

**GOVERNOR'S NUCLEAR ADVISORY COUNCIL**  
**Meeting Summary**  
**Thursday, September 11, 2008**  
**Room 209 Gressette Building**  
**Columbia, South Carolina**

**Council Members in Attendance:**

Mr. Ben Rusche  
Dr. Carolyn Hudson  
Mr. Bill Mottel  
Representative Robert S. Perry  
Dr. David Peterson  
Senator Greg Ryberg  
Dr. Vincent Van Brunt

**Council Members Absent:**

Ms. Karen Patterson  
Mr. Steve Byrne

**Additional attendees:**

Jeff Allison, DOE-SR	Arnold Karr, Carolina Peace Resource Center
Dr. Sam Bhattacharyya, SRNL/SRNS	George Karr, Carolina Peace Resource Center
Tom Cantey, NNSA-SR	Sue King, MOX Services
Robert Carswell, Carswell & Associates	Larry Ling, SRNS
Ken Chacey, NNSA-SRS	Patrick McGuire, DOE
Bill Clark, NNSA-SRS	Mal McKibbin, CNTA
Tom Clements, Friends of the Earth	Dave Olson, WSRC
George Davis	Joe Ortaldo, SRS Citizens Advisory Board
Ginger Dickert, WSRC	Steve Piccolo, WSRC
Bob French, SWPF SRS-Parsons	Tony Polk, DOE-SR
Philip Giles, DOE	Clay Ramsey, DOE
Sam Glenn, NNSA	Sheron Smith, DOE - SR
Kevin Hall, NNSA-SRS	T.J. Spears, DOE
Elizabeth Hedgecoe, Palm Institute	Catherine Vanden Houten, S.C. Energy Office
Karen Hooker, DOE	Shelly Wilson, SCDHEC
Walt Joseph, SRS-Heritage Fund	

**Call to Order – Approval of Minutes**

Mr. Ben Rusche, Chairman of the Nuclear Advisory Council, called the meeting to order at 1:30 p.m. After a welcome and brief comments, Mr. Rusche called for the approval of minutes from the June 12, 2008 meeting. Dr. Vincent Van Brunt made a motion to approve the minutes; Dr. David Peterson provided a second. The minutes of the June 12, 2008 meeting of the Nuclear Advisory Council were unanimously approved.

## **Opening Remarks**

Mr. Jeff Allison, Senior Manager with the U.S. Department of Energy (DOE), provided a brief update on the state of the Savannah River Site (SRS). He explained that as of August 1, 2008, the site's management was successfully transitioned to Savannah River Nuclear Solutions (SRNS). He also explained that Washington Savannah River Corporation (WSRC) remains at the site as the liquid waste disposition contractor. Mr. Allison explained that the SRS workforce, DOE, SRNS, WSRC worked together as one team to accomplish the first major contract transition at the site in almost 20 years. He went on to highlight various significant achievements at the site.

He explained they have begun interim salt processing and that the facilities are operating as planned. He pointed out that Jim Rispoli, Assistant Secretary of Energy for Environmental Management at DOE, visited the site this summer to commemorate this significant milestone.

Mr. Allison also highlighted a successful environmental cleanup action on a portion of the site. He explained that remediation work was declared closed at a portion of the site in November 2007, eight months ahead of schedule and under budget. This successful project illustrated that DOE and WSRC could work with the regulators to clean up SRS in a cost-effective manner.

Mr. Allison also pointed out that the chemical separations facility continues to operate preparing uranium and plutonium for disposition. This effort has helped the National Nuclear Security Administration eliminate 100 metric tons of U.S. highly-enriched uranium and turn it into low-enriched uranium for use in commercial nuclear reactors. He also explained the efforts underway to ensure the surplus plutonium at the site has an identified, clear disposition path out of South Carolina. At least 7.8 metric tons of plutonium will be processed through the MOX Facility.

He also pointed out that SRS will begin to use a biomass steam plant in A area in September 2008. By 2011 all steam production and heating at the site will be produced from renewable energy sources. The biomass boiler is supplied with wood chips from commercial vendors. He explained the benefits of this facility will be lower emissions, less energy consumption lower energy costs, and compliance with clean air and water standards. An energy savings performance contract arrangement was used to finance this project. Mr. Allison also explained that a larger biomass cogeneration facility will be constructed between October 2008 and May 2011.

Mr. Allison then introduced Mr. Chuck Munns, President of Savannah River Nuclear Solutions (SRNS), and asked him to make a brief presentation.

Mr. Munns then provided an overview of the transition, which took place between May and the end of July. A total of 160 people were brought in, subject-matter experts, to learn about the site. He explained that the success of the transition was due to the fact that it was a team effort and that SRNS, DOE and WSRC all worked well together. They were able to retain experienced workers at the site who wanted to stay. During the first two months, the major focus was on the most efficient use of the budget. He pointed out that two significant issues are the laboratory and the people resources.

He explained that the laboratory is now run by Dr. Samit Bhattachrayya, who is leading it well. He pointed out that the laboratory will play a significant role in the nuclear and hydrogen renaissance in South Carolina.

Mr. Munns also pointed out that the workforce at the site is an important issue. While the workers at the site are very experienced, the average worker is over the age of 50. As a result, he explained that the long-term workforce needs must be addressed now and have become a significant focus.

Mr. Steve Piccolo, President and CEO Washington Savannah River Company, explained that he has been associated with the site for 17 years, much of it in the field of waste disposition, and is pleased to be back at the site. He explained that WSRC, SRNS and DOE are also working together toward closely aligned objectives. He also spoke highly of the workforce at the site.

Dr. Van Brunt inquired about the anticipated budget for fiscal year 2009. Mr. Allison replied that they anticipated starting the next fiscal year, which begins October 1, in a continuing resolution. Dr. Van Brunt further expressed concern about delays due to funding that would mean delays in tank waste disposal. Mr. Allison assured the Council that DOE was planning and making necessary arrangements to address critical areas such as tank waste.

### **Status of MOX and WSB Projects**

Mr. Ken Chacey, NNSA-SRS, then provided an overview of three topics that would be covered in this presentation: (1) *MOX Fuel Fabrication Facility*, (2) *MOX Lead Test Assemblies* and (3) *Waste Solidification Building*.

#### *(1) MOX Fuel Fabrication Facility*

Mr. Chacey introduced Mr. Clay Ramsey, who provided a brief update since the last meeting. In his slide presentation, Mr. Ramsey provided a project performance summary, covering updates on safety, schedule, and funding. He pointed out that project safety is excellent and that construction continues on schedule. He explained that due to a reduction in project funding (by \$217 million in FY 2008), there was a slight delay in the schedule. He also pointed out that the Nuclear Regulatory Commission (NRC) continues its review of the MFFF license application, with no significant issues noted.

Mr. Ramsey also provided a status report regarding construction projects, including a map of buildings completed, underway and those in the planning stage. He also showed various construction photos. Mr. Ramsey also explained that the Nuclear Regulatory Commission (NRC) provides oversight of this project. He pointed out that there is an NRC inspector located at the site. He encouraged everyone to go to the NRC website for details regarding the NRC inspection report on this project.

Mr. Bill Mottel asked Mr. Ramsey about the status of the MOX project and expressed significant concerns about slowed progress. Mr. Ramsey responded that funding has slowed down progress somewhat, but that the project is basically on schedule. Mr. Mottel expressed concerns that the need for positive control over the project and inquired about when the project would be ready to “go hot.” Mr. Ramsey estimated that the project would be operational by 2016.

Dr. Van Brunt then asked Mr. Ramsey about safety issues surrounding the use of cranes in their construction, especially in light of the crane accidents that have happened recently throughout the country. Mr. Ramsey responded by explaining that comprehensive inspection procedures are in place at the site and emphasized that crane safety is taken very seriously.

### *(2) MOX Lead Test Assemblies*

Ms. Sue King was then introduced to provide an overview of the MOX Lead Test Assemblies. Ms. King made a slide presentation explaining that this project involved the creation of prototypes of MOX fuel for the purpose of validating the design of the assemblies. She explained that four Lead Test Assemblies (LTA) had been made from U.S. weapons plutonium in France. Ms. King then gave an overview of the process. The LTA was to be irradiated for 2 cycles (approximately 18 months per cycle). Visual inspections and measurements were performed after each cycle.

Ms. King reported on the current status of this process. The second cycle of irradiation was completed with good fuel performance. Fuel assembly growth was higher than expected. She explained that assembly growth was measured to ensure future irradiation has sufficient margin. Ms. King reported that fuel rod growth was as expected and that they were proceeding with hot cell destructive analysis, as planned. Ms. King concluded that while fuel assembly growth was higher than expected, no safety limits were challenged.

### *(3) Waste Solidification Building*

Mr. Tom Cantey then provided a slide presentation with an overview of the progress of the Waste Solidification Building. He explained that at the June meeting, they had just completed the design phase of the project. Mr. Cantey explained that this building is intended to receive two waste streams coming from the MOX facility. He pointed out that their schedule is tied closely to the MOX schedule and provided an update on various schedule-related issues. He explained that construction is scheduled to begin in October 2008 after final approval. Once operational, this facility will take the waste streams and convert them into cement. He provided additional details about the cementation equipment and process. Mr. Cantey then provided an overview of the various construction phases that are scheduled to take place over a total 42-month period.

### **Status of Salt Waste Processing Facility Project**

Mr. Tony Polk, Deputy Federal Project Director with DOE-SR, provided a slide presentation with an overall project status report. He explained that design review, limited construction and early procurement work are all currently underway. He pointed out that Critical Decision 3 External Independent Review would begin on September 15, 2008.

Mr. Polk then gave an overview of recent project reviews, including Earned Value Management System Certification, External Independent Review, Construction Readiness Review, Defense Nuclear Facilities Safety Board Oversight. He also provided a construction update, highlighting the significant accomplishments, and a map of the facility's layout, including a schematic of the tank waste system. Mr. Polk also showed numerous schematics and explained the process of taking salt waste from the tanks to remove cesium and some actinide. Mr. Polk also showed

numerous additional construction photos and pointed out that a rigorous crane inspection program is in place to ensure crane safety.

Senator Greg Ryberg asked about the original completion date for this project. Mr. Polk responded by explaining that the original completion date was 2009, but that date was changed to November 2013 due to various issues, including seismic safety concerns. Mr. Polk pointed out that the project is now anticipated to be completed before the 2013 deadline.

Senator Ryberg then followed up by asking how long it would take to empty the tanks. Mr. Polk explained that the tanks would be emptied in the 2028-2030 timeframe.

### **Liquid Waste Processing Update**

Mr. Dave Olson, Executive Vice President with the Washington Savannah River Company, gave a slide presentation providing an overview of the status of this program. Mr. Olson began by restating the mission of the liquid waste disposition process: to safely treat and disposition 36 million gallons of radioactive liquid waste and close 49 underground storage tanks in which the waste now resides by 2028. He explained the challenges in fulfilling that mission and outlined the regulatory framework that guides this effort. Mr. Olson also showed a schematic of the liquid waste processing procedure.

He also pointed out that 1.3 million gallons of DDA material have been successfully solidified and 134,000 curies of DDA material have been immobilized at Saltstone. He also outlined the tank closure plan and provided significant details on the various technologies employed. Mr. Olson concluded his presentation by pointing out that this project is leading the DOE complex in safety and that the Defense Waste Processing Facility continues high impact risk reduction. He also explained that they have initiated the first salt processing in the DOE complex and that tank closure is proceeding ahead of the Federal Facility Agreement commitments.

Dr. Van Brunt inquired about the status of evaporation operations. Mr. Olson replied that three evaporators are currently in place.

### **Savannah River National Laboratory Update**

Dr. Samit Bhattacharyya, Director of the Savannah River National Lab, made a slide presentation on the developments at lab. He explained that he has been directing the lab for one month.

He explained that the lab is one of 12 national laboratories and that it is newer and has a lower budget than others around the country. Dr. Bhattacharyya gave an overview of the SRNL staff: 932 total staff from wide range of disciplines. He also provided a funding breakdown.

He explained that the mission of the lab is to:

- Align and enhance core competencies built up over past 50 years
- Address technical problems of national and international significance
- Provide technical support to site activities and contribute to economic growth
- Assist U.S. industry in global competitiveness and stimulate economy of local regions

Dr. Bhattacharyya also outlined the spectrum of technical capabilities being developed and provided by the SRNL. He then went on to provide an overview of the global energy problems and the role that SRNL can play in the nation's energy security. He also provided an overview of the features of nuclear power, including a description of the evolution of nuclear systems since the 1950s. He also discussed spent fuel management and provided an overview of fuel cycle strategies. Dr. Bhattacharyya summarized his presentation by outlining both the vision and opportunities of SRNL as well as the future needs of the lab.

Senator Ryberg then expressed his concern over the state's long-term need for power. He sees nuclear power as a renewable energy. He asked if we have sufficient raw material to fuel the needed number of future nuclear power reactors. Mr. Bhattacharyya responded by explaining that he sees a long-term need to recycle spent fuel. He says the technology exists, but it is not yet economical. He pointed out that uranium supplies will be a limiting factor in the development of nuclear power. Mr. Bhattacharyya further explained that recycling is necessary, but it needs to be both economical and proliferation-resistant.

Senator Ryberg added that he sees a major responsibility of the Nuclear Advisory Council (NAC) is to stay and become involved in this issue. He suggested that the NAC weigh in on this issue, as it is critical for the state's economic future. He also expressed his disagreement with a recent newspaper editorial that was against reprocessing of spent nuclear fuel.

Chairman Rusche agreed with Senator Ryberg that a major role of the NAC was to address the issue of the future of nuclear power.

### **Public Comments**

Chairman Rusche then opened up the discussion for public comments. Mr. Tom Clements, a representative of Friends of the Earth, asked for the opportunity to address the NAC briefly.

Mr. Clements expressed appreciation for the information presented on the various projects. He also expressed concern over the transport of plutonium through France and questioned the safety of doing so. Mr. Clements also addressed the issue of reprocessing spent fuel. He pointed out that almost all of the countries that had been involved in reprocessing have stopped doing so. Mr. Clements asked how wise it is to reprocess nuclear fuel from both an economic and environmental perspective. He pointed out that the Governor's Climate, Energy and Commerce Advisory Committee has called for a study of this issue. Mr. Clements also explained that reprocessing is not the same as recycling; he contends that calling reprocessing spent fuel recycling misrepresents the issue. He also expressed concern that South Carolina will remain a dumping ground for nuclear waste.

Chairman Rusche responded by asking Mr. Clements to call him to discuss this issue and perhaps put it on the agenda at the next NAC meeting. He called for the need to have a rational discussion about all the facts surrounding the reprocessing issue.

**Closing Remarks**

Chairman Rusche asked if there were any further comments or questions. There were no further comments. After thanking all of the speakers, attendees and fellow NAC members, Chairman Rusche adjourned the meeting.

Copies of meeting materials and presentations are available upon request. Send requests to Catherine Vanden Houten at [cvandenhouten@energy.sc.gov](mailto:cvandenhouten@energy.sc.gov).