

**SRS Citizens Advisory Board
Nuclear Materials Committee Meeting
Aiken Municipal Conference Center, Aiken, SC
October 30, 2007**

The Savannah River Site (SRS) Citizens Advisory Board (CAB) Nuclear Materials (NM) Committee met on Tuesday, October 30, 2007, at 5:00 PM, at the Aiken Municipal Conference Center, in Aiken, SC.

The purpose of this meeting was to provide a presentation update on 1) the H Canyon Waste Minimization Initiatives; 2) the Pu Consolidation and Operations; followed by an opportunity for members of the public to comment on CAB related issues. Attendance was as follows:

CAB Members

- Manuel Bettencourt
- Judy Greene-McLeod
- Undrey Bostic
- Stan Howard
- Joe Ortaldo
- Frank Boulineau
Mary Drye
Alex Williams
Leon Chavous
K. Jayaraman
Wendell Lyon

Stakeholders

* Rick McLeod

Lee Poe, Public
Jessie Houghton, Parsons
Dr. Rose Hayes, Public
Russ Messick, Public
Rick Ford, Public
Mark Sautman, DNFSB
Ted Millings, SCDHEC
Charlie Anderson, Public

DOE/Contractors

Robert Edwards, DOE
Allen Gunter, DOE
Sheron Smith, DOE
Stuart MacVean, WSRC
Jeff Allender, WSRC
Ron Oprea, WSRC
William Bates, WSRC
John Burley, WGI

- *NM committee members* * *CAB technical advisor*

Welcome and Introduction:

Manuel Bettencourt, Chair, welcomed those in attendance and asked them to introduce themselves. Mr. Bettencourt referred to the meeting ground rules requesting that everyone abide by them.

The meeting continued with Mr. Bettencourt reviewing the NM Committee 2007 Workplan topics and the committee's open recommendation status. He provided a status to include when, who, and how each topic has been worked by the NM Committee members this year. As the Committee Chair, he feels all of the NM 2007 Work Plan topics have been discussed. There are four NM open recommendations that he assigned ownership and requested that they be worked closely.

H Canyon Waste Minimization Initiatives *(presented by Allen Gunter, DOE-SR):*

Allen Gunter, DOE-SR, provided a presentation on the Savannah River Site (SRS) H-Canyon Waste Reduction Initiatives to explain the development of an integrated waste management and disposition strategy. The strategy reinforces the integration of H-Area operations and the liquid waste operations. He stated that the anticipated waste volume for H-Area operations is a small portion of waste being handled by the liquid waste operations. The primary focus for SRS during 2008 – 2013 is the Salt Waste Processing Facility (SWPF) startup. The SWPF will make available liquid waste tank space to reduce the risk of impacting H-Area operations. The objectives of the H-Canyon Waste Reduction Initiatives are to support continued stabilization of legacy nuclear materials; reduce the volume of liquid radioactive waste; and integrate H-Area operations and liquid waste operations. The content of the presentation is located at the end of the Summary Notes.

**SRS Citizens Advisory Board
Nuclear Materials Committee Meeting
Aiken Municipal Conference Center, Aiken, SC
October 30, 2007**

Open discussions of the chemical content and source of the high activity waste and the impacts on the disposal facilities were of significant interest to the attendees. Clarification of a flow sheet and the types of chemicals and methods, such as segregation and batching of waste, to disposition the liquid waste was provided by Mr. Gunter. The attendees indicated that tank space is critical and that these initiatives should have been researched earlier.

Mr. Gunter stated that all missions and waste streams that we know of have been identified for H Canyon. Discussions continued on relative risks, safety, and the overall benefits of these initiatives. Mr. Bettencourt asked that details of the acid into the sludge batches effects and any plans by SRS for shipping low activity waste offsite be provided.

H-Canyon Waste Initiatives Presentation:

Waste Reduction Initiatives:

- Improve acid stripping of Low and High Activity Wastes (Complete).
 - Reduces the acidity of the waste requiring neutralization prior to transfer to Tank Farm – reduces the amount of salts generated.
- Ammonia Destruction (December 2007)
 - Currently waste must be diluted after neutralization to ensure the flammability limit in the pump tanks not exceeded.
 - SRNL developed a flow sheet to destroy the ammonia during evaporation.
- Segregation of Low Activity Streams (December 2007)
 - Piping changes in the Canyon to separate streams into dedicated evaporators and feed tanks.
 - Low Activity sent to tank 50 for Saltstone feed or offsite.
 - High Activity sent to tank 39 and eventually SWPF and DWPF.
- Storage of Plutonium Solutions Awaiting Disposition (4th quarter of 2008, 4Q08).
 - All plutonium solutions resulting from dissolving plutonium materials will be dispositioned via liquid waste system
 - Canyon will install tank or tanks to store the plutonium solution until it can be directly transferred to the DWPF Sludge Batch
- Reduce Sump Flushes (4th Q 2008)
 - Sumps must be flushed periodically to prevent undetected build up of fissile material in canyon cells.
 - Project to make modifications that will allow criticality safety limits for each sump to be increased and reduce frequency.
- Recycle Uranium from Sump Flushes (4th Q 2008)
 - Uranium from canyon piping leaks have been collected and transferred to high activity waste.
 - Recover the uranium and eliminating this waste stream to maximum extent possible.
- Offsite Shipment for Disposition of Low Activity Waste (2nd Q 2008)
 - H-Area currently transfers low activity waste to Tank Farms for disposal in Saltstone.
 - H-Area is exploring the feasibility of transferring low activity waste to an offsite vendor for disposal.
 - Waste from General Purpose Evaporator (30,000 gal/year) is within several vendor permits.
 - Complete NEPA and legal reviews and revise documents as necessary.

**SRS Citizens Advisory Board
Nuclear Materials Committee Meeting
Aiken Municipal Conference Center, Aiken, SC
October 30, 2007**

Waste Reduction Initiatives: (*continued*)

- Evaluate Direct Transfer Line from H Area to DWPF Feed System (4th Q 2008).
 - This initiative supports eliminating future transfers to and through the Tank Farm.
 - Establish a robust bypass line around the Tank Farm directly to DWPF feed system.
 - Waste could be maintained acid.

Conclusion:

- H-Area is operating and plans are to operate thru 2019.
- Anticipated waste volumes from H-Area operations are a small portion of waste handled via LWO.
- H-Area operations and Liquid Waste Operations are integrated.
- H-Area is implementing initiatives to reduce waste generation.
- H-Area is evaluating alternatives that could further reduce or eliminate waste transferred to the Tank Farms.

Pu Consolidation and Operations (*presented by Allen Gunter, DOE-SR*):

Allen Gunter, DOE-SR, provided a presentation on the Plutonium (Pu) Consolidation efforts at SRS. On September 5, 2007, the Department of Energy (DOE) approved the consolidation of surplus non-pit plutonium to SRS. The plutonium will be shipped from Hanford Site in Washington State; and the Lawrence Livermore National Laboratory in California; and the Los Alamos National Laboratory in New Mexico. The objective is to reduce the number of sites storing non-pit plutonium; provide the most secure storage; avoid large expenditures for security upgrades; locate the material storage at the disposition site; and not extend H Canyon operations and storage at K Area beyond 2019. The DOE plan for disposition of the surplus non-pit plutonium involves a three-prong approach as follows: the existing H-Canyon; the Mixed Oxide Fuel Fabrication Facility (MOX) (under construction); and the Plutonium Vitrification Process (to be constructed). Mr. Gunter stated that the disposition progress is that H-Canyon is currently dispositioning plutonium materials that existed at SRS or previously received from the Rocky Flats Site in the 2002/2003 timeframe; MOX began construction on 08/01/07; and the Pu Vit Project is in the conceptual design phase. Mr. Gunter continued by stating that the Department is preparing a Supplemental Environmental Impact State for Surplus Plutonium Disposition at SRS to evaluate the potential impacts of alternative methods of disposition.

Open discussions included whether or not SRS is going to receive equitable, financial compensation for receiving, storing the Plutonium. At this time, the consolidation is a security issue and no compensation is planned.

Significant concerns were expressed of the material staying, long-term at SRS and maybe not leaving the State, especially if Yucca Mountain repository does not open as planned in 2017. The CAB has voiced its support for the rapid disposition of stored plutonium across the DOE-complex and believes that SRS has unique assets and operational experiences relative to plutonium handling and vitrification. The attendees unanimously voiced that their basic concern/issue is not what the ultimate disposal option is, but that there is a documented disposal option with a definite timeline to leave the State of South Carolina.

Through continued discussions, the Nuclear Materials Committee members decided to propose a *draft motion* at the full Board meeting in November to ask the Department to expedite the development of a complete, well-considered plan for the disposition of all excess plutonium to preclude unnecessary extended storage at SRS.

**SRS Citizens Advisory Board
Nuclear Materials Committee Meeting
Aiken Municipal Conference Center, Aiken, SC
October 30, 2007**

The *draft motion* would recommend that a monetary consequence would be imposed if the vitrified plutonium waste is stored at SRS past the year 2020 and that DOE must work with the South Carolina Department of Health and Environmental Control and local stakeholders to develop viable equity scenarios for the extended storage of dispositioned plutonium waste at SRS. Mr. Bettencourt requested all additional comments on the Plutonium being left in South Carolina to be sent via email to himself or Sheron Smith.

Public Comment:

None.

Adjourn:

Manuel Bettencourt, Chair, adjourned the meeting at 6:30 p.m.