

Governor's Nuclear Advisory Council Meeting Summary Thursday, March 25, 2010

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

Council Members in Attendance:

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

Ms. Allyn Powell, Committee Staff

Call to Order – Visit from the Governor

Mr. Rusche called the meeting to order at 1:00 p.m. Mr. Rusche announced that, while not on the agenda, Governor Mark Sanford and Mr. Scott English would be joining the meeting to discuss matters relating to Yucca Mountain with the Council and Mr. Ernie Chaput. Mr. Rusche asked that the public please hold their comments until the end of the meeting.

Governor Mark Sanford, State of South Carolina

Governor Sanford said that he had been made aware that Yucca Mountain was one of the items on the agenda, and he wanted to stop by the meeting to learn from the members of the Council what things they thought should be done in elevating this issue. He stated that was an issue of incredible importance to the people of the Savannah River Basin, South Carolina, Georgia and in fact the entire nation. If you look at the whole notion of energy independence from the middle east you can't get there without nuclear energy at the end of the day. If you look at the issue of clean air, and there have been all kinds of different conversations on that front, you can't get there at the end of the day without nuclear energy being a part of the equation. No form of energy is perfect, each has its different detriments or weaknesses, but fundamentally when you look at the big picture of the available choices out there today in terms of base load capacity there are overwhelming merits on the nuclear side. And then the question is, does that fit with closing down Yucca Mountain? He does not believe in any way that it does. There has been in essence a twenty-five year compact between both Republican and Democratic administrations and Congresses that has held accord to this notion of Yucca Mountain and then really because of one person's race in Nevada a twenty-five year bi-partisan accord is overturned. He stated that this is old style Chicago politics, and he believes that letting partisan politics in this instance supersede that which many people over twenty-five years from both the Republican and Democratic perspective have argued to be in the best interest of Americans as a whole does not

make sense. He believes this is an issue worth elevating, and one where there is a narrow window to do so. He asked for the Governor's Nuclear Advisory Council their thoughts on anything they or his administration could do to further the issue. He stated that this was as well an incredible taxpayer issue with over \$10 billion invested in Yucca mountain, \$1.2 million of which came from South Carolina. If we stay on the course that has been proposed in Washington, we will lose over \$10 billion that has been invested in Yucca Mountain with no viable alternative for a permanent repository. He also believes that this creates a much larger security threat when there are multiple locations for those who wish us harm to find high level nuclear waste scattered around the country rather than having it all stored in a permanent repository. He asked for any pearls of wisdom for he and his administration on what they might be able to do to elevate this issue, which is not a Nevada or South Carolina issue but an American issue.

Mr. Rusche thanked the Governor for his comments. He stated that he started working with the Department of Energy at the Savannah River Site in 1953, and that his most recent experience in the Department of Energy was with Yucca Mountain when he was Assistant Secretary of Energy. He believes that the Governor's statements if anything understates the data collected and the confirmation that has been obtained over several years of the validity of those techniques put into the context of the actions of the Department and the current Administration. He stated that the Blue Ribbon Commission, assembled by the President, who were of impeccable credentials had in his opinion been put to work based on some limited discussion, not with "is this OK", but with determining how to avoid paying all that money. He believes that this state, and in fact all states have a tremendous opportunity to do our best to avoid losing that huge investment and the progress made on the issue. Mr. Rusche has visited Yucca Mountain many times, and believes that a number of statements made by the administration in Washington have not been correct. He urges that our state has the most to lose and the best situation in which to fight for the value of that site, not just to us but to the nation. Mr. Rusche has maintained information going back a number of years on this subject, and offered to make it available to the Governor. He complimented the Governor on his willingness to take on this issue.

Ms. Patterson stated that as the Governor of South Carolina she believes he is in the best position to work with Secretary Chu to keep Yucca Mountain on the table. She is encouraged that the Blue Ribbon Commission is looking at all of the available options, but believes that taking Yucca Mountain out of the equation based on a political decision is a mistake. South Carolina has high level waste, and at seven houses the third highest number of reactors of any state in the nation. She urged him to take the lead in pushing to keep Yucca Mountain on the Table.

Dr. Van Brunt stated that there has been a thirty year commitment on the part of the federal government to dealing with defense waste. In addition to having a stable base load of power and maintaining the quality of life in South Carolina, and in the country, which creates a need

for Yucca mountain. The country has made a pact to us to remove the high level defense waste here and send it to a federal repository.

Captain Cross stated that he thinks the message of how much we have already paid for this repository should be broadcast more widely, and the amount South Carolina has paid into this fund. When you talk about how much money and how many years are involved, the public will be very interested in this issue.

Representative Tom Young stated that the funds currently in the draft FY 2010-11 budget for the lawsuit filed by the South Carolina Attorney General were critical to this issue, and urged that the Governor and members of the council fight to keep those funds in the budget.

Governor Sanford thanked the Council for their comments, and offered that any who wished to continue the discussion could follow up with him via telephone or in writing.

Chairman Rusche thanked the Governor for coming and stated that he felt it was valuable for those present to hear the comments made on this issue.

Approval of Minutes

Ms. Patterson made a motion to adopt the minutes of the previous meeting. There were no changes to the minutes, and the minutes were unanimously adopted.

SCANA Program Update

Mr. Steve Byrne Sr., Senior Vice President, SCANA

Unit 1 is currently operating at 100% power, and the Operator Training program was re-accredited. No refueling outages are planned for the current year. 10 of 10 operators passed the NRC license exam, with which they are extremely pleased.

On the previous refueling outage at VC Summer, 1,139 employees were brought in to assist with the refueling outage. These consisted of specialized contractors as well as staff from other utilities that are shared for the purpose of refueling outages.

This year there were over 350 applicants for 12 positions in the summer co-op program.

He gave an update on the proposed new reactors at the V.C. Summer site. The licensing progress is proceeding, with an appeal pending with the SC Supreme Court but no current contentions at the federal level. They have a contract with the US Department of Energy to handle spent fuel for Unit 1, as well as the proposed units 2 and 3. The two proposed reactors are also in the "final four" for the federal loan guarantee program. There has been no decision made on whether to take advantage of the loan guarantees as the exact terms and decisions have not been disclosed.

Mr. Byrne showed several slides of the V.C. Summer site, site clearing activities, and the differences between the current control room and the proposed control rooms for the new reactors. He also discussed the various components that would be used in the proposed reactors and the decommissioning of the old Parr research reactor. A chart was shown of how the proposed plants would change the mix of power production. *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>*

Ms. Patterson asked if the number of applications for the co-op positions were unusually large. Mr. Byrne indicated that it was a rather large number, but consistent with applications that occur during economic downturns.

Ms. Patterson also asked if the pie chart took into account coal plants going offline with the construction of the proposed new nuclear plants. Mr. Byrne indicated that it was possible production from coal could go down, but that those plants would be ramped down in such a manner that if the economy demanded they could be used again.

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. The department is facing a reduced general fund budget, with an additional 20% reduction proposed in the FY 2010-11 budget. These base reductions are somewhat mitigated by one time funding, but DHEC has lost 110 of 1000 positions in their environmental program. The South Carolina Court of Appeals issued a decision in the 2004 case regarding the operating license for the radioactive waste disposal facility in Barnwell. They affirmed the Administrative Law Court's previous decision, but remanded the case back down to the lower court to review some new issues raised by the Sierra Club. Ms. Wilson informed the Council that the entire week surrounding Earth Day on April 22 had been declared Earth Week by the Governor, and mentioned the new Green Guide available on DHEC's website.

Dr. Van Brunt asked what effect she anticipated on DHEC's monitoring of nuclear activities in the state as a result of the reduced budget.

Ms. Wilson responded that there would be very little effect on monitoring at the Savannah River Site as those activities were primarily funded by federal dollars. In fact, they have ramped up those activities with ARRA funds. She was not aware of any planned reductions in the nuclear programs, but there were reductions planned for other programs.

Remarks from Senior SRS Management

Ms. Karen Guevara, DOE-SR Assistant Manager for Closure Project

Ms. Guevara gave a brief outlined of her planned remarks then introduced Mr. Jeff Allison for a few comments.

Mr. Jeff Allison, DOE-SR

Mr. Allison informed the Council that there had been some recent changes in site management, and that he would be introducing the new acting manager shortly. Mr. Allison thanked the Council for the insight they have provided over the years. Mr. Rusche complimented Mr. Allison on his technical competence, and thanked him for the manner in which he has gone about his work at the Savannah River Site. Mr. Allison then introduced Mr. Jack Craig, who has taken over as the acting site manager.

Mr. Jack Craig, DOE-SR Acting Site Manager

Mr. Craig has been on the job as site manager for a week and a half, and will occupy that position until a permanent manager is named and will assist in the transition to a new permanent manager. He is committed to continuing the tradition of safe and efficient work at the site. Mr. Craig has been with the Department of Energy for 22 years. He has recently been the director of a business center consolidating support functions for fifteen sites across the DOE complex. He met with the Citizen's Advisory Board on Tuesday, and was appreciative of their valuable input.

Mr. Van Brunt asked if he had identified any impediments in the tank closure operations.

Mr. Craig indicated that he has not as yet, and believes that good plans are in place for both the technical and safety aspects.

Karen Guevara, DOE-SR Assistant Manager for Closure Project

Ms. Guevara discussed several initiatives to increase worker safety, including management field presence and safety stand downs. Ms. Guevara outlined the agenda for presentations from SRS officials. In terms of nuclear material stabilization

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 Manage, 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.