Governor's Nuclear Advisory Council
Meeting Summary
Thursday, December 8, 2011

Gressette Building, Room 207, 1105 Pendleton Street
Columbia, South Carolina

Council Members in Attendance:

Ms. Karen Patterson, Chairman
Captain Claude Cross
Dr. Carolyn Hudson
Dr. David Peterson
Dr. Vincent Van Brunt
Representative Tom Young

Ms. Rebecca Griggs, Committee Staff

Call to Order – Adoption of Minutes
Ms. Patterson called the meeting to order at 1:00 p.m. She updated the members and audience on Mr. Ben Rusche's resignation as Council Chair. He will continue to serve as a Council member. She also announced she is the newly appointed Chair of the Council by Governor Haley and thanked everyone for their encouragement and support as she takes on this new roll. Ms. Patterson also announced the Council will now collect email addresses of those interested in receiving an early agenda for the quarterly meetings. Ms. Patterson then asked for a motion to adopt the meeting minutes from the September 8, 2011 quarterly meeting. A motion was made and the motion was seconded. The meeting minutes from the September 8, 2011 meeting were adopted.

SC DHEC
Susan Jenkins, Manager, Infectious and Radioactive Waste Management Program
Ms. Jenkins updated the Council on the low-level radioactive waste disposal facility in Barnwell. She addressed the on-going license appeal, phase I closure (activities and status) and ground and surface water update. The license appeal update highlighted the past actions involved in the license appeal from March 2004 to date. Currently, the case is assigned to the Honorable Ralph King Anderson, III, Chief Administrative Law Judge for the SC Supreme Court. No hearing date has been set at this time.

The facility closure update included a timeline of activities associated with this site closure from July 1, 2008 to 2039 and future projections. DHEC is currently in the approval process for the performance objectives associated with site closure. The majority of the objectives are complete.

The groundwater and surface water update included information on DHEC's monitoring of the tritium plume. On and off-site wells as well as the creek are sampled four times per year. DHEC samples at 31 of these locations and splits the samples with Chem-Nuclear. Tritium levels are closely monitored at the compliance point to be sure they do not exceed regulatory limits. Tritium levels are currently stable at the compliance point and the plume is well defined. There are no receptors of the water.

Ms. Patterson inquired as to the age of the tritium source. Ms. Jenkins informed the Council that the tritium source has been at the site since it opened in 1971. DHEC believes the groundwater below the site may rise and take the tritium back down with it when it recedes. It takes about 10 years (according to the model and data) for the tritium to move vertically downward and then an additional 10 years to move the half mile distance to the creek. The tritium first started showing up in the creek area in 1991 and that's when the enhanced caps were installed.

EnergySolutions
James Harris, Vice President of Operations
Mr. Harris updated the Council on EnergySolutions safety, compliance, Barnwell disposal operations, Barnwell processing facility, Barnwell Environmental and dosimetry laboratory, nuclear services support facility and Hittman Trucking. To date, EnergySolutions has had zero incidents and received the 2011 Perfect Record Award from the National Safety Council. EnergySolutions has had 42 years of uninterrupted operations. Mr. Harris briefed the Council on its workforce in which they employ 267 citizens in South Carolina. The average length of employment at the Barnwell complex is over 20 years.

Mr. Harris then updated the Council on decommissioning activities. All physical work for phase I closure has been completed. They have submitted the first round of all of the documents and anticipate by the first quarter of 2011 they will be able to complete all performance objectives. Mr. Harris then briefed the Council on the Barnwell Processing Facility as well as the Barnwell Environmental and Dosimetry Laboratory. This briefing included information related to the physical layout of these facilities as well as their capabilities.

Progress Energy Update
Randy Gideon, Vice President H.B. Robinson Nuclear Plant
Mr. Gideon updated the Council on the more recent history of H.B. Robinson and issues they have encountered. They have been in operation for 40 years. Their initial license was due to expire in 2010. However, in April 2004, the NRC approved the renewal of their license for an additional 20 years extending their operation plan until 2030.

Due to electrical fires, they were forced into an outage in April of 2010. As a result, NRC inspections were increased. A 100 day improvement plan was implemented as well as a comprehensive strategic improvement plan. They expect to clear the substantive cross cutting issue by March 1, 2012.

Mr. Gideon highlighted the strategic improvement plan objectives. They are focused on leadership alignment and workforce engagement, operations, work management and maintenance and human performance and performance improvement.

Mr. Gideon also updated the Council on the merger between Progress and Duke Energy which would create the largest US utility. They are currently working on an effective integration plan and achieving timely merger approvals to position the company for success.

SC DHEC Update
Shelly Wilson, Federal Facilities Liaison, Environmental Quality Control
Ms. Wilson informed the Council that DHEC's commissioner, Earl Hunter, announced his retirement effective February 1, 2012 and his replacement has not been announced.

DHEC submitted comments on October 31, 2011 for the Blue Ribbon Commission Draft Report. They had three comments: 1) Yucca Mountain is the appropriate federal repository, 2) any future interim storage in South Carolina should be subject to a clear state decision making process, and 3) segregation of commercial spent fuel and high-level waste should be pursued.

Ms. Wilson then updated the Council on SRS specifics including high-level waste. The draft closure module for Tanks 18 and 19 is open for public comment from October 31, 2011 until December 15, 2011. A public meeting was held in Aiken, SC on November 15, 2011. Tanks 18 and 19 closure milestone is December 31, 2012.

Ms. Wilson commented on the NRC's Technical Evaluation Report for the F Tank Farm which was issued in November 2011. She was not surprised by their findings and did not feel any of their questions raised red flags.

SRNS Reorganization
Dr. Terry A. Michalske, Executive Vice President and Savannah River National Laboratory Director, SRNS
Dr. Michalske updated the Council on *Enterprise SRS*'s future vision. This vision acknowledges the strong core of nuclear knowledge and expertise that exist on the site. It looks to apply those assets against some of the key national missions in clean energy, national security and environmental stewardship. Public-private partnerships will be formed in order to achieve these missions.

H Canyon/HB Line Update
Allen Gunter, Senior Technical Advisor, Office of the Assistant Manager for Nuclear Material and Stabilization, DOE-SR
Mr. Gunter updated the Council on the status of H Canyon and HB Line. The flushing of the HB-Line facility to improve the safety posture has been completed as has the dissolution and processing of highly enriched uranium (HEU) materials to meet the current HEU blend down commitments to Tennessee Valley Authority (TVA). The last shipment of low enriched uranium solutions to Nuclear Fuels Services to meet the current TVA commitments has also been completed. They have performed operator proficiency runs to ensure the retention of operator qualifications and equipment operability. They continue Vacuum Salt Distillation research and development in HB-Line, dispositioning non-MOXable plutonium and remediation of legacy TRU waste in H Canyon. They also continue the receipt of Savannah River National Laboratory and F Area Analytical Laboratory samples for disposition.

Some of the plutonium they receive from off-site is not suitable for utilization in the MOX facility. In this case, they utilize one of the existing glovebox lines and ventilation system in HB-Line and blend the plutonium oxide with inert material to less than 10% plutonium. They then package the blended material into Pipe Overpack Containers and ship to E Area for WIPP certification and then load into TRUPAC II container. A shipment is planned for FY 2012. However, the priority for FY 12 is to get the legacy TRU waste off site. They have approved a second plutonium disposition interim action that allows the disposition of up to 585 kilograms of plutonium through H Canyon. This is expected to take up to two years. They are working with the National Security Administration to develop a Plutonium Disposition Supplemental Environmental Impact Statement.

Mr. Gunter then updated the Council on Vacuum Salt Distillation research and development. Some non-MOXable plutonium oxides are contaminated with a variety of chloride and fluoride salts. SRS has

demonstrated the direct removal of chloride salts in HB-Line, thus converting non-MOXable plutonium to MOXable. They plan to conduct synthetic testing to demonstrate fluoride salts can be removed, converting non-MOXable plutonium to MOXable plutonium. If they demonstrate this successfully, they will work with the NNSA to verify that MOX will accept that nuclear material. If so, they will evaluate whether it is more cost-effective to run the material the vacuum salt distillation or whether blend it down to meet the WIPP acceptance criteria and dispose of it as TRU waste.

In August 2011, DOE-SR issued a letter of direction to SRNS that said H Canyon potentially would have a new mission. They had to issue this letter in August in order to retain approximately 90 personnel. In November 2011,DOE-SR issued another letter of direction which assigned a new mission to H Canyon/HB-Line.: to convert up to 3.7 MT of plutonium material to suitable feed to MOX. This will require a restart of HB-Line Phase II. They plan to being producing plutonium oxide beginning no later than October 2012. They anticipate oxide production to ramp up to 1 MT per year within three years. DOE-SR issued another letter in November 2011 to SRNS to start making preparations to allow the potential disposition of the some spent nuclear fuel. This letter does not authorize the dissolution of the or the high aluminum UNF. ?this one doesn't make sense to me. Need to ask Allen.

Other potential missions for H Canyon under discussion include advanced safeguards, recovery of AM-241, purification and oxidation of Pu-238, advanced fuel cycle research and development and additional plutonium processing for MOX feed.

In Summary, Mr. Gunter states that they are not shutting down H Canyon as it remains a national asset. They are working with program offices within the Department to identify missions the canyon can support. Before proceeding with any reprocessing campaigns, the Department awaits the Blue Ribbon Commission's final report and recommendations.

Tank Closure Status

Sherri Ross, Senior Program Manager, Office of the Assistant Manager for Waste Disposition Project, DOE-SR

Ms. Ross updated the Council on the status of Tanks 18 and 19 in F Tank Farm. She noted there are still decisions to be made before the closure is final. They have completed consultation with NRC and received the final report in October 2011. The NRC will be entering into a monitoring role in conjunction with the State shortly after DOE makes the decision to close the tanks. She believes all of the final decisions needed to close the tanks will be made by March or April of 2012.

In relation to DOE's waste determination, the Secretary of Energy, in consultation with the NRC, may determine that the residual waste, tanks and ancillary equipment in F Tank Farm at the time of closure are not high level wastes if the criteria in Section 3116(a) are met. DOE is currently considering the NRC's Technical Evaluation Report (TER) and they anticipate a decision by the Secretary of Energy in early second quarter 2012. DOE will provide public notice of the Secretary's decision and place supporting documents for public access online.

DOE received the NRC's consultative Technical Evaluation Report on October 27, 2011. They are carefully considering this report and will host a workshop December 12 – 15, 2011. DOE will factor NRC's recommendations, as well as public comments, into its decision-making process as appropriate. They remain committed to protecting DOE workers, members of the public and the environment as well as to reducing the risk associated with the storage of waste in the aging tanks at SRS. DOE will work with SCDHEC and EPA pertaining to NRC's Tank 18 recommendations to facilitate all agencies decisions.

All NEPA requirements have been met and a supplement analysis is in process. They anticipate approval by DOE Savannah River Operations Office Site Manager in early first quarter 2012. DOE will then publish an Environmental Bulletin and post for public access.

Following the Secretary's waste determination, there will be authorization for SRS to proceed with closure of the F Tank Farm Tanks 18 and 19. They anticipate the Secretary's waste deternimation to occur in March 2012.

The closure module for Tanks 18 and 19 have been out for public review, which ends December 15, 2011. They anticipate a decision for SCDHEC's Director of Water Facilities Permitting by March 2012. This decision will be published and available for public access online.

DOE, SCDHEC and EPA must all mutually agree to cease waste removal. In order for this to occur, SCDHEC documents with approval of Closure Module, EPA documents in a letter to DOE and DOE documents in Tier 2 authorization. The agreement is needed by March 2012 to support meeting the Federal Facility Agreement (FFA) commitment.

Once DOE receives authorization to proceed with the closure of Tanks 18 and 19 they will document all requirements have been met and authorize and direct the operating contractor to close the tanks. The decision is made by Savannah River Operations Office Site Manager and is scheduled for April 2012 to support meeting the FFA commitment.

Liquid Waste Update: New Cost Saving Initiatives and Tank 4
Dave Olson, President and CEO, Savannah River Remediation
Mr. Olson updated the Council on the high-level waste program at Savannah River and their plan for dealing with an annual budget that has been reduced by approximately $200,000,000. He states that *Enterprise SRS* is front and center of the environmental cleanup mission.

Safety is SRR's focus and they have had the lowest total recordable case rates of any major SRS contractor in over 25 years with 0.25 in FY10 and 0.27 in FY11. Employees have worked over 7 million hours without a days-away injury.

Mr. Olson highlighted their key cleanup accomplishments with over 3,250 of the 7,557 DWPF canisters produced, over 4.6 million gallons of 110 million gallon of salt solution processed, 12 of 24 of the old-style HLW tanks bulk waste removal effort complete and 2 of 24 of the old-style HLW tanks closed.

Their FY12 challenges included staying focused on safety excellence. They plan to keep succeeding in keeping multiple stakeholders informed and included as they prepare to operationally close waste tanks. They hope to maintain the momentum and maximize progress in waste treatment and tank closure.

SRR believes a workforce restructuring is necessary as projected are completed and budgets continue to be reduced. Their workforce restructuring program is completed through voluntary and involuntary reductions and will affect 86 positions, 18 of which are self-selected, 48 are involuntary reductions and 20 through attrition. All employees who participated in the self-selecting process left the site on November 30, 2012. Involuntary reductions were made on December 5, 2011.They do not anticipate the need for restructuring in FY13.

Mr. Olson also commented on SRR's plan to address the $200M funding shortfall through a cost saving initiative. They are ensuring they are meeting the Federal Facilities Agreement and Site Treatment Plan compliance through "just-in-time" waste removal and closure. They are looking at projects in which they can invest now which will reduce costs later. These investments include control room consolidation/automations, new saltstone disposal unit strategy and process improvements (i.e. eliminating chemical addition steps of the Actinide Removal Process). They plan to use priority "add backs" to ensure life cycle savings and will suspend less critical near-term projects such as the Small Column Ion Exchange and next generation solvent.

SRR's control consolidation plan will combine four separate control rooms into one consolidated control room. The benefits that will be seen from this plan include an improved safety environment, enhanced conduct of operations and command/control, simplified communications, consolidated and standardized operator interface and an integrated computer system. They anticipate a cost saving of approximately $21M for FY12 through FY17 and savings of approximately $54M over the lifecycle.

SRR plans to replace current Salt Disposal Units (SDUs) with a Mega-SDU design. Each Mega-SDU will provide a disposal capacity equivalent to approximately 10 previously planned SDUs. This is expected to reduce the project costs associated with construction installation materials and schedules. They anticipate a cost savings of approximately $97M for FY12 through FY17 and savings of approximately $487M over the lifecycle. They anticipate the salt waste processing facility to startup in 2014, the old-style tank closures complete in 2021, all waste removal complete in 2026 and all tank closures complete by 2028.

Mr. Olson summarized the waste processing for the 27 new-style tanks. He anticipates the closure of the next two tanks to occur by October 2, 2012.

Mr. Olson highlighted findings of Tank 4. A routine annual inspection found a hairline crack in the upper weld of Tank 4. This crack is over five feet above the current liquid level in the tank. The tank remains structurally sound and they anticipate no impact on safety or operations and no release to the environment. This condition was not unexpected and they do not anticipate any significant impacts on the remaining activities planned in Tank 4.

Mr. Olson recommended opportunities for GNAC support to include keeping an eye on accelerated progress being made in risk reduction in high-level waste treatment and disposition, then tank closure, recognizing funding required to maintain progress and meet regulatory commitments for tank closure and participating, if possible, in the process established for waste determination and tank closures at SRS.

Public Comments
There were no public comments.

Closing Remarks
Ms. Patterson thanked everyone for their information adjourned the meeting.