

**Governor's Nuclear Advisory Council**  
**Meeting Summary**  
**Thursday, September 23, 2010**

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

**Council Members in Attendance:**

Mr. Steve Byrne  
Ms. Karen Patterson  
Dr. David Peterson  
Mr. Ben Rusche  
Dr. Vincent Van Brunt  
Captain Claude Cross  
Dr. Carolyn Hudson

Ms. Allyn Powell, Committee Staff

**Call to Order**

Mr. Rusche called the meeting to order at 1:00 p.m. Dr. Van Brunt made a motion that the minutes be adopted. The minutes from the June 10, 2010 meeting were unanimously adopted. Karen Patterson distributed copies of the letter submitted by the Governor's Nuclear Advisory Council to the Department of Energy, who had requested comments on proposed surplus plutonium disposition. The Council indicated that this was an issue that needed to be addressed, but also indicated that it was a priority to them that whatever option was chosen not impede the progress of the disposition of the high level waste at the Savannah River Site.

**SCANA Program Update**

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

Mr. Byrne gave an update on new nuclear construction. Currently there are 800 employees in Jenkinsville related to new nuclear development (100 SGE&G employees, with the rest being Shaw/Westinghouse subcontractors), and they expect that number to increase to 1,700 within the next year.

The current generation mix is 18% nuclear as dispatched, and in 2009 it was about 50% coal and 26% natural gas. By 2019-2020, he anticipates the generation mix will be 55% nuclear, coupled with hydro and biomass this would mean 60% of the generation mix was non-emitting. There is a requirement to maintain a 12% to 18% reserve margin above summer peak demand. Mr. Byrne showed a chart indicating reserve margin and demand. The chart showed that the new nuclear units would bring the margin over 18% in 2020. The plan includes the retirement of some older coal fired units.

Mr. Byrne showed several slides of the new construction at the V.C. Summer site and described the layout of the site. He described lessons learned from the new construction at the Sanmen site in China that SCANA was incorporating as they began the construction process. He also

showed several slides of the components as they were under construction, including the reactor vessel and steam generators.

China is making significant construction progress at the Sanmen site. It is an AP1000 unit which is about two years ahead of the construction at V.C. Summer, providing opportunities for lessons learned. Mr. Byrne showed several slides of the construction process. In exchange for the lessons they are learning regarding construction, they are training future workers at the Sanmen site on safety issues.

SCANA is very interested in developing a network of local suppliers for the nuclear industry. New Carolina and the SC Research Authority are interested in this as well and have received a \$600,000 grant to assist in these efforts.

Ms. Patterson asked about temperatures and the scheduling of concrete pours. Mr. Byrne indicated that they would be pouring mainly at night during the summer, and that they also had chillers associated with their on-site concrete plants.

Ms. Patterson asked how the modules were connected together. Mr. Byrne indicated that some were bolted or welded, but for the majority of the modules there would be concrete poured between them as they are part of the walls.

Dr. Van Brunt asked about coordination with Vogtle, Duke and Progress. Mr. Byrne indicated that they had formed a LLC to purchase together risk assessments, training software, and other materials they could share.

### **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 F Area Tank Farm Closure Plan is available for public comment, and Ms. Wilson encouraged the Council to review the plan. The plan is an umbrella document that is a roadmap for closure, but a separate closure module would be submitted for each tank before it could be closed. That closure module would then be open for public comment as well. The comment period on the overall closure plan ended October 15.

Dr. Van Brunt asked about DHEC's funding situation. Ms. Wilson indicated that DHEC had no further budget cuts, although they were still operating under the budget reductions from a few years ago.

## **Remarks from Senior SRS Management**

### ***Mr. Jack Craig, DOE-SR Acting Site Manager***

Mr. Craig provided an update on recent personnel changes at the site. Dr. David Moody has been selected as the new site manager. He was on site last week as part of a conference and had an opportunity to speak with the staff. He comes here from the Carlsbad site, where he has spent five years managing the Waste Isolation Pilot Project.

Over the last quarter, the baselines (cost, schedule and scope) have been approved for the three main contractors on site. This makes sure the work schedule is laid out and gives DOE the ability to attract performance.

The full Defense Board is planning a visit to the site October 22-23.

Mr. Craig informed the Council of an incident in June regarding worker exposure in the TRU waste program. Worker sustained a puncture wound inside of a glove box, resulting in internal radiation exposure. SRNS performed an internal review of the incident, and DOE held a Type B investigation led by Mr. Jeff Allison. SRNS has developed corrective actions as a result of the event. DOE has reviewed the corrective actions, and SRNS will be resuming activities in F Area next week.

Mr. Rusche asked for more details on the injuries. Mr. Craig indicated that the main injury was the internal radiation.

The GAO issued a report regarding cost growth in the liquid waste program for the SRR contract. The GAO report indicated that emptying, cleaning and permanently closing the 22 underground liquid radioactive waste tanks at the site is likely to cost significantly more and take longer than originally indicated in December 2008 contract. Mr. Craig indicated that the site did not agree with all of the findings of the GAO report, and that there would be more comments forthcoming. Highlights from the report are available on the GAO's website at: <http://www.gao.gov/highlights/d10816high.pdf>.

Ms. Patterson asked for more information on the GAO report and the challenges identified by DOE officials. She also asked about the impact of not having the SWPF available until 2015 on the timetable.

### ***Mr. Garry Flowers, SRNS***

Mr. Flowers introduced Terry Michalske, who was selected in August as the new director of the Savannah River National Laboratory. Dr. Michalske comes to the site from Sandia National Lab. The hiring of Dr. Michalske marks the end of a series of management changes that began a year ago.

Mr. Flowers spoke about the worker exposure accident. There have been several investigations, and he indicated that they agreed with 99% of the Type B investigation report. Several changes have been made as a result of the incident. Two individuals were fired and several others were reassigned.

Mr. Flowers indicated that another facet of their mission was to work on footprint reduction, which will allow the development of energy parks and growing the area's economy. They are very looking forward to a partnership with Hyperion, related to modular reactors, and expect to make several other announcements in this other areas soon.

***Dr. Terry Michalske, SRNL***

Dr. Michalske indicated that he was pleased to have the opportunity to speak with the council. His background is in materials science, but he has also worked in nanoscience, biotechnology and energy security during his 29 years at Sandia. National Laboratories are highly prized by the states in which they reside, and he looks forward to engaging both the local and the academic community. He has also worked on the development of an Energy Park near Sandia, and is looking forward to the opportunity to do so at the site.

Mr. Rusche congratulated Dr. Michalske on coming to SRNL and thanked him for being willing to take on these issues.

Ms. Patterson indicated that the Council was also very interested in Hyperion, and asked what it was that SRNL was providing that had attracted them to the site. Mr. Flowers indicated that the site provided a very supportive community, along with SRNL which has expertise in nuclear fuel materials that will allow them to work safely and efficiently.

Dr. Van Brunt asked what in the Part B report SRNS disagreed with. Mr. Flowers indicated that there was some wording he would liked to have seen changed, but that he did not want to focus on the areas where they disagreed when there was so much that they agreed upon.

Dr. Van Brunt asked Mr. Flowers to comment on the skill level of the workers on these activities. Mr. Flowers stated that the person who was injured had nine years experience as a radiation worker, and he had gone outside of the acceptable safety envelope. They are working to improve on the training and avoid complacency when it comes to safety.

***Mr. Doug Dearolph, Manager NNSA-SRSO***

Mr. Dearolph thanked the Council for their comments on surplus plutonium disposition, both by Mr. Rusche at the public meeting in North Augusta and by letter. Mr. Dearolph introduced Mr. Kelly Trice, who will be heading the MOX facility project. He previously served as the vice president of design and construction or the project, and has 25 years of experience in the design and construction of large scale nuclear projects.

The tritium facilities continue to perform well, meeting mission requirements. The scheduled tritium extraction was completed during the summer of this year, with a focus on safety and security.

MOX is currently 47% complete. The first process glove box will be installed later this month. The waste solidification building construction was begun in 2008 and is expected to be completed in 2012. They are receiving the long lead equipment. The project is 45% complete. The plutonium pit disassembly and conversion facility project is progressing down the project critical decision process, and they expect a decision in December as to whether it will move forward. NNSA will manage the conceptual design.

Ms. Patterson asked if they had contracts yet for the fuel that would be produced by MOX. They indicated that there was interest, but that TVA would not sign a contract until the EIS was completed.

Dr. Van Brunt asked if they had re-evaluated the fuel composition in an effort to attract a wider range of contracts. They indicated that contracts were being pursued with Westinghouse, Areva, and GE.

***Mr. Jim French, SRR***

Mr. French provided an update on Savannah River Remediation activities. They have an ongoing and continuing safety performance that they are proud of, and are at 1.5 million safe work hours. They have also resubmitted and had approved their ISMS program, where DOE brought outside investigators to look at safety procedures. They took a 14 day outage to install new bubblers, which will expedite the process down the road. Tanks 18,19,5 and 6 are all involved in the closure process. Space has become less of an issue, as they are using recycled water from the DWPF for sludge mixing. DWPF is continuing to pour 250 cans a year, so the sludge is moving out of the process. Tank 48 has a hydrogen flammability issue, and they expect to issue a long lead procurement in September for the materials necessary to work on that tank.

They are constantly looking at ways to improve the process. The latest has to do with small column ion exchange, and preliminary testing is ongoing. The GAO report indicated this was in the research phase, but in practice it is considerably beyond that and they are simply refining the resins.

Saltstone is undergoing a transformation, being retrofitted to run six times faster than it has in the past.

Enhanced chemical cleaning was also noted in the GAO report, and they are working on ways to remove some of the acid used in this as part of the regular process rather than having to then add more chemicals to neutralize it once the tank walls were cleaned.

The 2012 budget is critical to maintaining momentum.

Mr. French noted the items he had listed so far which council members wanted more information on: carbon study, jackets, tank integrity, integration of contractors, and a detailed explanation of SWPF actions.

Ms. Patterson asked for him to go back and explain the issues with Tank 48. Tank 48 and Tank 49 are in the ITP program. Tank 49 has had its hydrogen issue resolved, but Tank 48 will need a steam reformer to help alleviate the issues there.

Dr. Van Brunt asked Mr. French about the carbon carryover issue. Mr. French indicated that they believe the carbon carryover will then be within acceptable limits for processing.

### **American Recovery and Reinvestment Act Update**

#### ***Mr. Zach Smith, DOE-SR***

Mr. Smith discussed the in-situ reactor decommissioning process. Grouting is ongoing in the P and R reactors. The reactor vessels in P&R reactors have been grouted in place. The plan was presented in public workshops during 2007-08. The record of decision was issued for both reactors in 2009. In R the residual radioactivity is fixed in the reactor vessel which is built into the building, and due to worker safety it would be difficult to remove it. The walls of the building are made of concrete and reinforced steel. In addition to the grouting, the roof structure slope has been modified to route water away from the building.

In the area of footprint reduction, the current goal is 75% footprint reduction in the areas under active management. This would represent 233 square miles where no further activity was required on the surface. They have been able to increase this number as bids in some cases came in lower than originally indicated. They are looking to remove 375,000 PECs (Plutonium Equivalent Curies) as opposed to the prior program which removed 125,000 PECs over a 7-8 year period. This is a substantial increase in the level of contamination removed. So far in the current program 75 square miles have been declared cleaned through ARRA.

Roughly 2000 cubic meters of TRU waste have been packaged, and 1000 cubic meters of the packaged waste has been shipped. He indicated that the goal was for all legacy TRU waste removal will be done by the end of calendar year 2012.

### **Tank Closure Schedule and Commitments**

#### ***Ginger Dickert, SRR***

Ms. Dickert provided a power point presentation regarding the tank closure schedule. Tanks 18 and 19 are anticipated to be the next two tanks removed from service. Tanks 17 and Tank 20 were removed from service and grouted in 2007. DOE-SR is actively preparing closure documents. The previous timetable for completing closure documentation was 39 months. She provided an overview of the regulatory document path, involving DOE, NRC, SC DHEC, and the EPA. There will be one general closure plan to be approved for the entire tank farm, with additional documents prepared for the closure of each tank. The overall environmental studies which are the same for the entire tank farm will only have to be done once under this

methodology. This could move the timetable for closure from 36 months to 24 months. DOE has a milestone to operationally close Tanks 18 and 19 by December 2012. The current schedule shows seven months of float versus the milestone date. To meet this milestone, it requires parallel work from the various agencies involved in the closure process. Ms. Dickert showed a series of slides that indicated the progress of various documents in the closure process. *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>.*

### **Mr. Larry Camper, NRC**

Mr. Camper is the Director of the Division of Waste Management at the Nuclear Regulatory Commission. He was joined by Cynthia Barr, who is leading the team to review the closure paperwork. Their program is a large program, 100 people, who are responsible for decommissioning 85 sites. They manage the uranium recovery licensing program, Title I and Title II uranium site decommissioning, in addition to 25-30 significant environmental assessments each year. He explained the role of the NRC in the tank closure process and the statutory authority surrounding it. They are in this case in a consultative role with the Department of Energy, and that was a process they had to work through as it was not a previously existing relationship. They also are charged with developing a monitoring plan and making the necessary changes to this plan. He indicated that they were aware of the need for timely review, but also recognized that the overall success of the effort would be demonstrated over time. An example of an annual monitoring report was shown, and compared to the final documentation of closure at the Idaho tank farm.

A summary of the presentation given at the CAB meeting was provided. The NRC has been in consultation with SRR on the technical review and has visited the site several times to make them aware of the NRC's expectations. The obvious difference between F and H tank farms is the water table, so that may take some additional time. However, they intend to make sure that the resources to review this are available in a timely fashion.

The NRC is meeting with DOE quarterly to enhance their interaction in these areas. A public meeting is scheduled November 15, with updated monitoring plans for saltstone and the tank farms.

Ms. Patterson indicated that she was pleased the NRC was here to talk to the Council, but hoped that requests for additional information during the process would be focused on getting information you don't have to make a reasonable assurance, and not gathering information for the sake of gathering information. What they are looking for are drivers of risk so they know the correct performance objectives.

Ms. Patterson asked if all of the agencies involved got together to go over the schedule. The reply was that yes, they did.

Mr. Rusche said that the message he took away was that we were all trying to do the best we could, and that it was critical all sides continue to work together towards the common goal of closing the tank farm.

**Ms. Sherri Ross, DOE-SR**

Ms. Ross provided a power point presentation outlining the F tank farm closure schedule and status. She indicated that DOE and the NRC are taking actions to improve communications, and are both supporting the current consultation schedule with the appropriate resources at the appropriate time. The public comment period for the general closure plan ends on October 15. A public meeting explaining the process for comments was held on September 21. DOE is expected to publish the Draft Basis Document for Closure of F Tank Farm by September 30, 2010. The comment period for that document will extend to January 7, 2011. *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>*

**Public Comments**

Mr. Ernie Chaput commented that the current methodology of working aggressively on the single most hazardous item by closing the tank farms is a well thought out plan. He expressed a concern that the amounts of documentation required not overshadow the importance of getting the tanks closed and grouted.

Ms. Wilson with DHEC responded that they were concerned with closing the tanks as well, but in a manner that minimized the amount of waste to saltstone.

**Closing Remarks**

Mr. Rusche thanked the speakers and adjourned the meeting.