

**Savannah River Site (SRS) Citizens Advisory Board  
The Strategic & Legacy Management Committee and  
the Nuclear Materials Committee Joint Meeting  
Aiken Federal Building, Aiken, SC  
June 12, 2007**

The Savannah River Site (SRS) Citizens Advisory Board (CAB) Strategic and Legacy Management (S&LM) and the Nuclear Materials (NM) Committees held a joint meeting on Tuesday, June 12, 2007, 5 –7 p.m., at the Aiken Federal Building, Aiken, SC. The purpose of the meeting was to discuss 1) Energy Efficiency Projects Update; 2) Spent Nuclear Fuel Project Update; and 3) an opportunity for public comment.

Attendance was as follows:

**CAB Members**

Wade Waters, Vice Chair, S&LM\*\*  
Manuel Bettencourt, Chair, NM\*  
Joe Ortaldo\*  
Leon Chavous\*  
Donna Antonucci  
Robert Meisenheimer\*  
Judy Greene-McLeod\*  
Stan Howard\*  
Mary Drye  
Alex Williams  
Karen Patterson\*

**Stakeholders**

Russ Messick

**Regulators**

Beth Schlachter, SCDHEC

**DOE/Contractors**

Sheron Smith, DOE  
Bill Spader, DOE  
Laura Farkas, DOE-Intern  
Larry Snyder, DOE  
Pat McGuire, DOE  
Scotty DeClue, DOE  
Dawn Gillas, DOE  
Jay Ray, DOE  
Sylvia Greene-Ellis, DOE  
Bill Swift, WSRC  
Ray Hannah, DOE  
Diana Hannah, DOE  
Jim Giusti, DOE

*\*FD&SR Committee members*

*\*\* S&LM Committee members*

*\*\* CAB technical advisor*

**Welcome and Introduction:**

Wade Waters, Vice Chair, S&LM, opened the meeting and welcomed all those in attendance. Mr. Waters asked all attendees to introduce themselves, adhere to the agenda and objectives, and then he referred to the meeting ground rules requesting that everyone abide by them.

Manuel Bettencourt, Chair, Nuclear Materials Committee, welcomed everyone as well, and provided a committee update to include transferring ownership of Recommendation #247, adopted on May 22, 2007, to the Waste Management Committee. Joe Ortaldo, Chair, Waste Management Committee, agreed and accepted the transfer of ownership. Mr. Bettencourt asked Donna Antonucci, CAB Vice Chair, to provide information on the upcoming Environmental Protection Agency award.

Donna Antonucci plans to attend the EPA Recognition Celebration on June 21, 2007, in Jacksonville, FLA., to accept the EPA Community Service Award for the SRS Citizens' Advisory in recognition of their exemplary community involvement.

Mr. Waters, Vice Chair, S&LM, provided a committee update to include as a very good example of everyone working together well, by the expeditiously manner of completing and closing Recommendation #244 within two months.

Mr. Waters continued the meeting by introducing Larry Snyder, Director, Infrastructure Support Division, DOE-SR, to present the Energy Efficiency Projects Update.

## **Energy Efficiency Projects Update:**

Larry Snyder, DOE-SR, provided an overview of energy efficiency initiatives at Savannah River Site (SRS). He began by stating that the largest of these initiatives is the replacement of three aging fossil fueled steam plants with new, state-of-the-art biomass facilities utilizing waste products from within SRS. These projects include innovative alternative third party financing. This presentation covers ongoing energy efficiency initiatives at Savannah River Site, including the replacement of the A-, D-, and K-Area Powerhouses. The existing A-Area Powerhouse was built in 1953 and currently provides steam to the Savannah River National Laboratory, Savannah River Ecology Laboratory, a few administrative support buildings remaining in A-Area, and the Dynamic Underground Stripping (DUS) Project. It contains two 60 Kpph (thousand pounds per hour) coal fired boilers and costs approximately \$4.7 million annually to operate. The existing D-Area Powerhouse was built in 1953 and currently provides steam to nuclear and industrial activities in F-, H-, and S-Areas. It is a co-generation facility and makes approximately one half (20 MW) of the Site electrical demand. It contains four 330 Kpph coal fired boilers and steam production costs approximately \$13.0 million annually. The existing K-Area Powerhouse was built in 1992 and currently provides steam to K- and L-Areas for heating during the four month winter season only. It contains one each 30 Kpph and 60 Kpph oil fired boiler and costs approximately \$1.3 million annually to operate.

### **Status/Drivers/Assumptions**

- A- and D- Area Powerhouses are over 50 years old and are well past their economic lives.
- K-Area Powerhouse is not cost effective in its current seasonal use mode and with the volatility of the price of fuel oil.
- Regulatory drivers, age, and condition will require significant upgrades for continued operation.
- Steam demand will remain for current and future missions, but will be reduced over time.

### **Background**

- March 2000 - Formal studies conducted; line item projects for replacements recommended.
- May 2001 - Initial line item project proposals cancelled due to low priority.
- 2001-2005 – Department of Energy, Savannah River Operations Office (DOE-SR) and Washington Savannah River Company (WSRC) continued to plan for replacement projects. Third party financing determined to be only viable option.
- April 2006 – decision made to pursue Energy Savings Performance Contract (ESPC) as primary third party financing option.

**Current Plan:** Pursue Energy Savings Performance Contracts for replacement of existing powerhouse facilities in A-, D-, and K-Areas.

### **What is an Energy Savings Performance Contract (ESPC)?**

- Contract with third party to construct energy efficiency improvements and operate/maintain facilities.
- Guaranteed energy and operations savings are used to fund “mortgage” payback to contractor for up to 25 years.
- Detailed baselines must be established to verify savings/payments each year.
- Requires Congressional notification for tasks with cancellation costs of more than \$10.0 million.

### **Current Plan A-Area Powerhouse:**

Negotiate new task order under existing WSRC contract with Honeywell-Sempra Energy Services:

- Approximately \$14.0 million project.
- Use alternative fuels (wood chips).
- Complete by July 2008.
- Finance period approximately 9 years.
- Potential savings approximately \$1.5 million annually.
- Site M&O contractor will operate.

Status – Contract awarded to Honeywell-Sempra on November 22, 2006. Project is currently at 95% design stage. Groundbreaking ceremony scheduled in June 2007 with construction start in July 2007.

**Current Plan D-Area Powerhouse:**

Negotiate a new task order under a regional “super” ESPC.

- Construct new powerhouse close to F/H –Areas.
- Use alternative fuels.
- Coordinate with U.S. Forest Service and Three Rivers Landfill Authority as possible sources of fuel.
- Complete by late 2009.
- Estimated project cost of \$30 to \$50 million.

**Status** – ESPC vendor (Ameresco) selected through competitive interview process in December 2006. Vendor is currently performing surveys for preparation of proposals. Initial proposal due June 14, 2007.

**Current Plan K-Area Powerhouse:**

Combine with D-Area replacement task order under “super” ESPC.

- Use electric boilers in K- and L-Areas due to small seasonal demand.
- Complete by late 2009.

**Status** – ESPC vendor (Ameresco) selected through competitive interview process in December 2006. Vendor is currently performing surveys for preparation of proposals. Initial proposal due June 14, 2007.

**Other Renewable Energy/ESPC Initiatives:**

- 75% of light duty fleet (514 of 680) has been converted to alternative fuel (E85 ethanol).
- Two ethanol fueling stations constructed at SRS in 1999.
- All AFVs are required to use ethanol when fueling onsite.
- GSA has allocated one of its first hybrid vehicles to SRS (delivery scheduled for late FY 2007).
- SRS established one of the first ESPCs in the DOE complex in 1997. FY 2006 annual savings from prior year work exceeded \$829,000.00.

During the discussions, several questions were asked on what are the impacts of using the timber wastes would have on future growth due to the removal of some of the nutrients that would otherwise be left behind and if this issue has been evaluated. Mr. Snyder stated that the studies in the south and at SRS show that nitrogen has been the most important nutrient limiting growth. SRS has not seen responses to other nutrients, including phosphorous, and soil level of phosphorous are moderate at SRS. Therefore, all of the estimates of nutrient depletion from harvesting fuel are based on how much additional nitrogen would be removed. SRS anticipates that roughly 40 green tons per acre will be harvested and used for fuel during the life span of an average SRS forest stand. Of that amount roughly half, or 20 tons, will be low value pulp that will be more economic to convert to fuel chips than to haul to the coast for pulp, and about 20 tons from other woody material that is currently not harvested (tree tops, small trees, and broken or damaged logs). While these losses appear significant, the Environmental Protection Agency reports that the amount of nitrogen deposited on forest areas in the southeast from the atmosphere has been increasing over the last 50 years and is currently greater than 150% of the total nitrogen removed in harvesting a forest stand. The impact on nutrients for future forest growth as a result of the SRS powerhouse fuel plan is expected to be negligible. Mr. Snyder closed his discussions by stating that the CAB members who plan to attend the A Area Groundbreaking ceremony on June 13<sup>th</sup> will be able to view the actual site of the planned facility.

**Spent Nuclear Fuel Project Update:**

Mr. Manuel Bettencourt introduced Scotty DeClue, DOE-SR, who presented the Spent Nuclear Fuel (SNF) Project Update.

Mr. DeClue, DOE-SR, began the presentation by stating the purpose of the presentation is to provide a status update of the SNF Project Operations at SRS to include the SNF program mission; SNF Receipt and Storage Capability; the ongoing SNF Operations: Foreign Research Reactor (FRR) and the Domestic Research Reactor (DRR) receipts; and the L-Area deinventory. Mr. DeClue stated that the SRS SNF Program Mission is to support the United States nuclear weapons nonproliferation policy by reducing civil commerce in highly enriched uranium. Mr. DeClue’s presentation included photos of the different types of Aluminum-based

casks and forms of receipt capability and storage. He stated that 30 shipments of foreign research reactor SNF from 23 countries have been completed since 1996. The domestic research reactor SNF has completed 200 shipments since 1996. He continued the briefing with information on the L-Area deinventory efforts to include onsite shipments from L-area to H-area onsite.

There were extensive discussions on the types of materials stored; where the material comes from; and the sizes and shapes of the robust containers used to store and transport the materials. Questions from the CAB members included: 1) When does the transition of a fuel shipment occur from NNSA to EM? 2) Has SRS had to design any unique handling capabilities; and 3) Are shipping permits attained from every State and are transportation routes established? Mr. DeClue stated that NNSA imports the fuel through the port of Charleston and transports to SRS. When the fuel crosses the SRS boundary, Environmental Management (EM) assumes responsibility. Frequent meetings and coordination occurs between NNSA and EM to ensure safe transport and storage of the fuel. SRS has not designed any unique handling capabilities for the fuel. SRS has adapted our procedures, processes, and facility capabilities to accommodate the containers. Shipping routes and approvals have been attained for every state needed to ship the fuel. Open discussions continued with disposition processes to be used in H Canyon; and the definition of equitable exchange between Idaho and Savannah River. SRS has robust facilities with the capability to store the fuel safely. SRS has earned trust and built confidence with the communities to be able to ship the fuel to Idaho. In summary, L-Area infrastructure can safely support the Department's SNF interim storage needs until final disposition and has storage capacity for projected FRR, DRR SNF receipts and capability for more; L-Area deinventoried planning is underway. Mr. DeClue stated that the CAB members who will participate in the onsite tour of the SNF facility on Wednesday, 06/13/07, will view these capabilities first-hand.

In closing, the NM Chair asked for a review of Recommendation #177 for closure; requested a future presentation on cost details and what is the definition of equitable exchange be provided.

Mr. Waters and Mr. Bettencourt urged all attendees to sign-in and complete the meeting feedback forms. They encouraged all CAB members to complete their vouchers and provide them to Sheron prior to leaving. They provided the upcoming meeting schedule.

**Public Comment:** Mr. Waters provided an update from Jimmy Mackey on the SREL Congressional hearings status. The hearings are scheduled on June 26<sup>th</sup> in Washington, DC.

**Meeting Adjourned:** The joint meeting was adjourned at 7:00 p.m. by Mr. Wade Waters, Vice Chair, S&LM Committee, and Mr. Bettencourt, Chair, NM Committee.