The Citizens Advisory Board (CAB) Waste Management Committee (WMC) met on Wednesday, November 1 at 6:00 p.m., at the Ramada Plaza Hotel, Augusta, GA. The purpose of the meeting was to hear a Salt Processing Focus Group Update; presentations on Solid Waste Challenges including TRU Ship to WIPP Status; Vadose Zone Monitoring for Low Level Waste Disposal; and Release of Surplus and Scrap Materials; and hear public comment. Attendance was as follows:

**CAB Members**
- Wade Waters*
- Bill Willoughby*
- Karen Patterson*

**Stakeholders**
- Mike French
- Rick McLeod, Tech. Advisor
- Todd Crawford
- Sam Booher
- Laurie Booher
- Lee Poe

**DOE/Contractors**
- de’Lisa Bratcher, DOE
- Virgil Sauls, DOE
- John Reynolds, DOE
- Bill Frazer, DOE
- Gail Whitney, DOE
- Elmer Wilhite, SRTC
- Ed Stevens, SRTC
- Sam Kelly, BNFL
- Kelly Dean, WSRC
- Sonny Goldston, WSRC
- Ken Crase, WSRC
- Linda Perry, WSRC
- Helen Villasor, WSRC

**Regulators**
- None

* WMC Members present

Note: Lola Richardson, Beckie Dawson, Perry Holcomb, William Lawrence and Georgia Leverett, WMC members, were unable to attend.

Wade Waters, WMC Chair, welcomed those in attendance and asked for public comments. Sam Booher asked if the Citizens Advisory Board (CAB) had a website. Helen Villasor provided instructions on how to reach the CAB’s home page. The URL is http://sro.srs.gov/index.html. Mr. Waters then asked the attendees to introduce themselves.

**Salt Process Focus Group Update**
Mike French, co-chairman of the Salt Process Focus Group, opened his presentation by noting that this was the sixth time this year that the Waste Management Committee (WMC) was being provided with an update of the group’s activities. Presenting the background on earlier updates, Mr. French said that the group still believes that the Salt Process and the High Level Waste (HLW) Tank Closure to be the most important activities at SRS. The key issues that the group is focusing on now include the Salt Processing technology decision that is expected by June 2001 and the Final Salt Processing Environmental Impact Statement (EIS) that will be issued with a preferred alternative.

Mr. French pointed out that an update provided by Lee Poe in October indicated that waste removal for vitrification or tank closure seems to be well planned; however, actions requiring the introduction and removal of large complex equipment into radioactive containment poses a risk of release of contamination resulting in the possibility of delaying tank closure. Mr. French added that in the same update, Mr. Poe said that the HLW tank inspection program shows that tank leakage is understood and well managed by the HLW program. In addition, the crack in HLW Tank 15 appears to be a new failure mechanism that is being aggressively evaluated, but it was noted that the crack is above liquid level.

Mr. French said that the purpose of the current briefing was twofold, first, to provide the WMC with a status update of DOE plans to contract a new subcontractor to design, construct, start up and possibly operate the HLW Salt processing Facility, and secondly, the cleanup status of the leaking HLW tank annulus. The contracting process is underway with a planned selection date for the new contractor of January 2002. The group’s concerns on the contractor selection process is that DOE needs to prevent any schedule slippage for the start of salt processing and, that interface concerns with the site and M&O contractor are addressed expeditiously.

With regard to tank annulus cleaning, eleven of the 51 HLW tanks in the F and H areas have leaked. In closing, Mr. French said the Focus Group’s concerns with regard to the annulus cleaning include the following:

- Removal of waste from HLW tank annulus is expected to be difficult and time consuming (particularly in the space between the two tank bottoms).
- Dissolution and liquid handling will probably be the mode of choice for waste removal.
- The Focus Group is disappointed in the priority placed on the planning for annulus cleaning and demonstration.
- The Focus Group recommends the WMC submit a recommendation on this subject at the January CAB meeting.
- The Focus Group believes it to be imperative that the approach for annulus cleaning be developed, tested, and ready for use by 2006.

Solid Waste Accomplishments and Challenges Including TRU Ship to WIPP Status

Dr. Sam Kelly, Vice-President and General Manager of the Solid Waste Division (SWD) expressed his appreciation to the WMC for providing him with the opportunity to come before the committee to discuss SWD’s accomplishments and the challenges SWD faces in the future. Addressing SWD’s accomplishments, Dr. Kelly noted that over the last five years, Solid Waste Public Involvement has blossomed because of the CAB’s recognition and focus on Waste Management programs. In addition, Dr. Kelly said SWD’s strategic outlook recognizes that stakeholder involvement is one of the keys to success. Noting that safety is one of the highest priorities at SRS, Dr. Kelly said he is pleased that the British Nuclear Fuels (BNFL) Behavior-Based Safety (BBS) culture has been adopted at SRS. In BBS, Dr. Kelly said the concept brings the best out of people, with the focus on correct behavior rather than saying, "this is wrong."
Dr. Kelly contrasted the Strategic and System Plans and said the Strategic Plan guides SWD’s every operation setting the focus to major areas while the System Plan details the disposition of each waste stream SWD manages. This includes the selection of the Disposition Path Preferred Options based on a Systems Engineering Analysis of attributes including lifecycle costs, environmental safety, and stakeholder acceptance.

Next, Dr. Kelly discussed Environmental Management Integration (EMI), which initially began as a contractor-led effort to put the DOE Complex on a corporate footing by using Systems Analysis. As a member of the original contractor-led EMI team, Dr. Kelly said he recognized that it was DOE’s leadership that pushed the program forward by seeking better ways of integrating resources across the complex. Dr. Kelly said that results of EMI have been seen through the Waste Management Programmatic Environmental Impact Statement, which opened the Nevada Test Site for the disposal of mixed and low-level waste. It also accelerated the shipment of SRS’s transuranic (TRU) waste to the Waste Isolation Pilot Plant (WIPP) and the closure of the Mound Site earlier because of the ability for Mound to ship its TRU waste to SRS. Dr. Kelly emphasized that he had just received word (November 1, 2000) from the South Carolina Department of Health and Environmental Control (SCDHEC) that the regulators would permit the Mound waste to come to SRS. Wade Waters said that the CAB had been instrumental in supporting the Mound waste shipments to SRS through CAB Recommendation 129. The recommendation recognized that significant taxpayer dollars would be saved if Mound could close earlier than scheduled.

Dr. Kelly said that early on in his arrival at SRS, he remembered the CAB’s concern for TRU waste and how the high hydrogen found in the drums posed a significant safety issue for stakeholders. Dr. Kelly thanked the WMC for the recommendations the CAB has made to DOE on TRU waste and said that he was pleased to report that the retrieval process (8,794 drums) was completed two years ahead of schedule. Since then, in preparation for the “Ship to WIPP” program, SWD has adapted to several changes in permit requirements and noted that an audit to be performed by Carlsbad will begin on November 6 and last for a period of two weeks. Dr. Kelly said that the TRU waste first shipment is scheduled for March 2001.

Another significant accomplishment for SWD is the Waste Minimization/Pollution Prevention (P2) program where more than 2700 metric tons of materials are recycled annually in lieu of disposal as sanitary waste. Dr. Kelly noted that SWD has exceeded DOE’s superior performance criteria for three consecutive years with this exemplary program. Dr. Kelly added that since 1994, SWD has won 16 national P2 awards, three White House “Closing the Circle” awards, and two Vice President’s Reinventing Government “Hammer” awards. In essence, Dr. Kelly said that waste generation at SRS is at an all time low.

Dr. Kelly highlighted the accomplishments of other SWD programs, including reduction of the legacy low-level waste inventory by supercompaction and trench disposal. For example, the life of the E-Area Vaults will be extended eight years with supercompaction and 22 years with both supercompaction and trench disposal. A new vadose zone monitoring technology is ongoing at the Solid Waste Disposal Area, where groundwater protection will ensure public confidence while saving over $3 million.

Speaking in terms of financial priorities, Dr. Kelly noted that the Consolidated Incineration Facility (CIF) was now successfully transitioning to a suspension mode after meeting near-term treatment goals. Started up in 1997 to treat legacy mixed waste ahead of Site Treatment Plan commitments, Dr. Kelly said that SWD is moving aggressively to find alternative treatment technologies for PUREX solvent. Dr. Kelly also recognized the work of the CIF Focus Group that was established under a charter initiated by the WMC and thanked the WMC for its continuing interest in CIF.

Another major program accomplishment was the implementation of DOE Order 435.1, "Radioactive Waste Management". Dr. Kelly gave recognition to Sonny Goldston, who has been instrumental in leading site efforts to implement the new Order. SRS was the first in the DOE
Complex to achieve compliance and since then other sites have begun to adopt SRS strategies. In addition, approximately $8 million has been avoided through the use of innovative solutions to compliance and Disposal Authorization for low-level waste through Composite Analysis (CA) and Performance Assessment (PA).

In closing, Dr. Kelly emphasized the cost effectiveness demonstrated by SWD by noting that in Fiscal Year 1997, costs totaled $82.7 million versus the estimated total costs for Fiscal Year 2000 of $60 million. However, many challenges facing Solid Waste still remain, including the following:

- Searching for an alternative treatment for PUREX
- Trench disposal of non-compacted waste to save $4K per cubic meter by not compacting
- Shipping difficult low-level and mixed low-level waste offsite for treatment and disposal
- Continuing to meet challenges for "Ship to WIPP"
- Preparing high activity TRU waste for WIPP – new facilities
- Continuing proactive public involvement
- Continuing corporate focus through EMI

Dr. Kelly’s closing remarks included a special thank you to the WMC and the CAB for the significant value the Committee and the Board has added to the DOE decision-making process. Wade Waters invited Dr. Kelly to make a presentation to the Board at the November 14, 2000 meeting.

Vadose Zone Monitoring for Low Level Waste Disposal at SRS

Heather Holmes-Burns opened her presentation by defining the vadose zone as the geologic region bounded by the surface of the earth and the water table. Ms. Holmes-Burns said the overall objective of her presentation is to answer questions such as:

- Are groundwater resources being protected
- Can Performance Assessment (PA) predictions of contaminant transport be validated with actual field data

The issue Ms. Holmes-Burns cited is that traditional groundwater monitoring is not feasible because of existing contamination plumes that have migrated underneath the new low-level radioactive waste disposal units. However, in her opinion, Ms. Holmes-Burns said the solution is vadose zone monitoring, a new technology that has been recently deployed at SRS. In viewing a graphic of the tritium plume in the water table aquifer, a question was raised on the point of compliance. Ms. Holmes-Burns clarified that it was 100 meters from the facility and reassured Mr. Poe that in this technology, the point of compliance was not being moved. Ms. Holmes-Burns added that SCDHEC and the Environmental Protection Agency (EPA) have not disagreed with the new vadose zone monitoring technology; however, it is DOE who serves as the sole regulatory authority for the low-level waste disposal facilities.

In summarizing the SRS Vadose Zone Monitoring System (VZMS), Ms. Holmes-Burns noted that VZMS is one of the few operating systems in the country successfully monitoring contaminant migration through the ground via 150 instruments placed in 19 wells, initiating 2-phase deployment in 1999, and applying lessons learned from the program to the 2000 program. The typical location of sensors were pointed out in a graphic along with the location of the Slit Trench vadose zone wells and another graphic of the future plans for the Engineered Trench was presented. Ms. Holmes-Burns said the background for the soil parameters being monitored are containment concentration, soil-water tension, and water content. It was added that in the performance evaluation, questions as to how the monitoring system is performing and how the disposal units are performing are being answered by the data. In fact, Ms. Holmes-Burns noted that in terms of the monitoring system performance, the program is a major success and the
monitoring system is successfully collecting data that is currently being analyzed. The data indicates that tritium is above background and is moving through the vadose zone; however, the contamination is less than the Drinking Water Standards (DWS).

As to how the disposal units are performing, Ms. Holmes-Burns said that the contaminant of concern is tritium, which is less than the DWS at the compliance point (100 meter well); the vadose zone tritium concentration nearest the groundwater is three percent of the limit (20 pico-curies per milliliter), and the results clearly validate the PA.

Lee Poe said that the results look inconsistent with the data the SRS Environmental Monitoring Department is reporting and asked about the significance of screening out tritium in rainwater in the analyses. Mr. Poe added that the wells would probably not provide a true background. Ms. Holmes-Burns thanked Mr. Poe for his observation and said that she would be pleased to include this parameter into her analyses and get back to Mr. Poe with a response.

In conclusion, Ms. Holmes-Burns said that the SRS VZMS is operating successfully and confirming conformance to the PA and DOE Order 435.1. In as much that SRS can assess impact of the disposal units to the groundwater, the contaminant migration is less than PA limits and DWS and preventative measures can be taken to protect the groundwater.

The presentation stimulated much discussion pertaining to earlier CAB recommendations that Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) waste should be disposed in trenches and the question was asked if this presentation could be provided to EPA and SCDHEC to help relieve regulatory monitoring concerns. It was also suggested that this new technology could be applied at other waste sites including the High Level Waste tanks after they close. Ms. Holmes-Burns was invited to present this information to the CAB at its November 14, 2000 meeting, where the regulators will be in attendance and can hear about this innovative technology firsthand.

Release of Surplus and Scrap Materials

Sonny Goldston reviewed the January 2000 Moratorium on the release of volumetrically contaminated metals pending a decision by the Nuclear Regulatory Commission (NRC) on whether to establish a national standard. Mr. Goldston reiterated that a task force had been established by the Secretary of Energy to review DOE policies regarding the release of all materials for reuse and recycle. In July 2000, a Memorandum was issued by DOE that suspended the unrestricted release for recycling of metal from radiological areas within DOE facilities and directed improvements in the release criteria. Mr. Goldston said that this information had previously been presented to the WMC at its September 11, 2000 meeting and based on the pending report from DOE-HQ, the WMC was poised to respond to the upcoming 60-day public comment period.

To better explain the meaning of volumetric contamination, Mr. Goldston used a graphic to illustrate the different contamination types. These types include transferable, surface, fixed, inaccessible surfaces, and volumetric contamination.

In reviewing the improved release criteria, Mr. Goldston said DOE Order 5400.5 included two new chapters that have been issued for public comment. The changes propose that scrap metal from a radiological area cannot be released for recycle (melted and refabricated into new products for general commerce) into general commerce unless it has no detectable radioactivity above background using DOE-approved measurement protocols. The schedule includes the directives, which have been released for a 60-day public comment period commencing October 5, 2000 and ending December 4, 2000. The final directives and guidance will be approved by DOE and is expected to be issued by December 30, 2000.
The aim of the DOE initiative is to ensure consumers that scrap metal released for recycle from DOE facilities contains no detectable contamination from departmental activities. Other requirements in the proposed release criteria include:

- Public review of the release program (when developed)
- Public access to release documentation
- Extensive records to document measurements and history of metal component
- Independent verification of releases

Mr. Goldston said one of the important aspects of the directive is for the public to come back and review the release program once it has been developed. However, Lee Poe commented that it is not enough to brief only the WMC or the CAB. Mr. Poe suggested that the program needs wider discussion and a bigger audience. Mr. Poe recommended that it be taken to other stakeholders and organizations such as the Sierra Club. Mr. Waters invited Mr. Goldston to make the presentation to the full Board at its November 14, 2000 meeting where a recommendation will be provided for voting purposes. If passed, the recommendation will serve as public comment to the release program currently under development by DOE.

Public Comment

Mr. Waters asked if there was any other public comment. Lee Poe said that the Salt Process Focus Group has briefed the WMC six times and asked if this was an excessive number of briefings. Considering that the Salt Process and the High Level Waste (HLW) Tank Closure are two of the most important activities at SRS, Mr. Waters said that he would expect the Focus Group to keep the WMC informed. The Salt Process Focus Group will brief the WMC again at its November 13, 2000 meeting. With there being no further public comment, Mr. Waters adjourned the meeting.

Meeting handouts may be obtained by calling 1-800-249-8155.