

**Governor's Nuclear Advisory Council**  
**Meeting Summary**  
**Thursday, March 14, 2013**  
Gressette Building, Room 209, 1105 Pendleton Street  
Columbia, South Carolina

**Council Members in Attendance:**

Ms. Karen Patterson, Chairman	Dr. Vincent Van Brunt
Mr. Steve Byrne	Sen. Tom Young
Captain Claude Cross	Rep. Don Wells
Dr. Carolyn Hudson	
Dr. David Peterson	
SC Energy Office Staff: Jennifer Satterthwaite, Trish Jerman	

**Call to Order – Adoption of Minutes -- GNAC Update**  
**Karen Patterson**

Ms. Patterson called the meeting to order at 1:05 p.m. The Council officially approved the summaries of the September and December meetings. Ms. Patterson updated the members and the audience on the previous quarter's activities. Ms. Patterson was able to tour VC Summer Units 2 & 3, and the simulator, and thanked Steve Byrne for arranging it. She also attended a public meeting at SRS regarding F Tank Farm tanks 5 and 6 closure, and noted that DHEC is accepting comments on the closure module until March 22<sup>nd</sup>. DOE is asking for comments on the H tank farm draft 3116 determination basis document before the first of May. The GNAC will provide comments.

**SCANA Update –**  
**Steve Byrne, President, Generation & Transmission, and COO, SCE&G**

Mr. Byrne's presentation on construction of the new reactors at V.C. Summer is available at <http://energy.sc.gov/gnac/meetings>. Several points that may not be obvious from the slides are:

- The cooling towers will not be the very tall hyperbolic shaped towers, but 60 foot tall forced draft towers.
- To date, the project is about \$600 million below cost estimates due to the economy, creating low inflation and lower than anticipated costs for debt financing.
- The term "the whole nine yards" comes from the amount of cement typically carried by a cement mixer.

The presentation was followed by questions, beginning with Capt. Cross who asked where the VC Summer work stands in relation to Vogtle. Mr. Byrne said "We work hand in glove, lending each other support, so that one may be ahead at one time, behind at another, but we expect to complete the projects at about the same time."

Ms. Patterson asked if the reactor containment vessels were assembled and lifted all at once, and Mr. Byrne replied that they are too heavy, so the rings are lifted separately and then assembled in

the containment building. In response to Ms. Patterson's question about the size of the construction workforce, Mr. Byrne answered 1500 now, and expected to peak at a little over 3000. She asked if SCE&G is still bringing Chinese professionals to SC for training, and was told that formal training hasn't taken place since 2010, but there are still some visits. Ms. Patterson asked what qualifies one to be a reactor operator. How does the company select its operators? Mr. Byrne answered that generally SCE&G hires Navy reactor operators, who are fully experienced, or they hire someone as an auxiliary operator for 5 or 6 years, in order to identify candidates to go forward to take the NRC license exam. At the same time, SCE&G will need some experienced operators on the new units from day one, so operators will be moved from existing units to the new units.

### **Reprocessing Spent Fuel**

**Dr. Arjun Makhijani, President, Institute for Energy and Environmental Research**

Dr. Makhijani's presentation is available <http://energy.sc.gov/gnac/meetings>. It was followed by questions from the Council.

Mr. Byrne asked for clarification on the subject of an independent agency to oversee waste management, to which Dr. Makhijani replied that this was the recommendation of the Blue Ribbon Commission, and that there was broad agreement that the waste fund should be managed by a new entity.

Containers are supposed to be primary containment, and rock is secondary. Rocks will leak (Mr. Byrne concurs) but the problem at Yucca Mt. was that the storage was above the water table, in an oxidizing environment.

Ms. Patterson noted that the GNAC testified before the Blue Ribbon Commission that there should be an agency separate from DOE to manage the waste, but asked about the conflict of interest to which Dr. Makhijani referred. He replied that if waste comes to SC in the absence of a new agency, DOE will be the default agency to oversee its management. DOE will have an interest in bringing it here, and "institutional inertia" will tend to keep it here. If a new agency is created in the meantime, it will not receive full control of the waste fund, because some will already have been given to DOE. Ms. Patterson noted that we have a lot of spent fuel already. "What do we do with it?" Mr. Makhijani responded that his suggestion is that at closed sites, the Federal government can take charge right where it is. Waste that is sufficiently aged can be put in secure containers to protect against terrorism. Vitreous storage such as that at SRS is one likely possibility. Some operating sites have surplus land the Federal government could acquire for storage. Others might need to have the waste removed (such as waste in seismic areas or floodplains.) He noted that he is not opposed to transportation of the waste, but don't multiply risks by transporting without a clear idea of where it is going and why.

Ms. Patterson asked whether Dr. Makhijani was saying all spent fuel should be turned over to DOE and he replied "Not all, but most, and certainly spent fuel stored at closed reactor sites. We need to do things in the short term that lead to success, based on science and safety, national standards and strategy, not driven by local economic advantage."

Rep. Wells asked what we can do to keep political influences from affecting a new agency, given that the last two long term sites were abandoned due to political pressure. Dr. Makhijani replied that important decisions all include political decisions, but the basis of these decisions should be well informed by science and safety for the sake of future generations. “We need a transparent process, with sound standards.” (He offered as an unfortunate example an earlier siting process which attributed a perfect score to site characteristics for which there was no knowledge...the “ignorance is bliss” approach.)

### **Community Perspectives on Managing the Fuel Cycle**

#### **Rick McLeod –Executive Director, SRS Community Reuse Organization**

Mr. McLeod began by explaining that his organization is a 501(c)(3), one of eight DOE Community Reuse Organizations (CROs) in the country. Their purpose is to consider resources and find new missions for the Site. Mr. McLeod’s presentation is available online at [www.energy.sc.gov/gnac/meetings](http://www.energy.sc.gov/gnac/meetings). Mr. McLeod’s presentation was followed by questions.

Capt. Cross asked whether recommendations could be legally binding, noting that if the CRO were talking about “bringing fuel in, doing something to it, and sending it back out” that would be viewed favorably, but that if the study was considering bringing waste in and leaving it here, that was “not very promising.” Mr. McLeod agreed, but said waste needs to be managed by a public/private partnership, or by the private sector because DOE is not trusted. He noted that a private or semi-private entity could be legally bound, but that the government could not be.

Capt. Cross followed up by noting that federal funds would still be needed to fund operations. Mr. McLeod replied that the government already has the Nuclear Waste fund, so the funds are there, but the government hasn’t been able to create a permanent repository.

Mr. Byrne stated that he would not be interested in a host-only facility in the state, but that was the only type of facility under consideration right now. Mr. McLeod replied that R&D and a clear long term plan for getting waste out of the state were needed. Mr. Byrne followed up by asking if the study team had visited Sweden, since they had been reprocessing for a long time. Mr. McLeod introduced Tim Fraser, who was the senior author on the study and served as the Designated Federal Officer to the Blue Ribbon Commission. Mr. Fraser described what the Blue Ribbon Commission had seen in Scandinavia and France and the UK. He also clarified that the Blue Ribbon Commission determined that it was premature to settle on a single technological approach (such as reprocessing) at this time. Therefore to say Blue Ribbon Commission “came out against reprocessing” is not correct. Mr. Byrne commented that as the team makes its pitch around the state, it talks about risk, but not about safety. He recommended that safety be included in future discussions. Mr. McLeod replied that “they would definitely include that, but the site is so safe we forget to mention it.” He also clarified that any new site such as that envisioned by the study would not have to be within the SRS boundaries.

Dr.. Peterson applauded the CRO efforts but recommended a much more public discussion before any consolidation would occur than there was before plutonium was consolidated in SC, which occurred without public vetting. He acknowledged that this is a completely different situation because it deals with public utilities, but he would still “hope there would be more public discussion.” Mr. McLeod said he totally agreed.

**South Carolina DHEC Update**  
**Shelly Wilson, SRS Federal Facility Liaison**

Ms. Wilson had a last minute conflict and was not able to attend. Her comments were read by Ms. Patterson and are available at [LINK](#)

**Savannah River Site Update**  
**Dr. Dave Moody, DOE-SR Operations Manager**

Dr. Moody's presentation is available at [LINK](#).  
Clarifying questions were asked.

Ms. Patterson asked (with regard to the comment that research reactor fuel can be removed from the L-Reactor basin by 2020) if that was before or after sequestration. Dr. Moody said it could be done with sequestration, as long as the facility is able to move funds within categories. Dr. Moody added that there are opportunities in every adversity, that SRS staff is looking for them, and that he believes they can optimize work at the site, especially given the advantages of expertise found only at SRS.

Dr. Moody and others noted the successes that have gone largely unnoticed at SRS, including collaborations with other national labs to analyze lessons from Fukushima, the successful shipments of TRU wastes to WIPP, the partnership with local universities on nuclear medicine issues, and the overall reduction in waste generated in support of the nation's defense efforts.

Dr. Moody commented that he hopes to avoid building any more glass canister storage buildings, and that the current canisters can be a part of the pilot waste storage facility, whatever it may ultimately be. He suggested that defense high level waste should not be excluded from long term interim storage, but clarified that this is his view and not an official DOE policy. Dr. Van Brunt asked if this is consistent with the plan to eventually move waste out of state, as articulated by the GNAC some time ago. Dr. Moody said it was, and added that it can be done "without breaking the bank" because the canisters wouldn't need the weight and complexity of heavy shipping casks. SRS could design light weight shipping cases that could be used elsewhere as well.

Mr. Byrnes asked if Project Sunrise, the research reactor project, was "dead" and was told that it was not dead, but also not funded. Dr. Moody believes research reactors are an important element of security and is not giving up on finding funding.

Senator Young commented on the effect of expected furloughs on the communities surrounding SRS. The state legislative delegation from the area has spoken with the Congressional delegation regarding reprogramming for flexibility. Senator Young asked what else, if anything, should be done. Dr. Moody said that continuing to communicate with the delegation about the importance of removing restrictions as the continuing resolution is put in place, and/or expediting the process for reprogramming funds. He stated that the reprogramming request has been vetted by DOE headquarters and is ready to go to OMB when DOE is able to send it.

Personal attention at each of the relevant Congressional committees with authority over the request is indicated; Dr. Moody will supply a list of contacts.

Rep. Wells asked if previous budget cuts had allowed for flexibility (Dr. Moody said “yes, often”) and whether the decisions came from Congress or DOE. (Dr. Moody answered that it was generally Congress.)

Ms. Patterson asked why reprogramming is not a given, and Dr. Moody answered that it is generally allowed, but that DOE and others want to understand the impacts. Frequently when funds are reprogrammed to benefit one program, it hurts another, and the aggrieved parties make their concerns known.

Senator Young asked about the impact of workforce reduction on spent fuel, seeking clarification on whether flexibility would reduce workforce impacts enough to avoid changes to the scope of work, including work at H Canyon. Dr. Moody agreed that this was the case, adding that work at H Canyon might not proceed at an accelerated rate, but would continue to process at the current rate even with flexibility restored. Senator Young asked if WIPP shipments stop and work at H Canyon is reduced, will “waste we don’t want to have sitting in Aiken County” be sitting in Aiken without a plan? Dr. Moody said that SRNS would continue some of the waste management activities but that it would be difficult. Initially we would revert to the quarterly drill process, to maintain staff expertise, but if funds are not restored, eventually H Canyon would have to be put in “sleep mode and we’ll have to run in cold mode.” Similarly, receipt of foreign research reactor spent fuel in L Area would be put idled--this would result in minimal waste receipts, and minimal waste moving out.

Ms. Patterson asked if they would have to stop processing vulnerable fuel, and was told yes, despite concerns. When asked if the vulnerable fuel could be moved to dry cask storage, Dr. Moody said there were no funds to do so. (It was noted that nonetheless, funds were being spent to monitor the unprocessed vulnerable fuel.)

Dr. Van Brunt asked what more needed to be done in Tank 16 and was told that SRR had recently met with DHEC and EPA, which had some comments, but basically both agreed the tank was clean. SRR is addressing the comments, and will have answers within 30 days. SRR is closing and grouting Tanks 5 & 6 this year, and Tanks 12 and 16 (in H-Tank Farm) are next in line.

Ms Patterson asked if funds had been found for small column ion exchange (SCIX), and if SRR was investigating getting the tank waste processed somewhat on the schedule that had been agreed upon. Dr. Moody said they were looking at all options for achieving the endpoint of that schedule, that some of the “middle milestones” may be missed, but he believes the final regulatory milestones can be met. Ms. Patterson asked if the SWPF can be completed with less money within almost same time frame, would that be the preferred choice. If we were able to execute SWPF and bring it forward to the 2017 or 2018 timeframe, then that additional capacity is worth it.

Dr. Moody followed up on Senator Young's concern that Hanford, with its leaking tanks, is the "squeaky wheel" that will get funding and asked if we need to do something to remind our delegation that we have tanks here and need funds for closure too? Dr. Moody said that "we don't celebrate our successes as well as we should." We have already, or are in the process of emptying 15 tanks, we have completed a record number of glass canisters, and we're actively dispositioning waste. We have emptied tanks below the leak point, so they are stabilized. We have a "tremendous program" to evaluate tanks and have no leakers at this point. We've been fiscally responsible; we are actively reducing our risk, and feel we should be rewarded.

Ms Patterson said the GNAC would be glad to help, and Dr. Moody responded that "if you believe we have a successful program for reducing risks, celebrate with us and share your views with Congress and the DOE."

### **The meeting was then opened to public comment.**

Dr. Tom Clements, Friends of the Earth: Comments available at <http://energy.sc.gov/gnac/meetings>

Lisa Darden, Resident of Aiken: Comments available at <http://energy.sc.gov/gnac/meetings>

Jessie Young, Don't Waste Aiken: Comments available at <http://energy.sc.gov/gnac/meetings>

Tom Howell, Sierra Club:

Mr. Howell said that he was a citizen concerned about a technology that appears to be very unforgiving. We don't fully understand the geology of the earth, and people may be more interested in profits than safety margins. We can't deal with the waste volume we have now, and he is concerned about adding to it. He noted that he is encouraged by the committee's interest, but asked if we know enough to make good decisions? He added that we will "need to babysit this deadly waste for thousands of years; but we don't have governments that last that long." He hopes the DOE will continue its diligent work, but says we have to rethink whole process in a number of ways.

Suzanne Rhodes, League of Women Voters:

Ms. Rhodes said she wanted to share 3 facts and one idea:

-The NRC regulatory agenda talked about beginning regulations in the 20 or 30's. BRC looking at casks to contain for as much as 300 years

-Bob Alvarez's report contains quite a bit of very good information. It is available at <http://energy.sc.gov/gnac/meetings>

-The Waste Fund deposits are included on a spread sheet somewhere, but unless we're lucky, that money has already been spent...A real push will be needed to get funds for future needs.

-The League's position that if the US going to meet its schedule for permanent storage; all stakeholders need to be focused on permanent, not temporary storage. "We need to keep our eyes on the prize."

Clint Wolfe, Executive Director of Citizens for Nuclear Technology Awareness:

Mr. Wolfe thanked the SRS CRO for its report, saying that it provided a basis for the community to have a discussion. While noting that he was speaking personally, he said he objected to some of the language he'd heard during the meeting—such as the use of the word “deadly” in conjunction with the SRR waste. He said that Aiken has flourished with SRS for 60 years, beginning when no one questioned the environmental aspects of the facility. The waste is being dealt with “very effectively” and we need more facts and discussion of real issues. Commercial nuclear fuel is owned by the federal government—it is everyone’s problem--so we should find people who can manage it the best. He believes whatever needs to be done can be best done at SRS, unless we’re talking about deep geological storage.

The meeting was adjourned at 4:00 p.m.