

SPRING 2005



SAVANNAH RIVER SITE CITIZENS ADVISORY BOARD

Board Beat

DOE UNVEILS END STATE VISION

Approximately a dozen local stakeholders and several regulators came out on March 24 to the North Augusta Community Center to hear Department of Energy (DOE) representatives discuss Savannah River Site (SRS) end states. The recently released draft *End State Vision* (ESV) projects that the vast majority of SRS's legacy liquid radiological and chemical hazards will be removed from the site. This includes remediation of the site's 515 inactive waste units and disposition of more than 1000 surplus facilities.

An end state is the status of a facility or waste site after decommissioning and/or cleanup activities are complete. These end states represent the final conditions or standards to which whole areas, and the hazards located therein, will be remediated. The end states are dependent on the intended future use of land and water resources and any associated long-term stewardship needs.

The ESV depicts the various hazards at SRS in the following five major categories:

Nuclear Materials (plutonium, uranium, spent nuclear fuel, tritium and other miscellaneous nuclear material sources)

Radiological Waste (liquid radioactive, transuranic, low-level, low-level mixed)

Non-Radiological (hazardous and sanitary)

EM Legacy Facilities (nuclear, radiological, other industrial facilities, liquid waste tanks)

Inactive Waste Units (soil, groundwater and surface waters)

A few members of the general public expressed concerns that DOE had "thrown out risk-based in favor of legal drivers" and commented that a risk-basis should be applied where possible. Brian Hennessey of DOE acknowledged that this is not the point in time for decision points for all end states, and although all must be protective and sustainable, they do not need to be overdone since things are going to change over time.

The public was also concerned about consequences to South Carolina if a federal repository does not open and commented that DOE needs to address and quantify these consequences in the ESV. Other members were concerned about consequences if DOE does not maintain control of the SRS property and stated that DOE ownership should be instituted by law.

Seven DOE representatives provided programmatic presentations on end states at SRS. Bert Crapse, DOE, presented a timeline for shipping all SRS transuranic waste practicable to the Waste Isolation Pilot Plant for final disposal by 2010. The 2010 final date is based on an assumed number of TRUPACT IIIs being available to ship all of the non-drummed and high

continued on page 5

Inside this issue:

Recent Recommendations	2
SRS Issues 2005 CAB Workplan	4
Touring All Things "TRU" at SRS	4
Making History at FB Line	6
SRS CAB Welcomes New Members	7

The mission of the SRS CAB is to provide informed and timely recommendations to DOE, EPA and SCDHEC concerning decisions that affect SRS in areas of environmental restoration, waste management and related activities.

RECENT RECOMMENDATIONS HIGHLIGHTED

Yucca Mountain Waste Acceptance Criteria

The SRS CAB has been a proponent of Yucca Mountain and is very interested in seeing it open on schedule in 2010. In order to facilitate the effective, timely, and responsive shipment of waste from SRS to Yucca Mountain, the SRS CAB recommends that DOE-HQ work diligently with Nuclear Regulatory Commission (NRC) and EPA to meet the 2010 opening date for Yucca Mountain and take all appropriate steps to accelerate the schedule where ever possible. The Board also recommends that DOE-HQ assure the SRS CAB by July 1, 2005, that the required shipping casks will be designed and tested by the Office of Civilian Radioactive Waste Management, and then licensed by NRC to support the projected start shipping date in FY10. By January 31, 2005, the SRS CAB requests that the SRS shipping facility be identified as a priority and sufficient funds made available to begin design in FY07 with construction to be completed by FY10. The Board also requested that the interface between the SRS shipping facility and the Yucca Mountain receiving facility be sized appropriately to meet the integrated shipping/receiving schedule for the Accelerated Clean-up Plan and requested annual updates.

TRU Waste Program Challenges

Concerned about the availability of shipping containers for transuranic (TRU) waste, the SRS CAB recommends that DOE maintain the flow of TRUPACT II shipping containers to SRS to ensure an average of 20 shipments per month. The Board also recommended that DOE build new TRUPACT-II shipping containers and designate at least one new container to SRS in order to meet the 2008 target date for removal of all legacy TRU waste at SRS. The Board asked DOE to work with NRC for an early approval date for TRUPACT-II (SARP – Revision 21) to ensure all SRS high activity drummed TRU waste is removed by 2008 and requested a presentation on the status by January 25, 2005. The Board also requested an update on the licensing effort, including the schedule and the procurement status for the TRUPACT-III shipping containers and an update on the nondestructive assay equipment deployment.

Building 235-F Decontamination

The Board asked DOE to present the options for removing plutonium-238 holdup in the Building 235-F process cells. The CAB requested information regarding alternatives that may include fixing the plutonium contamination in place and asked DOE to document how the proposed actions will impact reaching the planned end state for Building 235-F. The Board requested this information by November 16, 2004.

3116 Implementation – High Level Waste Tanks

Section 3116 of the National Defense Authorization Act provides the Secretary of Energy, in consultation with the Nuclear Regulatory Commission, the authority to determine that certain waste does not require disposal in a geologic repository as high level waste. Section 3116 gives the DOE the authority to reclassify high-level waste in the SRS tanks as not requiring geologic repository disposal by providing an exception to the Nuclear Waste Policy Act and allowing waste to remain in the tanks encased in a cement/grout mixture.

The next two tanks scheduled to be closed at SRS are Tank 19 by October 31, 2006 and Tank 18 by February 28, 2007. These closures along with the 1F Evaporator will conclude the first “4-pack” closure of tanks at SRS. The SRS CAB believes that with some thought, planning, work, and especially coordination among the regulators during the closure process, some type of standardization would contribute to more effectively meeting the overall tank closure timeline.

Therefore, the SRS CAB recommends that DOE-SR work with SCDHEC to provide a formal timeline and a more descriptive narrative of the roles and responsibilities of all of the agencies involved in the Section 3116 implementation. The Board recommends that DOE-SR work with SCDHEC to involve stakeholders in the Section 3116 implementation process as early and as often as possible for any documentation transmitted between agencies (DOE, NRC, NAS, SCDHEC, etc.) and not wait until formal public comment periods. The Board asked DOE-SR to provide briefings on the technical aspects of closing the 1F evaporator as well as the performance assessment for the HLW tank closures, including any recalculations and justifications associated with the “4 pack” concept. The Board requested all of the above items by March 29, 2005.

The Board further recommended that DOE-SR work toward a standardized process for future individual HLW tanks closures and that DOE-SR investigate and implement a uniform concept for taking the initial “4 pack” and future “multi-packs” out of tank farm area closure directly into individual “multi-pack” closure.

3116 Implementation – Salt Waste Processing

The SRS CAB is anxiously waiting to see a formal timeline from DOE-EM to accomplish Section 3116 associated activities with the salt waste treatment and disposition program and a descriptive narrative of the roles and responsibilities of all of the agencies involved in the process.

continued on next page

RECENT RECOMMENDATIONS

continued from Page 2

Just as with 3116 implementation regarding high level waste, the SRS CAB repeated recommendations regarding public involvement and asked that DOE-HQ assure adequate funding is available, without impacting other SRS programs, to implement the Modified Salt Waste Processing Facility per the following timeline:

- February 2005 – Draft Salt Waste Processing Waste Determination Document
- February 2005 – Signed MOU between DOE and NRC
- March 2005 – Distribute Salt Waste Processing Document for Public Review/Comment
- August 2005 – Receive NRC comments on Waste Determination Document
- September 2005 – DOE Revise Waste Determination Document per NRC Comments
- September 2005 – SCDHEC Issues Permit Decision for Saltstone Disposal Facility
- October 2005 – Signed Agreement & Permits and LCS Process Begins

This timeline is very aggressive and the SRS CAB is skeptical that it can be met and would like to see DOE's backup plan and the impacts associated with a schedule slippage. The SRS CAB is also concerned that all phases of the process could be delayed or slowed down by DOE-HQ legal and other reviews delaying public review and comment. Any slow down could jeopardize the Salt Waste Processing start-up date of October 2005.

The Board further recommended that DOE-SR accelerate the design and construction of the proposed Salt Waste Processing Facility to replace the Actinide Removal Process and Modular Caustic Side Solvent Extraction treatment processes and brief the SRS CAB by April, 2005. The Board asked that SCDHEC conduct its review on the Saltstone Disposal Facility in parallel with the DOE and NRC schedule for the concurrence of the waste determination document.

The SRS CAB also asked that by March 29, 2005, DOE SR provide the anticipated scope of work for an National Academy of Sciences (NAS) study per Section 3146 related to the salt waste processing program. The study requires the Secretary of Energy to enter into an agreement with the National Research Council of the NAS to "carry out a study of the plans for the Department of Energy to manage waste, from reprocessed spent nuclear fuel, which exceeds the concentration limits for Class C low-level waste." It is the Board's understanding that all associated waste in the salt waste processing program will not exceed Class C. Therefore, a study by NAS may not be required; however, the CAB has questions regarding the role of NAS in salt waste processing program.

The Board has not yet received a formal response from DOE on 3116 Implementation recommendations.



**SRS CAB
Says
Goodbye to
Board
Members**

William Spader, DOE, (pictured far right) presented awards to outgoing CAB members Mel Galin, Murray Riley and Bill Voge (from left to right) during the January 2005 CAB meeting.

SRS CAB ISSUES 2005 WORKPLAN

The SRS CAB recently issued its latest Annual Workplan. It covers approximately one calendar year and identifies the priority issues for the CAB. It also identifies additional issues for each of the four issues-based committees. The priorities are a result of a survey taken at the January 2005 CAB meeting in Hilton Head Island, S.C. Board members prioritized eighteen issues for 2005. High Level Waste Disposition was ranked as

the top issue for the year. It was closely followed by Disposition of EM-Owned Plutonium and Orphan Material without a disposition path that may come to SRS, the Transuranic Waste Program and Plutonium Storage and Surveillance at SRS. The workplan is reviewed and updated annually and can be viewed on the CAB website at www.srs.gov and click on Outreach Programs.

TOURING ALL THINGS “TRU” AT SRS

It was a cold and rainy day in February, but that didn't keep six hardy CAB members from touring the Transuranic (TRU) Waste Program at SRS. Of special interest to these members was the chance to walk through the newest TRU Waste operational area — the Modular Repackaging Facility (MRF).

Almost from its inception, the SRS CAB has had an active role in making substantive recommendations on the TRU Waste Program at SRS. Of particular concern has been how does SRS effectively address items in waste drums that don't meet the Waste Isolation Pilot Plant (WIPP) Waste Acceptance Criteria (WAC). The MRF was designed to address this specific problem, and the CAB members wanted to see it first hand.

In order to understand the importance of the MRF, Board members were first given an overview of the various stages the TRU Waste must go through before it can be loaded into shipping containers and shipped to WIPP. While it sounds simple, walking through each operational phase brought to light how labor-intensive this process can really be. At the time of the tour, SRS had made 450 shipments to WIPP, which represents one-third of the legacy TRU Waste at SRS and one-half of the drummed SRS TRU waste.

CAB members saw the venting and purging process area where drums undergo the process to eliminate any hydrogen buildup. They learned about the need to segregate the waste by the generating facility, type and container. If the waste is not in a WIPP approved container, they were told that it must be repackaged. The next step is looking for prohibited items through the use of x-rays. If a prohibited item, such as an aerosol can, is found in the x-ray, the drum must be opened to

remove the item. CAB members saw how once the MRF is operational, it will be the key to this process.

Waste Management Committee Chair, Bob

Meisenheimer said, “We are interested in any reasonable change that can help SRS accelerate their TRU Waste shipments. This whole process is impressive. Its emphasis on safety is particularly noteworthy, especially in light of recent events. Also important is the thoroughness of the inspection within the MRF. It's very apparent that this process is now more efficient yet certainly responsive to institutional guidelines.” The MRF was



Board Members tour the TRU facilities at SRS.

developed by the Los Alamos National Laboratory, assembled at Carlsbad by Washington TRU Solutions, disassembled, and then sent to SRS. It is a specially designed glovebox that allows workers to handle prohibited items in a safer, more efficient manner than the old method allowed. Through a mechanical lift, the drums can be safely put into the glovebox, opened, prohibited items removed, and closed. The prohibited items are then placed in a proper container for further disposition.

Once the drum is free of any prohibited items, it continues through the process for full characterization before it is loaded into a shipping container. The SRS CAB has supported an aggressive shipping schedule for TRU Waste and the low activity drummed TRU Waste is on track to be completed by September 2006.

The MRF will stay at SRS for the next several years until the remaining legacy TRU waste has been processed. Once those actions are completed, the MRF will be disassembled and shipped to another DOE site that can benefit from this process.

DOE UNVEILS END STATE VISION

continued from page 1

activity waste in a 1-1/2 year period. Mr. Crapse admitted that TRU Pad 1 does pose an issue for SRS. This pad is currently still covered and contains high activity Pu-238 wastes. The condition of the drums in these culverts is questionable and it is debatable if the exposure risk to workers is worth retrieving these drums. An alternative might be to ask for a one-time only exemption from WIPP at the end of the legacy inventory shipments.

John Reynolds, DOE, discussed end states for all current and future EM facilities, which is to be deactivated and decommissioned to one of two end states, either in-situ disposal or demolition to a slab by 2025. In-situ disposal is targeted for substantial/hardened structures such as reactors, basins, canyons and the waste tanks. The rationale is that the location is acceptable; it meets regulatory requirements for long-term risk to the public and the environment; and the risks for removal outweigh the benefit. SRS plans in-situ disposal as an end state for 156 facilities with 857 facilities being demolished to slab.

DOE's Bill Pearson discussed the highly radioactive wastes in 51 tanks at SRS. Although SRS has only 32% of the volume of these wastes in the DOE complex, they have 60% of the radioactivity. A large portion of the waste in tanks contains salt in the form of saltcake and supernate. These wastes can be treated using a separate process. SRS began vitrifying high-level waste into canisters at the Defense Waste Processing Facility in 1996 and plans to disposition all high-level waste by 2019.

Citizen's comments were recorded throughout the day and DOE committed to being responsive to comments in the next draft of the ESV expected in May.



Culvert placement on TRU Pad 1 prior to soil cover.



Pad 1 with soil cover in 2004.

END STATE VISION FINAL DISPOSITION DATES

Nuclear Materials to be dispositioned offsite by 2020

High Level Waste to be dispositioned by 2019

Transuranic Waste shipped to the Waste Isolation Pilot Plant by 2010

Low-Level Waste Dispositioned by 2025

Mixed Low-Level Waste to be dispositioned offsite by 2006

Facility Decontamination & Decommissioning by 2025

All Soil and Groundwater waste units remediated by 2025

Making History in FB-Line

There aren't too many times you get a chance to be a part of history, but 10 CAB members took advantage of the opportunity to be the first members of the public to tour FB-Line since it began operations over 50 years ago. On March 8, 2005, CAB members took a walking tour of the process areas of FB-Line as the employees celebrated achieving the full deinventory of the facility.

FB-Line is located on top of F-Canyon and was originally constructed to convert plutonium-239 nitrate solution into a solid form. Its most recent mission was to stabilize plutonium in a high-temperature furnace and package it into 3013 containers. These robust containers were then placed into 9975 shipping containers and forwarded for interim storage at the K Area Material Storage Area (KAMS).

With the last shipment of plutonium to KAMS, procedures to downgrade security requirements were implemented. Due to the highly sensitive nature of their mission, FB-Line employees required the highest security clearances and had to meet

special requirements as part of the procedures for the safe handling and protection of plutonium. CAB members learned that the vast majority of SRS employees have never been inside the FB-Line process areas.

During the tour, CAB members were told that the FB-Line team had met their objectives and completed their important mission ahead of schedule. Bob McQuinn, F Area Closure Project Manager, Westinghouse Savannah River Company, explained to the CAB members that FB-Line gave SRS the capability to produce packages that were fully compliant with DOE standards for 50-year storage.

CAB members have heard for the last few years that the completion of this operational stage was an important step leading to the final disposition of the plutonium at a federal repository. While it isn't known exactly when that will happen, the plutonium has been stabilized and safely stored pending that decision.

CAB members were treated to operational demonstrations and meeting FB-Line workers who proudly described their tasks. As Karen Patterson, Nuclear Materials Committee Vice Chair said, "Although we've heard about these processes many times, until you see it for yourself, you can't put it all together. This was a great opportunity for us."

DOE's Kevin Smith, Assistant Manager Nuclear Materials Stabilization Project, personally arranged for the CAB members to tour FB-Line and spoke of the value in sharing this historical milestone with the SRS CAB. He said, "It is always valuable to let our stakeholders see our work first hand whenever it is feasible and our security requirements allow it. The more they see, the more they understand the difficult challenges we must overcome to successfully accomplish our mission. We are proud of the work our WSRC and DOE team has done in F Area, and will continue to do as part of the Nuclear Materials Stabilization Project."



SRS CAB members are first to tour FB-Line since it began operations over 50 years ago.

**Want to learn more about
SRS?**

**The SRS CAB has a
speakers bureau.**

*For more information, please
call 1-800-249-8155*

SRS CAB WELCOMES NEW MEMBERS



Manuel Bettencourt

Manuel retired from the U.S. Air Force in 1989 and has served as a consultant to industry since retirement. Manuel served as an ordained minister and chaplain with both the U.S. Air Force and the Department of Veteran Affairs. Manuel holds a B.S. in International Relations, an MBA and a M. Div. He is involved in various volunteer activities including Service to Mankind, Lions Club and Military Officers Association of America activities. He and his wife own a massage therapy business and reside in Hilton Head Island, S.C.



Tracey Carroll

Tracey is a Summary Court Judge in Aiken County. Tracey is a member of the Aiken County and South Carolina Bar Associations. She has been practicing law for 14 years and served as a prosecutor for over ten years. She has held positions with the Lexington County Children's Health and Safety Council and Children's Center. She resides in Aiken, S.C.



Arthur Domy

Art is a partner in the Nuclear Regulation and Environmental Practice Groups of Troutman Sanders, LLP. He has served as nuclear energy counsel for several nuclear plants since 1985 and frequently represents Nuclear Regulatory Commission licensees in licensing and compliance matters. Art has served on several Nuclear Energy Institute Task Forces and has worked for the New York State Department of Environmental Conservation and the South Carolina Department of Natural Resources. He holds a Masters of Science in Zoology and a law degree. He resides in Atlanta, Ga.



Ranowul Jzar

Ranowul is employed by Citizens for Environmental Justice in Savannah, Ga. , which delivers environmental education and information to African American and low-income communities. In this capacity, she has hosted community alliance meetings regarding SRS and has followed SRS issues routinely. Ms. Jzar resides in Savannah, Ga.



Jimmy Mackey

Jimmy works at the Marine Corps Air Station, Beaufort as a contracts Procurement Technician. Jimmy is a member of the Shell Point Elementary School Improvement Council, Beaufort County School District Legislature Issues Committee, Beaufort County Police Department Volunteer Services, and an active Federal Military Natural Resources game warden. Jimmy previously served a six-year term on the SRS Citizens Advisory Board. Since that time he has joined the Interstate Technology Regulatory Council and was appointed to the Beaufort County Tax Equalization Board.



Joseph Ortaldo

Joseph has 42 years of experience in the chemical and nuclear industries and spent 24 years at SRS before retiring in 2004. He is a member of the American Institute of Chemical Engineers, the National Society of Professional Engineers, and a registered Professional Engineer. Active in various church and civic groups, Mr. Ortaldo also serves as a member of several other local organizations regarding SRS activities, including the Centers for Disease Control Health Effects Subcommittee and Citizens for Nuclear Technology Awareness. He resides in Aiken, S.C.

VISIT OUR WEBSITE AT WWW.SRS.GOV AND CLICK ON OUTREACH



Savannah River Site Citizens Advisory Board

Key criteria for Board membership includes a time commitment and the desire and ability to work towards better and informed recommendations.

To apply for membership to the Citizens Advisory Board, please call 1-800-249-8155.

**Board Beat* is published semiannually by the Savannah River Site Citizens Advisory Board. Content is provided by Board members and support staff. Please send your comments and suggestions to:
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Upcoming 2005 Citizens Advisory Board Meetings

May 23-24	Hyatt Regency, Savannah, Ga.
July 25-26	Newberry Hall, Aiken, S.C.
September 26-27	Holiday Inn-Coliseum-USC, Columbia, S.C.
November 14-15	Embassy Suites, N. Charleston, S.C.

Note: Individual committee meetings will be held as required.

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