

FALL 2005



## PLUTONIUM CONSOLIDATION IN SRS FUTURE?

Members of the Savannah River Site (SRS) Citizens Advisory Board (CAB) read with interest the recent Government Accountability Office (GAO) Report to Congress, *Securing U.S. Nuclear Materials*. "It didn't tell us anything we didn't already know," said Karen Patterson, vice chair of the SRS CAB Nuclear Materials Committee. The GAO found that DOE cannot yet consolidate its excess plutonium at SRS and recommended that DOE (1) develop a comprehensive strategy to consolidate, store and eventually dispose of its plutonium and (2) ensure that its facilities cleanup plans are consistent with its plutonium consolidation plans.

Ms. Patterson explained that DOE cannot consolidate its excess plutonium at SRS for several reasons. "First, there is no current plan to process the plutonium for permanent disposition and second, SRS cannot receive all of the plutonium because it's in different forms, some of which SRS didn't plan to store." Additionally, recent changes in security requirements have elevated costs.

"The recommendations in the GAO report are nothing new," said Patterson. "The SRS CAB has been requesting this for a number of years." Over 15 recommendations dating back to 1997 have asked

DOE to develop a plan, share it with the public and provide adequate funding to execute.

The Department of Energy (DOE) possesses about 50 metric tons of plutonium that is no longer needed by the United States for nuclear weapons. Some of this plutonium is contaminated metal, oxides, solutions, and residues remaining from the nuclear weapons production process. To improve security and reduce plutonium storage costs, DOE plans to establish enough storage capacity at SRS in the event it decides to consolidate its plutonium at SRS until it can be permanently disposed of in a geologic repository at Yucca Mountain, Nevada. DOE has twice scrapped plans to build facilities at SRS that would have been capable of storing and monitoring excess plutonium as well as processing the material for eventual shipment to the repository.

DOE recently established the Nuclear Materials Disposition and Consolidation Coordination Committee, which is responsible for developing and ensuring implementation of a Strategic Plan for disposition and consolidation of special nuclear materials. The SRS CAB has inquired about the committee's charter, membership and timelines and plans to continue to monitor DOE's progress.

## Inside this issue:

Recent Recommendations Highlighted	2
NAS Weighs in on Tank Closure	4
Process Retreat 2005	5
CAB Supports Receipt of Ohio TRU Waste	6
Waste Determination Available (Tanks 18, 19)	7
Bi-annual SSAB Chairs Meet	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

---

### **Recommendation 217 - Additional Transuranic (TRU) Waste Shipments from Mound**

The CAB supports an agreement between SRS and Mound where SRS makes four shipments to Waste Isolation Pilot Plant (WIPP) for every one shipment received from Mound. SRS shipments should be of equal volumetric quantities to incoming Mound shipments. However, for any additional TRU shipments to SRS including new shipments from Mound, the CAB recommends that:

- 1) DOE assure that SRS send four shipments of TRU waste from SRS to WIPP for every one shipment of Mound waste received at SRS.
- 2) DOE notify the CAB if it is considering sending any additional TRU waste from other DOE sites to SRS, including any new shipments from Mound, and allow time for the CAB to evaluate the need for additional equity considerations.
- 3) DOE could expect such considerations before additional TRU waste from other DOE sites are received at SRS to include:

- WIPP certification equipment is fully operational;
- Assurances that SRS TRU waste shipments to WIPP are not delayed by other DOE sites;
- Acceleration of available shipping containers for non-drummed (TRUPACT III) and high-activity drum (Arrowpak) TRU waste; and
- Provide a disposition path for all SRS TRU waste, particularly waste with no defined final disposition.

### **Recommendation 218 -Hanford Limited Plutonium (Pu) Disposition Mission**

The SRS CAB has long recognized the Pu processing capabilities of SRS and the benefits of such to the DOE complex. The SRS CAB has been and continues to be supportive of processing small amounts of Pu at SRS, especially when existing SRS facilities can be used; it provides national benefit, and does not negatively impact the SRS budget. They recommend that DOE utilize the SRS HB-Line to dissolve and process twelve drums of Hanford Pu and report the status to the SRS CAB as soon as it's known, whether the material will be purified and converted for programmatic need or transferred to a sludge batch for immobilization in the Defense Waste Processing Facility. They also recommended that DOE notify the SRS CAB before shipping any other quantities of plutonium to SRS from other DOE sites, except samples, standards and research related materials.

### **Recommendation 219- TRU Waste Shipments from Battelle Columbus (BC), Ohio**

The SRS CAB continues to support the consolidation of DOE waste streams where it makes sense, both from an economic and safety perspective; however, equity considerations must be included in any decision. Before the SRS CAB could support the receipt of the TRU waste from Battelle Columbus, they requested that DOE-HQ provide SRS with several commitments:

- Ensure the necessary resources to accelerate the deployment and certification of the characterization system for large containers/boxes by the end of Fiscal Year (FY) 2006;
- Ensure no further schedule slippage associated with SRS TRU Pad #1 excavation and present a strategy to resolve outstanding issues by March 1, 2006;
- Ensure that a transportation packaging method to handle SRS high-activity TRU waste drums is available by FY 2007;
- Ensure the availability of this shipping container for non-drummed waste by the end of FY 2007; and remove from SRS all of the non-drummed TRU wastes by the end of FY 2009, or no later than the end of FY2010.

The SRS CAB also asked DOE-HQ and DOE-Carlsbad (WIPP) provide the following commitments to SRS stakeholders before the BC-TRU waste shipments are received at SRS:

- Once the WIPP permit modification is received for Remote Handled (RH)-TRU waste authorization, a program for RH-TRU waste will be in place at WIPP and at SRS to ensure that RH-TRU waste is removed from SRS within three years of the WIPP permit modification for RH-TRU waste
- If this date cannot be met, then all RH-TRU waste at SRS should be relocated to another DOE site by FY09 but in any case, no later than FY10.

The Board requested annual updates regarding progress on the above commitments every October.

### **Recommendation 220- National Academy of Sciences Interim Report – Tank Waste**

The SRS CAB reviewed an interim report by the National Academy of Sciences (NAS) entitled "Tank Wastes Planned for On-Site Disposal at Three Department of Energy Sites – The Savannah River Site – Interim Report, National Academy of Sciences, August 5, 2005." The Board agrees with several of the NAS interim report's recommendations and provided the following advice:

*continued on next page*

*continued from previous page*

- DOE-SR should not wait 5-10 years between tank waste removal and tank closure actions but use the waste determination basis and the performance objective to determine when a tank is clean and ready for closure. DOE should ensure these actions support the Federal Facility Agreement (FFA) schedule.
- DOE-SR should continue to implement the deliquification, dissolution, and adjustment (DDA) process as long as it remains a viable part of the whole salt waste processing strategy and to minimize any use of noncompliant tanks for waste storage.
- DOE-SR should demonstrate through performance assessments of the waste disposal system that the SRS plans to dispose of waste and to close tanks at SRS are protective of health, workers, and the environment.
- DOE-SR should continue to fund research and development and incorporate new technologies when they become available.
- By November 15, 2005, DOE-SR provide the current expected timeline for the Waste Determination documents and describe the contingencies for the potential schedule slippage and the expected impacts to the salt waste processing program and tank closure dates.

#### **Recommendation 221- Loss of Expertise to Support SRS Clean Up**

The CAB is concerned about how the loss of expertise from Savannah River Ecology Laboratory (SREL) capabilities, the re-bidding of the operating contract, the continuing loss of work force, the transfer of personnel to other positions, and budget reductions will impact the projected waste site/closure process and schedule at SRS. They question whether their concerns are shared by the Site regulators and recommended that DOE demonstrate to the SRS CAB on or before November 15 that the loss of SREL expertise will not impact projected waste site/area closure projects and schedules, especially the legally-enforceable schedules in the FFA and the potential change in SRS operating contract will not impact projected waste site/area closure projects and schedules, especially the legally-enforceable schedules in the FFA. They also asked SCDHEC and EPA-4 to provide any concerns about the loss of experienced remediation professionals at SRS and the potential slippage that the loss of this resource may have on the FFA schedule.

#### **Recommendation 222- Classified Information Issues in DOE-EM Cleanup Activities at the SRS**

As SRS' D&D and environmental cleanup projects move toward potential classified areas (i.e., F-Area and reactor areas), the CAB is interested in ensuring public disclosure to the maximum extent possible without jeopardizing security and recommended that by January 26, 2006, DOE describe the unclassified format it will use to disseminate D&D and cleanup information containing potentially pertinent, but classified details to the general public. The Board also requested a list of future D&D and environmental cleanup projects that may have classified information associated with them and if such information might have a potential impact to cleanup schedules and area closures. Thirdly, the Board asked EPA and SCDHEC to present how such classified information is being and will be disseminated to facilitate proper management review of SRS D&D and cleanup projects.

#### **Recommendation 223- Plutonium Consolidation – GAO Report**

The GAO was asked to examine the extent to which DOE can consolidate plutonium at SRS and SRS's capacity to monitor plutonium storage containers. Recently issued, this report recommended that DOE develop a comprehensive strategy to consolidate, store, and eventually dispose of its plutonium and ensure that its facilities' cleanup plans are consistent with its plutonium consolidation plans. The report noted several complications, including heightened costs due to necessary security upgrades, difficulties preparing the plutonium for transportation, and other problems that have delayed consolidation at SRS.

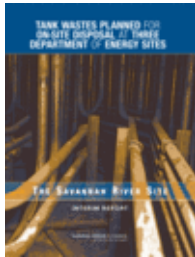
While the SRS CAB agrees that the report has several inaccuracies and comes across as critical, it does reaffirm what the CAB has been pointing out for several years — that DOE has no comprehensive plan to manage, consolidate or dispose of plutonium. Therefore, the SRS CAB recommends that DOE develop a comprehensive strategy to consolidate, store, and eventually dispose of its plutonium and include a public participation component. As part of the Nuclear Materials Disposition and Consolidation Coordination Committee (NMDCCC) Strategic Plan, DOE evaluate building a dedicated robust facility capable of storing and monitoring excess plutonium as well as processing the material for eventual shipment to Yucca Mountain. The Board also requested specific information regarding the NMDCCC on topics of the committee's charter, timeline, milestones and membership.

# NAS Weighs In on SRS Tank Closure

In response to a request from Congress, DOE asked the National Academies of Sciences (NAS) to evaluate its plans for managing radioactive wastes from spent nuclear fuel at sites in Idaho, South Carolina, and Washington. An interim report on SRS evaluates storage facilities with a particular focus on plans to seal the tanks with grouting. According to a NAS news release, August 5, 2005, the report finds that tanks at the site do not necessarily need to be sealed shut as soon as the bulk of the waste has been removed. Postponing permanent closure buys more time for the development and application of emerging technologies to remove and better immobilize residual waste, without increasing risks to the environment or delaying final closure of the “tank farms.”

The report also recommends alternatives to address the lack of tank space at the site, as well as the need for focused R&D activities to reduce the amount and improve the immobilization of residual waste in the tanks and to test some of the assumptions used in evaluating long-term risks at the site.

“Once the bulk of the radioactive waste is removed from tanks at the Savannah River Site, DOE plans to fill the tanks with grout to close most of them permanently. But given that the small amount of residual waste left in the tanks has a much lower likelihood of causing significant radioactive contamination of the environment, the department need not rush to grout all the tanks — a step that is practically irreversible.”



Instead, the NAS committee urged DOE and South Carolina to decouple the schedules for cleaning the tanks and sealing them, timelines that appear to be linked under a Federal Facility Agreement. Doing so will allow DOE to use emerging technologies to enhance tank cleanup, improve how the residual waste is immobilized, and better prevent water from seeping into closed tanks.

The NAS committee also questioned DOE's plans for freeing up space in existing tanks. DOE plans to use a physical separation process to remove radioactivity from some salt wastes, and then grout and permanently store those wastes in on-site vaults. But the committee noted that while waste from this process represents only eight percent of the volume of radioactive waste to be generated during salt-waste processing, the waste contains 80 percent to 90 percent of the radioactivity projected to be in the vaults.

Chemical processes that can remove more radioactivity from salt wastes are scheduled to begin in 2007 and 2009. The Committee recommended that until then, DOE should consider other options for preserving or better utilizing its limited compliant tank space, such as setting aside carefully selected nonleaking, noncompliant tanks for emergency storage, or reducing waste streams to compliant tanks.

The SRS CAB agreed with several of the interim report recommendations. The Board supports the focus on site-specific risk consequences to ensure protection of human health and the environment and believes the Performance Assessment is a means of assessing risk to demonstrate compliance with the performance objectives. It also supports

the continued focus on research and development as an ongoing mission of the high level waste area.

The SRS CAB also agrees with the NAS concept to separate tank waste removal and tank closure actions. The CAB views the separation as an orderly management action in the regulatory oversight process between SCDHEC and DOE, which should be used to close the tanks as soon as possible, contingent on meeting the performance objectives.

However, the SRS CAB cannot support waiting on new technologies to be developed. Once the waste determination basis is completed and the performance objective satisfied, SRS should determine when waste cleanup is finished using the performance assessment and then immediately proceed with negotiations with SCDHEC on the tank closure schedule.

Furthermore, the SRS CAB cannot support the use of noncompliant tanks as a means to increasing much needed tank space. Experience has shown that this approach cannot be technically justified. Waste has been added to noncompliant tanks (Tank 5 and 6) that did not have a history of known leak sites in the past and within several months of adding the waste to the tanks, additional waste was found in the tank annulus. Subsequent inspections found leak sites that were not there before and waste levels had to be reduced below the leak sites.

NAS plans to release a follow-up report early next year that will further evaluate environmental risks at SRS and examine DOE's plans for managing radioactive tank wastes at sites in Idaho and Washington state.

# PROCESS RETREAT- 2005

Members of the Savannah River Site Citizens Advisory Board participated in a process improvement retreat on October 6-7, 2005. The retreat took place at the Isle of Palms, S.C. Board members as well as ex-officio members attended.

On Thursday morning participants were divided into three teams to discuss the CAB organizational structure, board communications (internal and external), the recommendation process and public outreach. Following small group discussions, all participants reconvened to discuss ideas and agree on suggestions for improvement. Thursday afternoon, the three teams met once again to discuss the membership process, meeting productivity and interactions with the public.

A number of suggestions were made as a result of the retreat and a list of over 20 action items was developed. Some of the more significant include extending Monday combined committee meetings to 6 p.m. if needed for tabled discussions, developing guidelines for public comment periods, presentations by the technical advisor of draft motions, holding a recommendation process

workshop followed by annual training for new members, and a proposal to amend the bylaws to limit the number of SRS employees on the board as well as limit the number of former members returning to the board who have served maximum terms. SRS CAB staff is currently reviewing ways to implement the various suggestions.



*CAB Member Cassandra Henry presents Blue Team recommendations during the Process Retreat.*

## SRS CAB EX-OFFICIO MEMBER SPOTLIGHT



### **Shelly Sherritt**

Shelly Sherritt is the Federal Facilities Liaison for the environmental side of the South Carolina Department of Health and Environmental Control. Shelly has fifteen years of experience with SCDHEC, primarily in the area of hazardous waste facility operation and remediation. During twelve of those fifteen years, Shelly's regulatory work also covered Savannah River Site hazardous waste activities. A lifelong resident of South Carolina, Shelly graduated from the University of South Carolina with a Bachelor of Science degree in Engineering.



### **Albert J. Frazier, Jr.**

Al Frazier is employed with the Georgia Department of Natural Resources, Environmental Protection Division. In his present position with the Division, he serves as the District Manager of the Division's East Central District Office in Augusta. Al has been with EPD for over 19 years and has also worked in various capacities in the Coastal District Office in Brunswick, and the Division's Savannah Satellite Office before moving to the Augusta area in late 2001. Al holds a BS degree in Biology from Suffolk University, Boston Massachusetts. Al and his family reside in Martinez, Georgia.



# CAB SUPPORTS RECEIPT OF OHIO TRU WASTE

Thirty-seven cubic meters of transuranic (TRU) waste needed a home and the SRS CAB supported SRS as a receiving site after plans to send the waste to Hanford fell through. Closure activities of the Battelle West Jefferson Site near Columbus, Ohio required transuranic wastes to be disposed by December 30, 2005. Transuranic, mixed fission products and activation products contaminated the Ohio site, the location of a large hot cell facility and a decommissioned research reactor.

Some of the TRU waste is remote handled and needs final packaging and disposal certification at a site with handling capabilities for this type of material before final disposal at the Waste Isolation Pilot Plant (WIPP). Originally, DOE had planned to utilize Hanford facilities, but were unable to do so following the State of Washington's Initiative 297 that halted shipments into Hanford.

Currently, remote-handled wastes are prohibited from WIPP pending approval of a permit modification. Since SRS only has a small quantity of RH-TRU, the SRS CAB wanted commitments from DOE-HQ that any additional RH-TRU inventory

the site accepted would be removed from SRS to WIPP by FY09 and no later than FY10. If this date cannot be met, then all RH-TRU waste at SRS should be relocated to another DOE site, like Oak Ridge, where a large inventory of RH-TRU waste awaits disposition.



*Transuranic waste is shipped to Carlsbad, New Mexico for final disposal at the Waste Isolation Pilot Plant.*

The SRS CAB also asked DOE for assurances regarding large container/ boxes and transportation packaging methods to handle high-activity TRU waste by FY07 in exchange for SRS receipt of the Ohio waste.

For a number of years, the SRS CAB has been receptive to the idea of consolidating and treating TRU waste at SRS provided that

DOE has a definite schedule for treatment and shipment of SRS Waste to WIPP and the required funding was made available. In 2000, an agreement was reached with the Mound Closure Project for SRS to send 4 shipments (of equal volumetric quantities to incoming Mound shipments) out to WIPP for every one shipment of Mound waste sent to SRS. Mound paid for the characterization and storage costs for this waste.

The SRS CAB believes that the acceptance of the Mound waste by SRS has been beneficial to both parties, allowing Mound to close early and helping SRS accelerate its TRU waste program.

On October 12, DOE signed a Record of Decision to transfer the waste to SRS. An agreement with SCDHEC was signed October 11 that was extremely responsive to SRS CAB recommendations and included the majority of the Board's desires.

The SRS CAB is committed to seeing SRS meet its milestone to remove all legacy TRU waste from SRS by 2009/2010. The Board continues to support the consolidation of DOE waste streams where it makes sense, both from an economic and safety perspective and as long as equity considerations have been included in any decision.

**The SRS CAB would like to send a speaker to talk with your organization. For more information about the SRS CAB Speakers Bureau, please call 1-800-249-8155**



## WASTE DETERMINATION FOR TANKS 18 AND 19 AVAILABLE

On October 7, DOE announced the availability of a draft determination for the permanent, in-situ disposal of residual tank wastes (including tank structure and equipment) in liquid radioactive waste tanks 18 and 19 at the F-Tank Farm at SRS. This determination addresses only the permanent disposal of the residual materials contaminating Tank 18 and Tank 19, as well as the structure of the tanks themselves and ancillary equipment. DOE prepared the draft determination pursuant to Section 3116 of the Ronald W. Reagan National Defense Authorization Act for FY05.

Section 3116 authorizes the Secretary of Energy, in consultation with the Nuclear Regulatory Commission, to determine that certain waste from reprocessing is not high-level waste and that it may instead be disposed of as low-level waste if it meets the provisions set forth in Section 3116. Although not required by the Act, DOE is making the draft determination available for public review and comment until November 21, 2005. DOE will issue a final waste determination for tanks 18 and 19 following the completion of consultation with the NRC, and consideration of any public comments.

Written comments on *Draft Section 3116 Determination for Closure of Tank 19 and Tank 18 at the Savannah River Site*, DOE-WD-2005-002, Rev. 0, September 30, 2005, should be addressed to: Mr. Matthew Duchesne, U.S. Department of Energy, Office of Environmental Management, EM-2, 1000 Independence Avenue, SW., Washington, DC 20585. Alternatively, comments can be filed electronically by e-mail to [matthew.duchesne@em.doe.gov](mailto:matthew.duchesne@em.doe.gov), or by fax to (202) 586-4314.

## SEMI-ANNUAL SSAB CHAIRS MEETING HELD

SRS CAB Chair Jean Sulc and Vice Chair Bill Lawless attended a semi-annual meeting of the Site Specific Advisory Board (SSAB) Chairs September 21-23, 2005 in Idaho Falls, Idaho. Hosted by the Idaho SSAB, the meeting included a welcoming BBQ dinner, two-days of presentations and discussion among the SSAB Chairs and a tour of Idaho facilities. Participants heard from Frank Marcinowski, Deputy Assistant Secretary for Logistics and Waste Disposition Enhancement and Christine Gellas, Director of the Office of Commercial Disposition Options regarding DOE's national strategies for waste disposition. The Chairs also participated in round robin discussions regarding their individual site's top waste disposition issues. The Chairs worked to develop a letter that conveys the SSABs desire to take a strong leadership role in facilitating public involvement in national disposition strategies. The letter offers support to the New Mexico Environment Department regarding the Waste



*Idaho Chair David Kipping and SRS CAB Vice Chair Bill Lawless discuss waste disposition issues during the semi-annual meeting of the Site Specific Advisory Board Chairs.*

Isolation Pilot Plant permit modification for remote-handled transuranic waste and also offers some support for the proposed EPA standards for Yucca Mountain. The letter expresses concern about pre-1970 alpha waste that remains an open question at many sites and asked DOE to let them help develop a national policy to address this waste and its proper disposition. There was considerable discussion surrounding several issues, but the Board Chairs agreed to seek approval of the letter from their individual boards. The SRS Citizens Advisory Board voted to endorse the

letter by a vote of ten members in favor and nine opposed. A minority statement was submitted by Vice Chair Bill Lawless and a subsequent draft motion sponsored by the SRS CAB Waste Management Committee supports a continued site-specific approach of working with federal, state, and local regulatory agencies and other stakeholders in determining how to manage buried alpha TRU-waste. The SRS CAB does not want DOE to override the Agencies and this CAB's decision not to exhume buried alpha TRU-wastes from the Old Radioactive Waste Burial Ground.

**VISIT OUR WEBSITE AT [WWW.SRS.GOV](http://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:

Dawn Haygood  
SRS Citizens Advisory Board  
Building 730-1B, Room 3151  
Aiken, SC 29808  
Phone: 1-800-249-8155  
Fax: 803-952-8264  
Email: dawn.haygood@srs.gov

### 2006 Bi-Monthly Meeting Schedule Citizens Advisory Board Meetings

January 23-24	Crowne Plaza, Hilton Head, S.C.
March 27-28	Marriott, Columbia, S.C.
May 22-23	DoubleTree Hotel, Savannah, Ga.
July 24-25	North Augusta Community Center
September 25-26	DoubleTree Hotel, Charleston, S.C.
November 13-14	Augusta Towers Hotel, Augusta, Ga.

#### Mailing List

Name \_\_\_\_\_  
Address \_\_\_\_\_  
City \_\_\_\_\_  
State \_\_\_\_\_ Zip \_\_\_\_\_  
E-mail \_\_\_\_\_

*Add my name to mail list*  
*Remove my name from mail list*  
*Correct my address*

Mail to:  
Savannah River Site  
Citizens Advisory Board  
Building 730-1B, Room 3151  
Aiken, SC 29808

Savannah River Site  
Citizens Advisory Board  
Building 730-1B, Room 3151  
Aiken, SC 29808