye Bethurem, SRR          Erica Williams, V3          James Tanner, V3          Jenny Freeman, V3          Ashley Whitaker, V3</p>	<p><b><u>Stakeholders</u></b>          Tom Clements          Ranowul Jzar          Donna Antonucci          Laura Walker</p>

Ms. Jenny Freeman, CAB Facilitator, opened the meeting, reminding everyone to speak directly into microphones, to state their names before speaking, and to turn off all electronic devices. CAB member Alex Williams then led the Board in the Pledge of Allegiance.

Ms. Freeman introduced Donna Antonucci, a former CAB Chair, to welcome everyone to the Full Board. Ms. Antonucci welcomed the Board to Savannah. She said many FACA Boards don't get to travel, and reminded the Board it is very lucky to be able to travel since it can fully see what it is trying to protect. She congratulated the CAB members on their work on the Board, and asked everyone to take some time to look out at the Savannah River. She said all of the advice the CAB gives is very valuable, and encouraged the new members.

Ms. Freeman reviewed the agenda, listing topics and public comment periods, and reminded everyone to sign-in.

**Update from the Chair and approval of minutes-** *Donald N. Bridges, CAB Chair*

CAB Chair Bridges asked if anyone had any comments on the minutes; no one did. He moved to approve the minutes and CAB member Williams seconded the motion. The minutes were approved. No one opposed.

CAB Chair Bridges welcomed the Board to the Full Board meeting, and thanked past members for coming to the meeting as well. He said he appreciated the Board members' volunteer efforts. He gave a brief review on recent Board activities. He stated there were four committee meetings held since the last Full Board Meeting, and spoke about the public meeting held on GTCC Waste in North Augusta. He continued that the GAO has issued a report titled, "What are the Effects of the Termination of the Yucca Mountain Repository Program?" He said he didn't get much out of the report, but welcomed other members on the Board and in the audience to comment. He reviewed the GAO report, listing interesting comments within the report. He announced there would be a Site Specific Advisory Board (SSAB) Chairs meeting in Nevada; he said he and Jerry Wadley would attend to give the top three issues of the SRS CAB.

He asked everyone to think about attending an upcoming Defense Nuclear Facilities Safety Board (DNFSB) meeting; he explained what the DNFSB entails. He listed the dates and times of the meeting, as well as session topics. He implored everyone to attend and make comments on their own behalf. He reviewed discussions on the position of Technical Advisor to the Board, and stated what he considered the "focus for the year."

**AGENCY UPDATES**

**Department of Energy (DOE)-** *Doug Hintze*

Mr. Hintze briefly overviewed DOE accomplishments, stating 138 of the annual target of 311 canisters have been produced. He continued that for the salt solution process, they've processed 804,000 kilo gallons, which exceeds the 800,000 target for the year. He said they've "processed dissolved" 14 containers of plutonium in H Area and have blended down, and shipped to TVA, six trailers of low-enriched uranium. He then reviewed the progress being made under the American Recovery and Reinvestment Act (ARRA). He said in all, the site has 41 projects that are ongoing, all in various stages of completion. He said these projects are all on track. He continued by saying the Office of Environmental Management recently announced that 40 percent footprint reduction has been accomplished throughout the entire EM complex, with 68 percent for SRS. He then reviewed information on Workforce Restructuring, detailing each phase. He spoke about contractors onsite who opened up phases for voluntary restructuring. He said both the DOE and the NNSA Strategic Plans have been approved and are available online. He said Enterprise SRS is the new vision for the site. He said the draft of this document is currently out for comment. He listed the differences between the Strategic Plan and the Enterprise SRS document.

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

Mr. Williams announced that Rachel Hall and Cathy Amoroso, both of EPA, found permanent employment, so they are no longer working with SRS programs. He introduced EPA's summer intern, another EPA employee who was on detail, as well as another new EPA team member.

He continued that EPA has reviewed and commented on a large number of documents in the past two months, and has participated in several meetings and field trips. He said EPA has maintained its weekly field oversight effort at SRS using its support contractor. He then listed and reviewed highlights of the combined efforts of the three parties to the Federal Facility Agreement at SRS.

**South Carolina Department of Health and Environmental Control (SCDHEC)-** *Shelly Wilson*

Ms. Wilson introduced Van Keisler, SCDHEC, to review the report of Federal Facility Agreement activities. Mr. Keisler said since the last CAB meeting, the three parties have participated in nine meetings or conference calls. He said they participated in a conference call to update the status of T-Area groundwater clean-up. He said they participated in three high-level waste tank meetings since the last CAB meeting, with two of those being regularly scheduled meetings, and one being held to discuss high-level

waste tank clean-up technology updates. He said they performed walk-downs of all five reactor buildings. He said SCDHEC has provided comments to DOE on 17 FFA-related documents since the last CAB meeting, and are in the process of signing two Record of Decision (ROD) documents, and then explained what these RODs pertain to.

Ms. Wilson said earlier in the year, SCDHEC approved a General Closure Plan for the F-Area High Level Waste Tank Farm. She said this went through public review and comment before SCDHEC approved it; she called it an “umbrella” document, and explained what that means. She said they are currently looking over two module plans under this umbrella document, for Tanks 18 and 19.

She said there was a public comment period open for a wastewater discharge permit. She said the program is called ‘National Pollutant Discharge Elimination System.’ She said the facility is the SRS Ameresco Biomass Facility.

She said that Shaw Areva Mox Services was reviewed by SCDEHC and is now a part of the South Carolina Environmental Excellence Program.

## **PUBLIC COMMENTS**

There were no public comments at this time.

## **COMMITTEE REPORTS**

### **Administrative Committee-** *Sarah Watson, CAB Administrative Committee co-Vice Chair*

Ms. Watson brought to everyone’s attention the presentations that are being printed two per page. She gave everyone the shorter CAB website address. She spoke about the membership campaign, which was underway, and encouraged everyone to ask others to join the Board.

She listed the current CAB members who are eligible to reapply for CAB membership; she said they should submit an application by August 10. She then gave a status update on the Speakers Bureau. She asked for CAB volunteers and said the Administrative Committee hopes to create a CAB video to give out at public tours. She announced that the spring 2011 Board Beat newsletter was available and that everyone could pick up a copy at the meetings, online, or by email.

She briefly overviewed online committee meetings, saying the SRS CAB is the only SSAB that currently uses online committee meetings. She encouraged the CAB members to attend the online meetings, and to encourage others to do so. She reminded everyone that online committee meetings are not accessible on site computers.

CAB member Parson asked what the membership process will be like this year. Ms. Gerri Flemming, DOE, said that once DOE and the CAB Support Team has made a selection from the CAB applications, they will allow the CAB members to look over those applications to ensure those chosen follows the trend of previous selections. She continued that DOE would provide that information to the Administrative Committee members, and then the chosen applications will be sent to DOE Headquarters.

### **Strategic & Legacy (S&LM) Management-** *Jerry Wadley, CAB S&LM Chair*

CAB member Wadley introduced his Vice Chair and committee members, and listed the objective of the S&LM committee. He said the committee has two open recommendations; he reviewed these, said they have ongoing elements, and said they would remain open until the end of the year. He announced the next S&LM Committee meeting.

## BRIEFING

### Army 1<sup>st</sup> Trial Run Update - Doug Hintze, DOE-SR

Mr. Hintze said DOE has been trying to initiate the Army training at SRS for approximately two years. He said the Site has 310 square miles and is close to Fort Gordon, so it has been made available for the Army to train on. He continued that the Army training is of no cost to DOE and the training has no impact on DOE missions. He said as they train, they have to make sure that nothing is being done inadvertently that will affect cost or mission. He said it has taken two years to initiate training because a Joint Standard Operating Procedure (JSOP) had to be created. He said it had to be incorporated into Site procedures; he reviewed what the JSOP addresses and the process review.

Mr. Hintze stated the Army exercise held on April 27 was a small exercise with the 43<sup>rd</sup> Civil Support Team made up of 22 people. He said the exercise included a scenario where there was a clandestine “weapons of mass destruction” lab in a mobile facility that was taken down. He said the Civil Support Team had to respond, set up an “operational footprint,” complete surveys and then take care of the contamination.

He said as part of the exercise, SRNL was providing a radioactive gas and were going to spray it on different pieces of equipment so the team could make real-world detections. He said the gas degrades in a matter of hours and would’ve gone away quickly. He said the Radiation Protection Program onsite objected to the use of this gas, so they didn’t use it in the exercise.

CAB member Long asked if the exercise was done in a mode of thinking that something like this could possibly happen at the Site. Mr. Hintze answered that it was strictly for Civil Support Team training. He said it is not a form of training for the Site. He said the Site has its own Emergency Preparedness and emergency exercises.

CAB member Wadley asked what is planned for Army training in the future. Mr. Hintze said they are building the different scenarios within the JSOP. He said they aren’t dealing with 200-300 people because putting that many people in the field will cause an impact to the area. He said there are no other exercises currently planned. He said the Army was happy with the training.

CAB Chair Bridges asked how long the exercise lasted. Mr. Hintze said it’s been a great precursor for new missions. He said a big concern was the different protections within emergency scenarios for Site workers and the public. He said they had to consider the scenario of if they brought the Army onsite, and it’s considered the public, that means the accident scenarios have to change at nearby facilities. They decided not to do that. He said it was decided that every Army worker that comes onsite for training is considered a Site employee; they have to go through general employee training and point-of-entry training, and have badges. He said when they come in for training; they come up to the gate with their equipment, and were able to set up in a matter of minutes.

CAB member Harold Simon asked if the National Guard is in charge of the training. Mr. Hintze said everything that is done with the Army is done through Fort Gordon and the Army Installation Command. CAB member Simon asked if the training encompassed the Army National Guard and Reserves. Mr. Hintze said to keep it simple, DOE is only dealing with one entity-the U.S. Army. He said DOE has an onsite rep, Don McLean, and all the coordination goes through his group at Fort Gordon. CAB member Simon asked if reservations from the site concerning Army training have been resolved since the April 27 training. Mr. Hintze said no, but explained a concern is that once the Department of Defense gets a foothold, it thinks it owns the location and will do what it wants to. He said there are concerns about the site being maintained as it is, and gave an example of one commander who had to be corrected when he said he was going to be managing parts of the Site, during training, in a presentation. He said they had to tell the Army to incorporate the SRS Procedures into the JSOP.

## PRESENTATIONS

### Site Strategic Plan-Doug Hintze, DOE-SR

Mr. Hintze stated the purpose of his presentation was to provide insights and rationale for the new SRS Vision, as well as share concepts and delivery schedule for the 2011 SRS Strategic Plan. He referred to graphs of Current Missions at SRS and the Vision of the Future of SRS. Referring to the Vision graph, Mr. Hintze said it was the basis of how the site is going to move forward. He said they looked at business segments such as Environmental Stewardship, Clean Energy, and National Security, and determined the “value proposition,” or what someone would be willing to pay the site to do. Under Environmental Stewardship, he said businesses would pay to “transform liabilities to assets to reduce the environmental legacy.” He said when one looks at the nuclear waste stored on site, such as plutonium or uranium, it has to be decided if it’s a liability, a waste, or an asset; he said this all depends on the angle one looks at. He said the site shouldn’t just take the approach that everything is waste and must be disposed of.

He stated another objective is to “utilize technology to provide innovative solutions to speed/improve SRS processing and leverages solutions to other DOE locations and customers.” He stated this objective reflects the technologies the site’s national lab has been involved with, and developing, over the years. He said if it can benefit SRS, it might be able to benefit other sites, or the world at large.

He moved onto the National Security portion of the Vision graph, stating the value proposition here is to “enhance national security by providing customized solutions to the global nuclear nonproliferation, deterrence and threat reduction challenges through the innovative application of unique nuclear materials, technology, and systems’ assets of SRS.”

He stated the third area on the Vision graph is Clean Energy. He explained that about 100 percent of energy production is with private industry. He said since the site has always been government-function centric, there hasn’t been much emphasis put on energy production at the site. He said this is a new area of growth for SRS. He listed the value propositions as, “accelerate the deployment of nuclear energy through public/private partnerships that solve critical material storage, processing and disposition challenges, as well as use our broader expertise to support regional sustainability.”

Mr. Hintze reviewed two charts composed of 10 “Strategic Initiatives” for Environmental Stewardship, National Security, and Clean Energy. He reviewed a graph illustrating the “2011 Strategic Plan Schedule,” which started on June 15 with the Draft Strategic Plan, continued on to June 15-August 1 with stakeholder comments, and concluded on September 1 with a publishing of the Strategic Plan.

He concluded his presentation by summarizing “SRS is not a closure site, DOE is committed to executing current missions, a high priority is also being placed on developing broader missions for SRS in order to serve national needs and the new SRS Vision and Strategic Plan provides the framework for both current and developing missions.”

CAB Vice Chair Judy Greene-McLeod said she is concerned about the term “Environmental Stewardship,” and thinks it could be better named “Clean-up and Waste Elimination,” “Radioactive Waste Clean-up,” or “Waste and Material Management.” She said she thinks of Environmental Stewardship as over the entire environment and said perhaps the CAB could weigh in on the term. Mr. Hintze said that is why they have to have definitions explaining term usage and the backup material-everyone visualizes things in different ways. He said this is why they define it in the words so others will understand what it is supposed to mean. CAB member Greene-McLeod said she thinks DOE should be cautious about using this type of terminology, which she finds misleading. She said the American public doesn’t think of Environmental Stewardship as cleaning up radioactive waste and it should be footnoted that the term is specific to the site. She continued by focusing on footprint reduction, stating that when the site tells people it has a footprint reduction of 63 percent, it needs to tell them what it is a reduction of. She said she thinks many people believe that 63 percent of SRS was cleaned up, and 63 percent wasn’t contaminated to begin with.

CAB member Wadley asked when the CAB will be able to operate under the broader missions it speaks about and if there is a timetable. Mr. Hintze said some of the missions are outside of the EM program and the CAB is an EM-sponsored Board. He said if these are programs outside of the EM scope, the CAB may not be able to provide input on those programs because of how the Board is set up.

CAB member Stan Howard asked if DOE has any plans in exporting, providing or assisting in glass waste processing technology for other countries that have nuclear waste materials. Mr. Hintze said they do, stating if an entity is willing to pay DOE for that service, DOE will provide that service as long as there are no national security issues involved.

#### **Budget Update-Doug Hintze, DOE**

Mr. Hintze stated the purpose of his presentation was to provide information on the Fiscal Year (FY) 2011 Budget Plan and the FY 2012 Congressional Budget Request. He said DOE finally got its FY 2011 Budget approved a few days prior. He explained the full year Continuing Resolution was passed a month prior, but after that, the distribution of funds must be determined within each area on site.

He reviewed a chart concerning the total site budget, explaining that the category listed "FY 2011" details the fiscal year 2011 President's Budget Request and the category listed "FY 2011 Plan" was the actual approved number for the site, and the category listed "FY Year 2012" goes back to the President's Budget Request. He said the total budget is about \$50 million less than what was in the President's Budget Request. He said this is a significant number because it means there is scope that will not be completed that was initially planned to be completed. He detailed each category on the chart, listing the EM budget, the NNSA budget, and other SRS budgets. He reviewed information on ARRA funding.

He then provided an overview of a chart of Project Baseline Summaries (PBS), starting with the numbers for PBS 11C Nuclear Materials. He explained that this PBS has "carry over" money for FY2011 from the previous fiscal year. He said there is a decrease in funds because of the reconfiguration of H-Canyon and HB-Line. He then reviewed the other PBS budget categories under the EM Budget on the chart, including Used Nuclear Fuel, Solid Waste, Salt and Water Remediation, Radioactive Liquid Waste Tank, and the Salt Waste Processing Facility. He then reviewed the Environmental Clean-up portion of the chart, listing information on Community and Regulatory funding, as well as Safeguard and Security. He also provided information on the SRS EM Program Budget Authority portion of the chart, which included funding for the Federal Program Direction. He reviewed information on ARRA funding.

Mr. David Williams, EPA, asked what PBS 13 and 30 were before the Recovery Act. Mr. Hintze said PBS 13 and 30 were in the range of \$80 to \$85 million before the Recovery Act. He said this was because PBS 13 and 30 included "compliance-making progress type things."

#### **Recommendation Voting:**

##### **"FY 2013 Integrated Priority List and Budget Input"**

CAB member Wadley read the recommendation for the entire CAB and asked for a vote to approve the recommendation. CAB member Harold Simon moved to approve the recommendation and it was seconded. Ms. Freeman opened the floor for discussion, reminding the CAB that it couldn't change the recommendation substantially at this point.

CAB member Paul Boynton asked if H-Canyon goes to stand-by mode, would it still be able to process plutonium to be sent to WIPP. Mr. Pat McGuire, DOE, answered that stand-by mode can mean many different things. He said at the funding levels Mr. Hintze recently presented, H-Canyon would be able to provide the safe operation and support of all the safety systems, to provide the capability for research and development for nuclear fuel in the public sector, and to provide the capability to disposition plutonium to WIPP. He said at the funding levels presented, H-Canyon would not be able to perform any significant UNF processing. CAB member Boynton asked if there was a hope to get full funding, or additional funding, to ensure H-Canyon is processing plutonium to WIPP. CAB member Wadley said the

recommendation isn't for additional funding, but to bring it back up to the level of full funding. He said currently H-Canyon is set to be closed next year and the CAB wants it to be brought back to full funding if it is shut down. Mr. McGuire said he heard Dr. Moody say the day before that DOE is not shutting down H-Canyon. He continued that in any scenario, they are not shutting it down; it is being positioned for new missions. He explained that it has the capability to perform a number of new missions; he listed these new missions it is capable of. He reaffirmed that with the current budget status, H-Canyon will not be performing any UNF processing. He said it's all about what level or capacity they want H-Canyon to operate.

CAB member Hayes addressed CAB member Boynton, stating the CAB had two other recommendations put forth that address H-Canyon. She said one of them concerns finding work and funding for H-Canyon to keep it running until the budget improves. She said what the CAB is pointing out in the "FY 2013 Integrated Priority List and Budget Input" recommendation is that if H-Canyon is taken down to a minimum safe or operation level, it is such a large, complex, and old facility that if it has to be started up again to make it meet code, it would be such an expensive and complex mission that it would likely never happen. She said the CAB is fighting for some levels, which are undefined, to keep it functional for current and future operations.

CAB member Wadley called for a vote on the recommendation. 20 members voted in favor, none were opposed and CAB member Boynton abstained from the vote. The recommendation was approved.

## COMMITTEE REPORTS

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

CAB member Parson introduced her Vice Chair and committee members, and briefly reviewed the presentation that would be provided during the FD&SR committee time.

## PRESENTATIONS:

### **SRS Sitewide Groundwater Remediation Progress-** *Chris Bergren, SRNS*

Mr. Bergren stated the purpose of his presentation was to status progress of the groundwater remediation at the Savannah River Site. He said his presentation would address groundwater contamination areas at SRS, as well as remediation strategies.

He said SRS has 14 groundwater contamination areas, which he referred to as "plumes." He referred to a chart of SRS contamination areas, stating the A/M Area has about four or five sources of contamination that feed the plume; he said they call it a contamination area or plume, but there may be a comingling of material in there. He said this causes confusion at times.

He reviewed the anatomy of a contaminated plume, referring to a chart. He said there must be a source of contamination; he listed possible sources and pointed out where the source was on the graph. He said this contamination will then make its way into the subsurface, which has the potential of contaminating the groundwater system. He said this is the "source area." He continued that there were different stages of contamination, or concentrations, in groundwater plumes. He then referred to the "primary plume" on the graph. He said at the distal end of the plume, the concentrations are lower. He explained it is important when analyzing a plume to know where to invest time, and to have knowledge of the types of technology that will be used.

He said the first focus is going after the source zones in order to get rid of them. He stated what types of source zones are out there. He said the quicker a source can be eradicated, the bigger the difference there will be on the plume over time. Mr. Bergren said when they get into the source area, they are using Active Remediation, and when they enter the green area on the graph, or the primary plume, they are using Enhanced Natural Remediation. He added they are using Passive Monitored Natural Attenuation in the blue zone of the graph, or the dilute plume/fringe.

He gave a status review of groundwater remediation at SRS, stating contaminants are being addressed in 12 of 14 groundwater contamination areas. He said active remediation continues in one area, Enhanced Natural Remediation continued in five areas, and Passive Natural Remediation continues in six areas. He provided examples, listing all of these areas. He stated two groundwater contamination areas remain to be completely characterized; he listed these as being in N-Area and K-Area.

CAB member Bernard asked if A/M Area was low-level waste disposal areas. Mr. Bergren said M-Area was the former raw materials production area; he said it was where they produced the fuel target assemblies. He continued that the A/M Area typically produced the fuel rods and fuel elements, which were then shipped to reactor areas. He said they were processed in the reactors, and once they went through the reactor process, they went to the separations canyons. He said M-Area was more of a manufacturing facility for the components that went into the reactors. CAB Chair Bridges said A-Area is an administrative area.

Mr. Bergren reviewed Source Remediation Technologies, listing examples such as excavation, low permeability covers, thermal technologies, in-situ chemical oxidation, and soil vapor extraction (SVE). He gave brief explanations of each example.

CAB member Wadley asked if the primary contaminates can change naturally when moving under the plume by combining with natural elements, resulting in the remediation procedure no longer working. Mr. Bergren said he doesn't think the program has seen anything like that. He said they typically like to change the environment, introducing microorganisms that treat the solvent as a food source. He said they purposely make chemical and biological changes in the subsurface to promote clean-up.

Mr. Bergren then reviewed Primary Plume Remediation Strategies, including examples such as hydraulic control. He said that under hydraulic control, there are methods such as pump and treat, a phytoremediation pond, and barrier walls. He then said another example of remediation within the primary plumes is in-situ, which means to do something underground. He said under in-situ, there are methods such as airlift recirculation wells, base injection, chemical oxidation injection, and a nutrient injection to enhance bioremediation. He gave brief explanations of each. He continued that Passive Natural Systems remediation examples include phytoremediation, and monitored natural attenuation. He gave brief explanations of each remediation example.

He overviewed a graph of A and M Areas, stating they've used a wide variety of remediation activities in these areas. He continued that A/M area is a 1,500 acre solvent plume. He said there were multiple point sources near the national lab and he then pointed out a seepage basin and an outfall. Mr. Bergren then provided a brief overview of M-Area solvents. He referred to another graph that shows the SRS Groundwater Program from "Active" to "Passive." He said it also shows that early on in the groundwater remediation program, they were always going after the source and release areas. He explained as time progresses, and there is less active remediation, there will be really little active remediation and more passive.

He referred to a chart, titled "Summary Data for SRS Groundwater Contamination Areas," stating they added it by request after the last presentation. He said they looked at the 14 plumes and put them in a type of priority. He said the priority system they used was the size of the plume. He went on to explain the list, and each area's risk level, and stated the next chart showed the percentage of groundwater that has been remediated. He continued to review the chart, listing the amount of solvents removed from each area. He also stated the chart showed if sources remain in any given area, and listed the source ID for each area.

He concluded by stating there has been a lot of progress made at SRS, contaminants have been addressed in 12 of 14 groundwater contamination areas, and two groundwater contamination areas remain to be fully characterized. He said the amount of the solvents that went to the subsurface was between 2.8 and 3 million pounds. He said some of it evaporated and some of it through dilution or dispersion. He said they have pulled out of the ground about 1.3 million pounds of solvents. He said they will continue to remove solvents on a smaller scale until they get to a point of diminishing returns.

CAB member Ed Burke asked if Mr. Bergren knew how many tons of solvent and other material that will eventually be removed or treated. Mr. Bergren said the bulk of the solvent contamination was within A/M area.

## **PUBLIC COMMENTS**

Mr. Tom Clements, Friends of the Earth, said he heard that the Energy Park idea may be dead. He said he is concerned about many aspects of the Enterprise SRS concept. He continued that many entities could have come into the site for the last decade, and he doesn't see the private money coming in. He said as they see graphs that show the Federal government providing less funding, he'd like to see what the projection is of private money coming into the site for anything. He said he keeps hearing the public side of the discussion on these issues; he said private industries could come and participate in these meetings. He said he doesn't see where DOE and site contactors are finding this information yet, although they might in the future. He encouraged the CAB members to ask questions about private partners, other than SRNS. He said he understands that Enterprise SRS was shown to a private business in Aiken a few weeks prior; he said he didn't know why it was chosen to be presented to a private organization in Aiken. He said it has been placed online by Nuclear Watch South; he said he doesn't think DOE has placed it online. He said he sees there is a public comment period coming up, but he's afraid the public will be excluded. He said he didn't see the public of South Carolina and Georgia being the focus "of what they think." He continued that the general public is going to have some input on what is happening at SRS, and it's not going to be handed over solely to contractors who are running the site to make decisions for everyone. He said he didn't see himself included in the list of critical audiences. He explained that he thinks the document has a major flaw in it and every time he sees that it's not projected at the larger public, there are problems behind the scenes. He stated that's got to change if it's going to move forward. He referenced the Mox program, stating there are some problems behind the scenes that are being covered up.

## **COMMITTEE REPORTS**

### **Waste Management (WM) Committee- *Emile Bernard, CAB Waste Management Chair***

CAB member Bernard introduced his Vice Chairs and committee members. He called Doug Bumgardner, SRR, to present.

## **PRESENTATIONS**

### **Liquid Waste Overview- *Doug Bumgardner, SRR***

Mr. Bumgardner stated his presentation would cover liquid waste objectives, and an overview of liquid waste facilities and processes, such as tanks, waste removal, sludge processing, and salt processing. He listed the Liquid Waste Program Missions, which is the safe disposal of the SRS waste. He said this means SRR wants to get the waste out of the tanks, get the tanks closed, process the sludge at DWPF to produce glass, and make sure the salt portion of the waste stream are processed to ultimately make grout that will be stored at Salt stone. He said they want to get to where the tanks are cleaned and grouted, and the waste that comes out of those tanks are either in a glass or grout end state. He said as they are doing that, they want to make sure they're protecting the public, workers, and the environment, but they also want to do the work efficiently to reduce the life cycle costs. He then referred to a map of SRS, pointing out where the liquid waste facilities are located. He said there is about 170 acres of liquid waste facilities, located in the center of the site, and is three miles in length. He referred to a diagram of all the liquid waste facilities, including F-Tank Farm, the Effluent Treatment Facility, H-Tank Farm, DWPF, SWPF, and the Salt stone Processing Disposal Facilities. Mr. Bumgardner referred to the liquid waste flow sheet, explaining the process.

He continued by defining the liquid waste work scopes, including information on Tank Farm Operations, Waste Treatment, Tank Closure, Salt Disposition Integration, and Small Column Ion Exchange. He provided graphs of the four tank designs. He said there are 24 of the old style tanks, which are labeled as

type 1, 2, and 4 tanks. He said the new style tanks are type 3 and type 3a. He said they are fundamentally the same design but have full secondary containment. He stated within the old style tanks, there are two tanks closed, six tanks that have been emptied and 18 tanks that are still containing waste and are going through the waste removal process. He showed a photo of type 4 tanks during construction, and stated tanks 17 and 20 are closed, and tanks 18 and 19 have gone through the cleaning process. He said they have gotten agreement that the bulk waste removal step for tank 11 is complete, and tanks 4 and 7 will be counted as the next tanks the program will go through to get agreement on. He continued listing the remaining tanks progress.

CAB member Wadley asked if Mr. Bumgardner could give him an idea of the tank closure process and asked which is the lengthiest step. Mr. Bumgardner said every tank is a little different, so it is hard to say. He said during the bulk waste removal step, it takes a fairly long time to prepare the tank, install the equipment and get the tank ready to remove waste. He said concerning the process for actually doing the waste removal, they've had tanks that have taken a year. He said as they remove the waste, getting the next little bit out becomes increasingly harder. He said it takes a good amount of time to get tanks ready for waste removal.

Ms. Shelly Wilson, SCDHEC, stated the waste determination is a process that is required by Section 3116 of the 2005 National Defense Authorization Act. She said it is an Energy Secretary determination that the residuals in the tank can remain there and not be high-level waste, which means it can be disposed of in the state. She continued that the waste determination is an Energy Secretary determination, but is made in consultation with the Nuclear Regulatory Commission (NRC). She said Section 3116 also says that residuals cannot remain in the state without a state-approved closure plan or permit, and that is where SCEHEC comes in.

Mr. Bumgardner showed a photo of tools used in the waste removal and closure process, including Submersible Mixer Pumps, Hydrolances, and a robotic vacuum system for SRS tanks with no cooling coils. He then showed photos of Tanks 5 and 19, after cleaning. He showed a diagram that focused on grouting, as well as photos of salt waste stored in Tank 41, and of a sludge sample. He referred to a diagram titled, "SRS Liquid Waste Composite Inventory," stating there is about 38 million gallons of waste, with about 92 percent being salt and eight percent sludge. He said the radioactivity is split equally between them. He then reviewed a diagram of sludge processing, stating the sludge comes from waste removal. He also reviewed a diagram of the Salt Treatment Facilities.

He included information on the Small Column Ion Exchange (SCIX). He said it is an at-tank treatment process, with all the equipment installed within the tanks. He said the first installation would be in Tank 41, which is a type 3a tank in H-Tank Farm. He stated the actinide removal process is the same one that is used in the Modular Caustic Side Solvent Extraction Unit (MCU) and SWPF. He said the current target is for the SCIX to be online 2013 and to produce 2.5 million gallons a year.

Mr. Bumgardner showed aerial photos of the Saltstone Facility, as well as Saltstone Disposal Cells 2A and 2B, and Future Disposal Cells. He concluded his presentation by stating the Liquid Waste Program Mission.

CAB member Hayes asked Mr. Bumgardner to provide an idea of the size of the footprint of the final processing on site. Mr. Bumgardner said they're planning for about 40 disposal units. He said he can't picture how big the area is, but the disposal units are 150 feet in diameter. CAB member Hayes asked if the units will need to be managed or maintained in some way in the future. Mr. Bumgardner said they will ultimately go through a closure process, with a backfill around them and a cap. He said as they continue to process, there will be a staff at Salt Stone to manage them. He continued that after they're done processing, they will get into a final closure process where the units will be capped; he said he doesn't know what that maintenance looks like, but there wouldn't be a full staff.

Terry Spears, DOE, stated as they move forward in history, the site has always been and will continue to be a federal reservation. He said the boundaries that are at the site are assumed to be the boundaries in the future. He said when the waste is put into the grout, the grout solidifies, the waste has been treated, and it's

no longer hazardous and can be safely disposed of. He continued that in the future, there will be a CERCLA closure action that would then look at the appropriate nature of a final, closed remediated waste site similar to what they would have to go through with the other areas on the site. He said it would be closed in perpetuity consistent with CERCLA practices of today, and there will be five-year remedy reviews.

Ms. Wilson, SCDHEC, said there is a solid waste permit that exists for this area, and that permit covers the closure of the individual cells and long-term care of the area. She said the permit requires them to look at groundwater and has wells in the area, to have long-term monitoring to ensure there isn't any future contamination. She said the groundwater wells currently exist and will be added as more cells are put in place. She said those wells are required by the permit.

CAB Chair Bridges told Mr. Spears that when he was at the Waste Management Symposia, he heard a man say that SRS could take canisters that are "cool," reclassify them, and send them to WIPP rather than building a third storage building. He asked if that theory is a "bit of a stretch." Mr. Spears said he hasn't thought much about that at this point, but given the nature of the regulatory processes, which are careful and methodical, as well as the time frame, there isn't enough time to really consider that option.

CAB member Bernard asked if the cooling coils are grouted along with the tank, or are the cooling coils pulled out. Mr. Bumgardner said there are probably some of both; he said they don't have a specific step where they remove cooling coils in order to grout, but there have been some instances where they've cut out cooling coils in order to install equipment. CAB member Bernard asked if Salt Stone ends up in the low-level disposal site. Mr. Bumgardner said it ends up in what they would call "Z-Area." He said that is low-level.

#### **Spare Parts Recommendation 274 Response- Doug Bumgardner, SRR**

Mr. Bumgardner said this discussion on Spare Parts is a response to CAB Recommendation 274. He said there are five parts to that recommendation, and his presentation would cover the first four parts; he said the fifth item was specific to the SWPF Project. He said the SWPF Project has provided information on the fifth item at a previous committee meeting, and there were slide packets at the back of the room concerning that section.

He started with the first item on the recommendation, which is "describe how projected life expectations are determined and then utilized in the development of a list of spare equipment and spare parts." He said the key program that watches equipment health, including spare parts, is the System Monitoring Performance. He stated they have more than 100 systems that are monitored as part of that program. He said there is an engineer assigned to each system, although the engineer may be assigned to more than one system, and that engineer is responsible to monitor the equipment, and how the process runs. He said there is a document prepared as part of the System Performance Monitoring Assessment that looks at elements such as maintainability, reliability, and availability. He said under each of these elements there are different considerations. He said the engineer goes out, usually quarterly, assesses the system and writes a report about the health of the system. He continued that for a spare parts report, the engineer would look at the number of parts available for the system and will then assess how many spares are necessary so it can continue to operate without excessive downtime. He reviewed who the engineer would speak with, and what sources he or she would use, to determine the need for these spare parts, and to assess the Life Expectations of the equipment. He said the purpose of this program to ensure they can keep running the plant.

He said once the Life Expectations of the equipment has been assessed and determined, they can get in contact with the suppliers to determine how long it will take to get a new piece of equipment as one fails. He said this will help them determine which pieces need to be kept on hand and which pieces can be found quickly at area stores. He said as they are looking at spare parts, they are trying to find single pieces that can have multiple uses, which aids in efficiency, and as the plant is operated, a general idea of how often the parts actually fail, as well as how long it takes to get the parts, is generated. He said this helps them set

their parts list. He said as they continue the operation history, they will come back and review the spare parts list.

He continued into the second part of the recommendation, which is “describe how the spare equipment and/or spare parts program is or is not consistent with shorter life history scenarios.” Mr. Bumgardner said the key thing is as the engineer does the performance assessment, one of the things he or she is required to look at is the potential for change. He said they look at mission and equipment changes and requirements which are fed back into the spare parts program.”

He explained the third portion of the recommendation, which is “identify areas of significant risk reduction and explain how these risk reductions relate to the spare equipment and spare parts budget.” He said the most significant risk or hazard reduction is emptying tanks sooner. He explained as they accelerate that process, the overall hazard is decreased. He continued that the budget or funding is put into an IPL, which looks at different areas of the site.

He then reviewed the fourth item of the recommendation, which is “for existing operations, identify areas where equipment life histories are being ‘pushed’ because of operating rates or more extreme operating conditions.” He said they went through and looked at specific areas within the facilities where there is an increased demand as they accelerate progress. He reviewed the transfer system, including pumps and transfer lines. He then reviewed information concerning DWPF, stating the installation of melter bubblers has increased normal canister production from 200 cans per year to 325 cans per year. He said additional modifications will increase production to 400 cans per year. He reminded everyone that DWPF was designed for a melt rate of 228 pounds per hour, which equates to 400 cans per year, so they’re not exceeding the design rate of the plant.

Mr. Bumgardner overviewed melters, saying melter 2 was installed in 2003. He said melter 3 is on site and is ready to be installed if melter 2 fails. He continued that the current plan is that as long as melter 2 lasts they will keep it in the plant. He said when they get to the point where they’re ready to take SWPF online there will be a six-month outage to tie in different transfer lines; during this time, they will take an outage to replace the melter. He said melter 4 is being fabricated and will be ready for installation in 2013.

CAB Chair Bridges asked if they will ever buy a melter 5. Mr. Bumgardner said they don’t need to buy a melter 5 yet, but will continue to evaluate it in the next few years. He said they have seen no signs that signal melter 2 is going to fail. He said they have time to collect and review more data before considering buying a melter 5. CAB Chair Bridges asked how they knew melter 1 failed and asked what happened. Mr. Bumgardner said they had some indications that there were some problems with the electrical pieces of the melter. He said they were in an outage for other reasons, so rather than fix problems with the electrical system they replaced the melter as it had extended its life cycle expectations. He said the electrical system is the part most likely to fail.

Mr. Bumgardner went on to review the canyon tanks and agitators, saying 25 pumps are installed with 18 spares onsite, as well as nine agitators installed, with six spares onsite. He also reviewed information on other types of Saltstone equipment, stating the current salt waste processing requires saltstone to operate only one day per week. He added that future operation with SCIX and SWPF will significantly increase demand. He summarized his presentation by restating where the project is today, as well as what it is progressing to.

David Williams, EPA, asked if the melters would be the same ones as Hanford will be installing. Mr. Bumgardner said nothing is ever exactly the same, but it is the same type of melter as Hanford, and overall the process is very similar.

CAB member Bernard introduced CAB member Burke to speak about the WM Committee proposed “Waste and Material Matrix.” CAB member Burke said they call his document the “Waste and Material Matrix” because there are certain things that are considered waste and there are certain things that are considered by-products of materials that DOE considers in another category. He said the CAB is trying to create a matrix in excel format that lists all the waste and other nuclear-type materials that are currently

onsite, with information on them that lists where it came from and where it is going. He explained the type of information they expect to be included in the matrix. He said they intend for this matrix to be a tool that can be used by the CAB in order to monitor progress of the disposition of waste and other materials on site. He said it would also be useful for the identification of issues that may be related to wastes and the CAB's plans in place to make sure waste does promptly get removed from the site. He said this is comparable to the chart Manuel Bettencourt put together previously, and would be helpful to the public. He said the WM Committee is going to put forth a formal recommendation on this matrix, with specifics on format and information. He said they would have a draft ready for review at the June 28 committee meeting, so it could be ready for the July Full Board meeting.

## COMMITTEE REPORTS

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

CAB member Hayes introduced her co-Chair and committee members. She announced the date of the next committee meeting, to be held at the DOE Meeting Center. She said the NM Committee had three open recommendations, as well as two pending recommendations. She said the ones that are open are "dated" and generally address the disposition issue. She spoke briefly about both the open and pending recommendations.

## PRESENTATIONS

### **Heavy Water-** *Maxcine Maxted, DOE-SR*

Ms. Maxted said her presentation would provide a background on the heavy water that is stored on site; she said it is a nuclear material, but not a waste. She explained the difference between heavy water and regular water. She explained that heavy water is not considered radioactive, is found in regular water, and the neutrons in heavy water slow down, which promotes fission.

She continued by stating the majority of the U.S. heavy water supply was made at SRS, as it was needed for operation of five SRS reactors. She said SRS' heavy water has tritium in it, which was a by-product of reactor operations, and is considered radioactive. She said there is currently no need for heavy water at SRS, so it is being stored. Ms. Maxted said the heavy water is stored in three areas: K, L and C, and referred to a chart of interim storage of heavy water. She showed photos of the drums the heavy water is stored in, as well as the tanks. She explained there is approximately 550,000 gallons of safely stored heavy water on site, with an approximate total of 3.5 million curies of tritium.

She reviewed the disposition path options, stating they have found two. She said one path is the beneficial reuse option, and the other is the treatment and disposal option. She reviewed each of these paths.

She summarized by stating there is more than 500,000 gallons of heavy water stored at SRS, in tanks and drums, the removal of heavy water will result in a significant curie reduction, and the disposition paths are under evaluation but no decision has been made at this time.

CAB member John Snedeker said he remembered reading an article where the Norwegians were faced with the same problem, but their heavy water did not contain any tritium. He said they dumped it into the Fiords after months of agonizing over the problem. Ms. Maxted said she is not sure about their type of heavy water, but said SRS has not dumped its heavy water into the river.

CAB member Greene-McLeod said that since the heavy water is contaminated with tritium, which as a half life of 12 to 15 years, if the heavy water sat in place it would eventually cease to be radioactive. Ms. Maxted said yes, but there are some other contaminants, such as poisons in some of the drums, that they would have to worry about. She said tritium is the biggest contaminant, but it's not the only one. CAB

member Greene-McLeod asked if these other contaminants are radioactive. Ms. Maxted said a few are radioactive, but it's not at the level of the tritium.

CAB member Wadley asked if the tritium in the heavy water is legacy material. Ms. Maxted said it is. CAB member Wadley asked if tritium is used in any industrial processes in the U.S. Ms. Maxted said she believes it is used in exit signs because it glows without having a power source.

#### **H-Canyon Update and Capabilities-** *Allen Gunter, DOE-SR*

Mr. Gunter said he was going to give a summary of where they stand, as well as information on capability. He said H-Canyon is still operating, it has not been shut down, and they're continuing a small amount of dissolution to meet the Tennessee Valley Authority (TVA) agreement. He said they currently have a contract with TVA to provide them a total of 301 metric tons of low enriched uranium. He said they are about 98 percent complete and are anticipating getting through that by the end of this fiscal year.

He continued that they are beginning preparations on the HB-Line to disposition non-MOXable plutonium to WIPP. He said they are going to blend it with an inert material, package it, and send it out to WIPP, starting towards the end of this fiscal year. In regards to UNF processing, he said they've completed the safety basis, revision to the procedures, training, and a readiness assessment that will support processing UNF. He said they are currently awaiting the approval of the Supplemental Analysis and Amended ROD in Headquarters, which has not been approved. He said DOE is awaiting the BRC's recommendation concerning fuel processing and the prohibition of a new start during the Continuing Budget Resolution.

Mr. Gunter provided a timeline of FY2011 and FY2012 operational activities within the H-Area facilities. He started with June 2011, stating they would complete the flushing of the HB-Line facility to improve the safety posture of the facility. He stated in August 2011, they are going to start the disposition of non-MOXable plutonium by dry blending it in existing gloveboxes, packaging it into containers, and shipping it to WIPP in TRUPAC IIs. He continued that in September 2011, SRS will complete the dissolution and processing of highly enriched uranium to meet the TVA requirement, and in December 2011, they will complete shipping the low enriched uranium solutions to Nuclear Fuels Services to meet the TVA commitments. He said in both FY2011 and FY2012, SRS will continue to receive liquid waste from the laboratories. He said as they perform their analyses to support liquid waste processing and canyon processing, as well as plutonium surveillance, they will need to send their waste somewhere. He said that currently comes to H-Area, to H-Canyon and HB-Line. He said they receive it and neutralize it, add a neutron poison, and transfer it down to the liquid waste system. He said they are doing some R&D called vacuum salt distillation, and explained the process.

CAB member Wadley asked for an explanation of a "neutron poison." Mr. Gunter said it prevents the criticality because there are nuclear materials in some of the solutions.

Mr. Gunter then said they would continue the disposition of the remainder of Non-MOXable plutonium from the initial campaign in FY2012. He said they have the NEPA coverage to do about 85 kilograms of plutonium in order to send it to WIPP, which will take them through April or May of 2012. He said they are awaiting the completion of a Supplemental Environmental Impact Statement that the National Nuclear Security Administration is preparing. He said the draft is scheduled to come out in late summer 2011, with the final in early spring. He said they are currently evaluating how to utilize HB-line, and then he overviewed the initial campaign in HB-Line.

Mr. Gunter referred to a chart of H-Area capabilities, with the headings "Environmental Stewardship," "National Security," and "Clean Energy." He said the chart looks at each of those programs and listed what H-Canyon could do to support them.

Mr. Gunter summarized his presentation by stating the high level waste program is the site's highest disposition priority, H-Canyon and HB-line are National Assets, H-Canyon and HB-Line will transition to embark on new missions of national importance, and SRS will ensure that all nuclear materials are safely and securely stored during the transition period.

CAB member Hayes referred to all of the information, some of which she says is contradictory, that the CAB has recently received on H-Canyon, and asked if there was a way to resolve all the conflicting information. Mr. Gunter said they are hoping to get some decisions made this summer. He said flushing the system isn't necessarily a bad thing, especially in light of not having a decision. He referred to the FY12 budget, and said one of the things listed is that H-Canyon is being maintained in an operable condition. He said they have that in FY12 budget and it is in planning that they will not shut down H-Canyon. He said H-Canyon is being recognized as a unique asset for the country.

David Williams, EPA, said if DOE needs H-Canyon to deal with the nuclear materials stored in L and K areas, they can never close out the LEUs if they can no longer use H-Canyon to deal with L and K Areas. Mr. Gunter said the material in K-Area is basically plutonium, and MOX will deal with most of the plutonium that's in K-Area. He reviewed options that could deal with the remainder of it, referring to his chart of H-Canyon Capabilities. He said he understands the comment, but they're waiting on the decisions.

CAB member Hayes said that in CAB Recommendation 276, the Board pointed out that H-Canyon was needed to process the plutonium in L-Basin, and that it could serve as back-up if there was every any problems in L-Basin. She said she doesn't see anything like that on the chart referencing that function of H-Canyon, but she thinks that being a back-up to L-Basin would be a pretty important function. Mr. Gunter said if they were to have an issue in L-Area where they started having significant degradation of fuel, they would be in a different mode than just processing fuel. He said the capability in the facility will exist as long as they are performing missions.

CAB member Burke asked if H-Canyon was to never operate again, are there any materials currently on the site, or could potentially come to the site that could not be dispositioned. He asked what the long-term status of these materials would be. Mr. Gunter asked when CAB member Burke defines H-Canyon, does he mean the dissolution and solvent extraction; he said as long as they have HB-Line, they can get rid of the plutonium. Mr. Gunter said if he is only referring to H-Canyon itself, if it closes down the only material they have onsite they will not have a disposition pathway for the aluminum clad fuel.

CAB member Stan Howard said if they don't process the aluminum clad fuel, he assumes the fuel swap for the stainless steel clad fuel is off. Mr. Gunter said that is correct. He said if they're not going to process a fuel, they may store it in wet storage for a while, but eventually it will need to be taken out of wet storage and put into a dry system to dispose of it at whatever geological repository there is.

## **PUBLIC COMMENTS**

There were no public comments at this time.

**~Meeting adjourned~**