

Governor's Nuclear Advisory Council
Meeting Summary
Thursday, December 10, 2009

Gressette Building, Room 209, 1105 Pendleton Street
Columbia, South Carolina

Council Members in Attendance:

Captain Claude Cross
Dr. Carolyn Hudson
Ms. Karen Patterson
Dr. David Peterson
Mr. Ben Rusche
Dr. Vincent Van Brunt
Rep. Tom Young

Ms. Catherine Vanden Houten, Committee Staff
Ms. Allyn Powell, Committee Staff

Call to Order – Approval of Minutes

Mr. Rusche called the meeting to order at 1:00 p.m. Mr. Rusche and Ms. Patterson presented a letter of appreciation to Mr. Jeff Allison, DOE-SR for his assistance in organizing their site visit on December 3, 2009. Dr. Van Brunt then called for the approval of minutes from the September 2009 meeting, and they were unanimously approved.

Remarks from Senior SRS Management

Mr. Jeff Allison, DOE-SR

Mr. Allison thanked committee members for taking the time to tour the Site and see for themselves the progress being made on various projects. He spoke about the visit by US Secretary of Energy Steven Chu for the groundbreaking of the biomass cogeneration facility which will replace the old D-Area powerhouse. It will be one of the largest biomass facilities in the country. Ron Rimando will be updating later in the meeting on ARRA issues. A contract valued at \$989 million was awarded to Wackenhut Services, Inc. for security service at the site, continuing the long standing relationship between SRS and WSI. Tony Umek and Jim French will be providing in-depth safety presentations.

He noted the recent series of work-related incidents which occurred at the site from August to October, including a hot-tap acid spill incident in F Area with minor injuries, a worker contaminant incident in H canyon, an arc flash incident with burn injuries at the D-Area powerhouse, and a crane maintenance incident with injuries at the Salt Waste Processing Facility construction site. As a result of these incidents DOE has just concluded examinations of the incident at the D-Area powerhouse and the Salt Waste Processing Facility. In October a

plan was put in place to put an increased emphasis on worker safety. There will be an increased management presence in the field and a series of safety stand-downs. He emphasized their commitment to sending each worker home safely at the end of each work day.

Mr. Allison gave a brief overview of the Site's federal budget and a progress report on the disposition path for surplus non-pit plutonium and the processing of highly-enriched uranium from various DOE facilities into fuel for TVA reactors.

Over 30,000 drums of TRU waste have been shipped to the Waste Isolation Pilot Plant, and SRS is in the process of bringing on operations to repackage some of the material to meet WIPP specifications.

Ms. Patterson asked that they be updated on the [plutonium] pit disassembly and conversion facility and plutonium preparations. Also, she asked if they felt they were on track with meeting the TRU waste processing schedule. In response to the question regarding TRU waste, Mr. Allison replied that they were getting to the processing some of the higher activity materials towards the end of the campaign. There were some schedule delays getting the repackaging capabilities online in F Canyon. He wants to make sure the contractor has plans and people in place to do that work safely, given that some of this workforce comes from newly hired ARRA employees.

Mr. Roger Eshelman, SRNS

Mr. Roger Eshelman introduced himself as the Executive Vice President and Chief Operating Officer of SRNS. He is replacing Garry Flowers on the agenda, who was not able to attend the meeting. He noted that next time the Council visited the site he would like to go over the facility maintenance plan relating to aging of the Site infrastructure. He assured the Council that he and Mr. Flowers were personally involved every day with issues of safety on the Site. Some cultural issues have exposed themselves and retraining efforts will be key going forward. In terms of material processing, tritium processing, engineering, and SRNL things are going acceptably well, and nearly top-notch. SRNS is focused on three main strategies – performing the current mission, exceeding the expectations of DOE, and exceeding the expectations of the Nuclear Advisory Council. The focus is on preparing SRS for a sustainable future. SRNS believes they now have the right mix of leaders and motivated employees to make that happen. TRU waste is now a top priority. He noted that there had been some scheduling issues with the TRU waste processing for shipment to WIPP, but he believed those had been resolved and they were on track to ship 5200 containers of legacy TRU waste to WIPP.

Dr. Van Brunt asked if they were using SRNL as a resource, especially given the interface between the various contractors at the site. Mr. Eshelman assured them that they were.

Mr. Jim French, SRR

Mr. French spoke briefly to the question that Dr. Van Brunt had raised regarding SRNL. He indicated that service level agreements had been reached between contractors and the lab on assistance with projects which lie in their area of expertise.

SRR currently operates 28 ARRA funded projects, providing over 500 jobs. He provided a brief overview of the activities at the Interim Salt Waste Processing Facility and the Defense Waste Processing Facility, both of which have exceeded their original goals. He listed several accomplishments in the area of technology development regarding salt waste remediation in the tank farms, and provided an update on the progress towards tank closure.

Mr. Doug Dearolph, Manager NNSA-SRSO

Mr. Dearolph apologized for not meeting with the Council during their Site visit. There have been recent visits to SRS by Tom D'Agostino, Under Secretary for Nuclear Security and NNSA Administrator, and the Defense Nuclear Facilities Safety Board. Operationally over the last quarter NNSA maintained stable production, met commitments, and the contractor maintained sound security practices. They have completed tritium extraction operations for the year, and are awaiting shipment of more items for processing.

American Recovery and Reinvestment Act Update

Mr. Rodrigo Rimando, Deputy Director Savannah River Recovery Act Project

Mr. Rimando provided an overview of ARRA programs. He mentioned that on the Council's next visit he hoped they would be able to see the P and R reactor buildings which they are in the process of closing in place. The \$1.6 billion in ARRA programs at the Site have both provided jobs, targeting 3000 total employees, and accelerated clean-up activities at the Site. Beginning so many programs at the same time brought a number of challenges. There was funding for an initial period of planning, then a release of the balance of the funds once those activities had been completed. At this time 100% of the funds are obligated to various projects. He also spoke about the levels of their current funding authorizations, External Independent Review and Independent Project Review processes for P and R reactors, the review of the Salt Waste Processing operations, and timetables for the various other projects. DOE is targeting a footprint reduction of 67% at the completion of the near-term environmental work at the Site, opening up the potential for other federal uses of portions of the Site.

Mr. Rusche asked the rationale behind completely decommissioning these facilities versus leaving some which may be of use. Mr. Rimando replied that various projects would have different end states. For some it is demolition, for some it is in-situ decommissioning, and for some it is environmental remediation. Mr. Rusche asked why spend so much tearing them down rather than attempting to render them useless for their original purposes and find other uses for the buildings. Mr. Rimando indicated that in some cases this was occurring, for example C-Reactor buildings are being used as a facility to store historical artifacts from the Site. He also mentioned the modifications made to F Canyon for TRU waste processing as an example of reuse of existing facilities.

Dr. Van Brunt asked about the average age of the ARRA workforce versus the age of the SRS workforce in general, wondering if a younger workforce was being trained in the various activities ongoing at the Site. Mr. Rimando indicated that their ARRA workforce was very diverse, but that some younger workers were definitely getting training with radiation skills.

Ms. Patterson thanked Mr. Rimando for the answers to questions he provided after the last meeting. Mr. Rimando showed a powerpoint presentation that provided details of many of these activities. *A copy of this presentation is available on the Nuclear Advisory Council webpage of the South Carolina Energy Office website: <http://www.energy.sc.gov>.*

SRNS Safety Performance Improvement and Lessons Learned

Mr. Tony Umek, Vice President Environmental Safety, Health and Quality, SRNS

Mr. Umek, provided an overview of the safety improvement compensatory actions and measures (SICAM) put into place after the recent incidents. This included rolling safety timeouts and improved safety planning for projects at a management level before they went out into the field. He emphasized SRS focus on sending workers home safe each day. In 2010 they will be the host for the Department of Energy-wide complex Integrated Safety Management workshop. This will give opportunities to share information with outside experts and individuals from across the DOE complex. DOE compares among its contractors on several key measures, including safety. The contractors at SRS were in the top five for safety in the DOE complex in June, which is why the string of accidents in the late summer and early fall were so concerning. Safety is an ongoing process and requires constant vigilance. He mentioned recent incidents at other DOE sites. SRNS has done an integrated safety management system assessment, and discovered some issues that concerned them in hazard recognition and their feedback process in terms of post-job reviews. They implemented a corrective action program but subsequently the acid event and the arc splash event occurred, the two safety events under the SRNS contract. Consequently they asked DuPont to come in and examine the safety culture of the organization and make recommendations for tools and mechanisms to improve. This information has just been received, and will be used to map a path forward. The major contributors to these events have been identified as skill-based errors and the condition of the equipment/facilities. He indicated that these were things within their control. They are adding skilled workers to the areas and increasing management presence in the field.

Captain Cross asked if these issues had been implemented Site-wide, with all contractors across the site. Mr. Umek indicated that SICAM is Site wide for all contractors. Captain Cross then asked if the statistics quoted included nuclear safety incidents and if not how they tracked their nuclear safety culture. Mr. Umek indicated that nuclear safety was tracked through a few different systems. He indicated that there were several levels of redundancy for nuclear systems, and those levels of redundancy prevented incidents very well. However, they did find a lack in terms of documentation of the decision-making process behind process changes: the right changes were being made, but there was a lack of documentation to explain the process.

Two specific incidents were referenced regarding a lack of the necessary safety culture, particularly notifying the next shift of malfunctioning equipment.

Representative Young asked if the acid spill and arc flash incident investigations were a matter of public record, and Mr. Umek agreed to provide those. Dr. Van Brunt stated that the acid spill incident seemed to indicate a lack of knowledge of material compatibility. Mr. Umek indicated that this was indeed a problem, and in that particular case pre-planning should have occurred so that the materials involved were properly evaluated by all shifts working the maintenance. Measures have been put in place to make sure similar jobs are finished within the same shift. Also, training of the workers is needed so that even if they don't understand the specifics of the chemical interactions they are working with, they understand the questions that need to be asked. Mr. Umek showed a powerpoint presentation that provided details of many of these activities. *A copy of this presentation is available on the Nuclear Advisory Council webpage of the South Carolina Energy Office website: <http://www.energy.sc.gov>.*

SRS Safety Performance

Mr. Jim French, Senior Project Manager, SRR

Mr. French spoke regarding safety performance under the SRR contract. Under this contract, this summer there was only lost time injury which was a knee injury that occurred as an older employee was walking across level ground on a sunny day. Prior to that, they had over 11 million hours without a lost-time injury. SRR has worked hard at implementing a behavior-based safety program, where everyone is considered on a team looking out for other workers, to improve the safety culture. A chart was presented showing incidents in the Occurrence Reporting and Processing System, and the causes determined as a result of investigations in these incidents. Mr. French mentioned that as a result of the arc flash incident they have taken a close look at signage across the complex, placing new signs in more visible locations where needed and replacing old signs. He also spoke about a focus on safety while driving, making sure employees were aware of how to operate various vehicles, and that they preserved situational awareness through the proper use of cell phones. Mr. French made a powerpoint presentation that provided additional details about these issues. *A copy of this presentation is available on the Nuclear Advisory Council webpage of the South Carolina Energy Office website: <http://www.energy.sc.gov>.*

Nuclear Workforce Initiative

Mr. Rick McLeod, Executive Director SRS Community Reuse Organization

Mr. McLeod spoke about the recent actions of the SRS Community Reuse Organization. This organization was formed in 1993 as a result of DOE restructuring and was one of fifteen community reuse organizations across the DOE complex. This organization was previously known as the Savannah River Regional Diversification Initiative. These organizations were allowed to use some personal property or land no longer needed by the DOE complex and use it for the betterment of the community. He said that this Community Reuse Organization was unique as it covered such a large area, two states and five counties. The organization is made up of 22 board members. There are five main goals: make the best use of SRS assets, advocate

new missions for SRS, promote CSRA as a leader in energy technology, educate and inform the community regarding federal initiatives, and serve as a knowledgeable united voice of the community in regards to SRS. Recently, three new initiatives have been added. There is an energy park and land use initiative, a regional nuclear workforce training initiative, and an initiative to build consensus in the CSRA regarding Yucca Mountain.

Mr. McLeod spoke about the expanding nuclear industry, with power plant construction likely resuming shortly, and the aging nuclear workforce. He stated that there is a need to train a new nuclear workforce. More than 65,000 nuclear related jobs are expected to be created in Georgia and South Carolina over the next 20 years. They have been working with local technical schools to construct programs specific to the needs of the area in regards to the nuclear industry. Ms. Mindy Mets is the Program Manager recently hired for the Regional Nuclear Workforce Initiative. Ms. Patterson asked what the CRO's focus was in retraining. She stated that she knew Aiken Tech was developing a trades program, but asked if anyone was addressing the needs for more operators and engineers. He stated that they worked with the regional educational institutions to emphasize the need for a variety of training programs. Dr. Peterson asked if he was familiar with Project Lead the Way, a national initiative to direct more students into science careers. Dr. Peterson suggested the CROs consider partnering with them as a part of this initiative. Mr. McLeod made a powerpoint presentation that provided additional details about these issues. *A copy of this presentation is available on the Nuclear Advisory Council webpage of the South Carolina Energy Office website:*

<http://www.energy.sc.gov>.

Duke Energy Programs Update

Steve Nesbit, Director, Nuclear Policy and Support

Mr. Steve Nesbit spoke about the performance of the current nuclear fleet, the nuclear new-build program, and on Yucca Mountain. As to the current fleet, they are operating at 96.1% of capacity through October. That percentage will go down a bit by the end of the year as it does not take into account refueling outages later in the year. McGuire has completed their second planned outage to planned outage run, and Catawba Unit 1 completed its first planned outage to planned outage run. Catawba had an early shutdown for their planned outage due to a leak from one of the reactor coolant pump seals. Also, in Oconee Unit 1 as they were reseating the reactor vessel after a refueling outage they found out that they had damaged some fuel assemblies and had to extend the refueling outage to replace them. He then spoke about the proposed Lee facility near Gaffney, where they have applied for a combined construction/operating license from the NRC for two AP 1000 units. Duke has recently amended their application to include an additional makeup pond, to make sure that in times of extreme drought there is adequate water for operations. The Lee unit is planned to begin operations in 2021. There are several AP 1000 design certification issues ongoing, regarding modifications to the original design. They are watching these closely. Finally, he mentioned the issue of used fuel. He stated that the trade press had been reporting that DOE was preparing to withdraw the license application for Yucca Mountain as a repository for high level radioactive waste and spent fuel. Prior to these issues, he stated that there had been an

ongoing safety review regarding the facility. He spoke briefly about the potential options for disposal or reuse of spent fuel if Yucca Mountain was not available. Dr. Peterson asked if they had considered a reprocessing program. Mr. Nesbit replied that reprocessing and recycling is not economical at this time, and that a repository would still be needed for other associated high level waste. Mr. Nesbit made a powerpoint presentation that provided additional details regarding these issues. *A copy of this presentation is available on the Nuclear Advisory Council webpage of the South Carolina Energy Office website: <http://www.energy.sc.gov>.*

SCANA Programs Update

Dan Gatlin, Vice President Nuclear Operations, VC Summer

Mr. Gatlin spoke about the planned construction of Units 2 and 3 at VC Summer and showed some pictures of the site clearing process. NRC recently issued Unit 1 a renewed license for operation until 2044. He spoke of the emphasis they place on safety. Unit 1 has recently reached 6 million safe work hours. Unit 1 has been undergoing various upgrades, including a digital rod position indication system, a digital feedwater control valve positioners, reactor up-flow modification and replacement of the main transformer. The existing main transformer will become a spare transformer. He spoke about their on-site training programs and the importance of conservative decision making. They actively work to cross train employees so that when Units 2 and 3 come online there will be an experienced workforce to start up those facilities. They also are working with Midlands Technical College to develop training programs for operators. Mr. Gatlin made a powerpoint presentation that provided additional details regarding these issues. Dr. Peterson asked also about the issue of reprocessing and the issue of storage. Mr. Gatlin stated the amount of used fuel assemblies in the pool, and that while they very much wanted an offsite disposal facility they were making plans to be able to store them on-site. He also stated that if reprocessing became economically viable it would be an interesting option to consider. *A copy of this presentation is available on the Nuclear Advisory Council webpage of the South Carolina Energy Office website: <http://www.energy.sc.gov>*

South Carolina Department of Health and Environmental Control Update

Ms. Shelly Wilson, SCDHEC

Ms. Wilson with the South Carolina Department of Environmental Control (DHEC) provided an update on DHEC developments since the previous meeting of the Nuclear Advisory Council. One of their priorities is seeing the high level waste tanks at SRS closed in a timely fashion. They have received the general closure plan for F -Area Tank Farm, and then individual closure modules will be submitted for each tank. DHEC is reviewing the general closure plan, and it will be open for public comment in the spring. Ms. Wilson also mentioned that in DOE's search for a long term mercury storage facility a facility in Texas was the current preferred site.

Public Comments

Mr. Rusche then opened the meeting to public comments. There were no public comments.

Closing Remarks

Mr. Rusche thanked the speakers and adjourned the meeting.