



**SRS Citizens Advisory Board**

## **Waste Management Committee Meeting Summaries**

**Aiken Federal Building, Aiken, SC  
August 31, 2004**

The Citizens Advisory Board (CAB) Waste Management (WM) Committee held a meeting on August 31, 5:00 p.m., at the Aiken Federal Building, Aiken, SC. The purpose of the meeting was to discuss the Hanford Treatability Study, Transuranic (TRU)/Solid Waste (SW) update, Yucca Mountain Waste Acceptance Criteria (WAC) and hear public comment. Those in attendance were:

**CAB Members**

Bill Lawless\*  
Karen Patterson\*  
Murray Riley\*  
Bob Meisenheimer\*  
Jean Sulc  
Bill Willoughby  
Perry Holcomb

**Stakeholders**

Lee Poe  
Mike French  
Joe Whetstone  
Rick McLeod  
Janet Wedlock

**Regulators**

Dawn Taylor, EPA  
Shelly Sherritt, SCDHEC

**DOE/Contractors**

Bill Spader, DOE  
Doug Hintze, DOE  
David Hoel, DOE  
Bert Crapse, DOE  
Greg Johnson, DOE  
Jim Bolen, DOE  
Elmer Wilhite, SRNL  
Jim Cook, SRNL  
Frank England, WSRC  
Mtesa Cottemond, WSRC  
Joe Carter, WSRC  
Sonny Goldston, WSRC  
Lyddie Broussard, WSRC  
Kelly Way, WSRC  
Jim Moore, WSRC

\*Members of the WM Committee

\*\* Darryl Nettles is a member of the WM Committee but was unable to attend.

Bill Lawless, WM Chair, welcomed those in attendance and asked them to introduce themselves. He announced and expressed his regrets and congratulations to Kelly Way who will be moving from Public Involvement to the Savannah River National Laboratory as a Communicator.

**Hanford Treatability Study:**

David Hoel, DOE, explained that the Savannah River National Laboratory (SRNL) has been receiving samples from Hanford and returning samples and sample residue to Hanford since 1996. SRNL performs treatability studies to determine the best vitrification formulas for Hanford to best vitrify their waste. In the process of handling the samples, the samples come in contact with other materials such as gloves, paper and equipment. This other debris-type material

becomes sample residue. The samples and sample residue are shipped back to Hanford. While transported and managed by the laboratory, the returned material is considered sample residue and not waste.

An inspector for the Washington State Department of Ecology found a drum that contained debris-type sample residue that had been shipped to Hanford from the Savannah River Site (SRS). The Department of Ecology sent a letter to DOE stating that material from the SRS characterized as waste had been shipped back to Hanford contrary to regulations and threatened enforcement action. DOE sent a reply July 23, 2004 stating that DOE believes the material is in compliance and is sample residue, not waste and asked the Department of Ecology to rescind their letter. DOE stated that exclusion clauses in the Resource Conservation and Recovery Act (RCRA) apply to Hanford samples and sample residue.

Mr. Hoel reviewed a series of photos showing the sample material as it arrived, equipment used in ion exchange experiments, and packaging methods for the returned samples and sample residue.

During the question and answer period, it was pointed out that the Department of Ecology did not complain about the method of transportation or packaging, they were concerned that SRS may have shipped SRS Transuranic (TRU) waste against regulations. The RCRA documentation does not apply to samples. While many samples and sample residue have been shipped from SRS to Hanford, both South Carolina and Washington have been notified the shipment is being made. At this time SRS has about 220 liters of liquid sample residue and five to six 55 gallon drums of solid sample residue remaining. At this time, Hanford is not shipping samples to SRS. DOE is currently waiting for Washington's answer to the DOE letter. It was noted that the process to characterize the returned samples and sample residue is the responsibility of Hanford.

There was discussion that the Department of Ecology was referring to the exclusion (e) of the Code of Federal Regulations 40 CFR 261.4 instead of exclusion (f). Exclusion (e) deals with treatability samples shipped by Hanford. Perry Holcomb requested a copy of exclusion (e). When asked if all sample residue returned to Hanford was contaminated with only Hanford sample material, Mr. Hoel expressed his opinion that that is the case. Mr. Hoel stated that the Environmental Protection Agency (EPA) was supplied with the SRNL procedure that segregates all sample material supplied by Hanford. There was follow-up discussion on the draft recommendation that is being proposed.

#### **Transuranic (TRU) / Solid Waste (SW) Update:**

Mr. Bert Crapse, DOE, gave a review of the TRU waste program as part of the DOE response to CAB Recommendation 187. The TRUPACT III, large container remediation strategy and Arrow Pac were discussed. Prior to shipments of TRU waste to the Waste Isolation Pilot Plant (WIPP), there were 11,650 cubic meters of legacy inventory made up of 30,000 55-gallon drums and 2000 large boxes and non-drummed TRU waste containers. The containers ranged in quantity from less than 0.5 curie to 1500 curies of Plutonium (Pu) 238 and Pu 239. To date, August 2004, 13,600 drums (2,800 cubic meters) have been shipped at about 20 shipments per month. By the end of Fiscal Year (FY) 2004, one-third of the legacy TRU inventory will be dispositioned.

The site has opened one large steel box to remove the TRU waste to shippable containers. One steel box has been emptied. There are 90 total steel boxes that will generate 1500 shippable containers. All legacy TRU waste will be removed by 2008. The low activity drummed TRU will be removed by 2006 and the non-drummed by 2008.

Key assumptions for acceleration of TRU waste shipments are the success of the Modular Repackaging Facility for drum remediation, the Nuclear Regulatory Commission (NRC) approval of the TRUPACT II Safety Analysis Report Package Rev. 21, limited intrusive repackaging for large containers and high curie drum waste, regulatory relief on transportation for curie and wattage limits, technology development program to deploy large container assay and x-ray equipment and NRC approval of TRUPACT III shipping containers. The site will start trying to get approval by the NRC before approaching the New Mexico Environmental Department (NMED).

Some of the TRU waste challenges will be; having WIPP support the SRS accelerated shipping rate, transportation resources and certification of equipment and resources; large container remediation requirements, utilizing existing SRS facilities and minimize worker exposure; TRUPACT III approval in time to support the FY08 completion; and WIPP certification of large container characterization equipment.

During discussions, Mr. Crapse indicated that the Las Alamos National Laboratory (LANL) glovebox had arrived at SRS and was in the process of being put together. It will startup in January 2005 and should take 18 months to complete the drum waste starting with the low activity waste first. It was also stated that the site had no intentions of trying to change the definition of TRU waste so that some of the lower curie level waste could be disposed at SRS. It was confirmed that SRS planned to ship all TRU waste to WIPP. No TRU waste in the Old Radioactive Waste Burial Ground will be dug up since it was all buried before the 1970 designation of TRU waste.

A discussion developed on the TRU waste variance in the Risk Based End State (RBES) Document. It was thought that the variance in the RBES stated that SRS was looking at storing TRU waste in the Saltstone Vault in order to save money. Sonny Goldston is to review the RBES to determine what the TRU waste variance is in the RBES.

**Mr. Crapse reviewed the following recommendations:**

Recommendation 187 – The TRUPACT III schedule has been delayed six months and the first TRUPACT III should be on the site in October 2007. The plans are to build 20 initially but that will be dependent on the cost. The first five containers will be fabricated in Europe. The large container schedule has large boxes repackaging activities occurring in 2005-2006, with WIPP certification of the repackaged large boxes following that effort in FY06 and FY07. Shipments of the large boxes would be in 2008 when the TRUPACT III containers are expected to be ready. The Arrow Pac box is a good idea but the timing will not meet the sites needs due to the length of time to get permit modifications.

Recommendation 182 – NMED has withdrawn their proposed permit modification that the CAB objected to. Suggest this recommendation be closed.

Recommendation 163 – The site is working with the TRUPACT III and has abandoned the idea of using Arrow Pak and Hydrogen Getters because of the length of time to get permit modifications. Suggest this recommendation be closed.

Recommendation 164 – The request for WIPP to modify their WAC is a two year process which will not meet the SRS shipping schedule. Suggest this recommendation be closed.

**Yucca Mountain Waste Acceptance Criteria (WAC):**

Mr. Joe Carter, Westinghouse Savannah River Company (WSRC), explained that the WM Committee had requested information on the Yucca Mountain Repository's WAC and the SRS/Yucca Mountain interface. The Defense Waste Processing Facility (DWPF) has produced 6,580,000 pounds of radioactive glass or 1672 canisters containing 7.2 million curies of total radioactivity. Total canisters expected to be produced are 5060. The mission is now 33 percent complete.

The regulatory process starts with the EPA. They set the public health and safety standards from releases of radioactivity material stored or disposed at a repository. The NRC is the licensor. The DOE Office of Civilian Radioactive Waste Management is the repository developer and operator, or licensee. The waste producers are in the DOE Office of Environmental Management such as DWPF, Idaho and Hanford. Mr. Carter went on to explain the Waste Acceptance Process (WAP). SRS has completed the Waste Form Compliance Plan and the Waste Form Qualification Report. During production, DWPF documents the production records. During storage and shipping, DWPF will develop the storage and shipping records. Mr. Carter explained that the Waste Acceptance Product Specifications include the glass form, physical attributes of each canister, canister waste form, canister and quality assurance program. The production records provide evidence of compliance for each canister waste form. The storage and shipping records identify any abnormal events which have occurred during storage. In summary, the Federal Repository has provided the WAC for HLW. SRS has demonstrated DWPF waste glass canisters meet the requirements during cold tests, DWPF has successfully produced 1672 canisters and plans to begin shipping to Yucca Mountain in FY 2010 to be complete in FY 2020.

During discussion, it was pointed out by a member of the WM Committee that numerous papers have stated that the NRC is not satisfied with the requirements in the license application. At the same time, the WAC for Yucca Mountain has not changed. Mr. Carter stated that the third melter for DWPF will be complete in September. The fourth melter is in procurement. Mr. Hintze stated the second Waste Glass Storage Building (WGSB) is on schedule and will go through operational turnover between February 2006 and June 2006.

In order for the site to be able to ship its first container to Yucca Mountain, it will be necessary to know from Yucca Mountain the design of the shipping container. Design and construction of such a container is expected to take about three years. It is planned to ship about 450 canisters per year.

**Public Comment:**

Mr. Mike French was requested to explain what the WSRC Retirement Association was doing in relation to Senator Graham's high-level waste tank amendment. Mr. French stated that the

WSRC Retirement Association has written a letter to Congressman supporting the Graham amendment allowing high-level waste tanks to be closed in South Carolina. Bill Lawless requested a copy of the letter be distributed to the Waste Management Committee.

Mr. Joe Whetstone read a list of questions he has submitted to the South Carolina Department of Health and Environmental Control (SCDHEC) and requested they be answered. Ms. Shelley Sherritt, SCDHEC, responded to Mr. Whetstone that David Wilson, SCDHEC, has received the questions and is in the process of answering them. Bill Lawless requested that a copy of the answers be distributed to the Waste Management Committee. The questions are as follows:

Assuming SCDHEC will be made the responsible reviewing party before each of the remaining 49 High Level Waste (HLW) storage tanks at SRS can be closed, could you please answer the following questions concerning the closure of the HLW tanks?

1. Will there be a public hearing before the closure of each of the remaining HLW storage tanks?
  - a. If so what regulation assures a public hearing?
  - b. If there will not be a public hearing, why not?
2. Assuming there will be a public hearing before each HLW tank closure, exactly who will be responsible for conducting a radionuclide inventory of each tank?
3. Will the "health" of each of the HLW tanks (number of leak sites, amount of corrosion, etc.) be included with the radionuclide inventory?
4. How far in advance of each public hearing, will the tank information be made available to the public?
5. How will this information be disseminated to the public?
6. Who will provide the independent scientific review of the inventory process in order to be sure only factual information reaches the stakeholders and the media?
7. Since some of the radionuclides such as technetium-99 have a radioactive half-life of 212,000 years, how long are the carbon steel tanks designed to last once this radioactive waste is covered with grout?
8. Considering some of the HLW tanks lie only 8 to 10 feet above the current water table, have there been any studies done by the South Carolina Department of Natural Resources as to the fluctuation in the water table under these tanks?

**Action Item:**

- Perry Holcomb requested a copy of 40 CFR 261.4 (e). - David Hoel/Jim Moore
- During discussion, the SRNL procedure for handling Hanford samples was brought up. David Hoel said they would distribute copies of the procedure to the committee. - David Hoel/Jim Moore
- Sonny Goldston will review the RBES variance for TRU waste to see if the variance discussed placing TRU waste into Saltstone. - Sonny Goldston
- It was suggested that CAB Recommendations 182, 163 and 164 be closed. – Jim Moore/Bill Lawless
- Distribute to the WM Committee a copy of the letter the WSRC Retirement Association wrote to Congressman in support Senator Graham's resolution on the closure of high-level waste tanks at SRS. - Jim Moore
- During the public comment period, Joe Whetstone of Bluffton read a list of questions that had been sent to SCDHEC. Shelly Sherritt, SCDHEC, said that David Wilson, SCDHEC, is in the process of answering the

questions for Mr. Whetstone. Ms. Sherritt will share the answers with SRS and we will distribute them to the WM Committee. - Shelly Sherritt/Jim Moore

**Addendum to these Notes:**

The following are the SCDHEC answers to Mr. Whetstone's questions submitted during the public comment section of the notes above.

September 9, 2004

Mr. Whetstone,

Below is a response to the questions noted:

1) Will there be a public hearing before the closure of each of the remaining HLW storage tanks?

Yes, each tank closure decision will be subject to public participation.

a) If so what regulation assures a public hearing?

The Department of Health and Environmental Control (DHEC) is engaging public participation in tank closure decisions. Closure plans for each tank will be reviewed by DHEC's water and hazardous waste programs consistent with pertinent regulations and the Federal Facility Agreement.

b) If there will not be public hearings, why not?

Each tank closure decision will be subject to public participation.

2) Assuming there will be a public hearing before each HLW tank closure, exactly who will be responsible for conducting a radionuclide inventory of each tank.

The Department of Energy (DOE) will conduct a radionuclide inventory for each tank and DHEC will review this information.

3) Will the "health" of each of the HLW tanks (number of leak sites, amount of corrosion, etc.) be included with the radionuclide inventory?

The integrity of the High Level Waste (HLW) tanks is reported by DOE to DHEC yearly and is available to the public for review through the Freedom of Information (FOI) office at DHEC.

4) How far in advance of each public hearing, will the tank information be made available to the public?

As soon as DHEC receives the tank information, the information will be available to the public through the FOI office.

5) How will this information be disseminated to the public?

The information will be available for public review at the DHEC Columbia and Aiken offices and through the DHEC FOI office.

6) Who will provide the independent scientific review of the inventory process in order to be sure only factual information reaches the stakeholders and the media?

DHEC will review the tank information upon receipt. The information will also be available upon receipt through the FOI office for any other independent scientific review.

7) Since some of the radionuclides such as technetium-99 have a radioactive half-life of 212,000 years, how long are the carbon steel tanks designed to last once this radioactive waste is covered with grout?

Scientific modeling for radiological protection did not take any credit for the tanks themselves; therefore, any containment provided by the tanks for radionuclides would yield an additional safeguard.

8) Considering some of the HLW tanks lie only 8 to 10 feet above the current water table, have there been any studies done by the South Carolina Department of Natural Resources as to the fluctuation in the water table under these tanks?

DHEC is not aware of water table studies conducted by the SCDNR in the SRS HLW tank area. The DOE has conducted studies of the groundwater in the vicinity of the HLW tanks and has submitted study results to DHEC.

I hope the above information addresses all of your questions. If in the future you need to contact the FOI office, you can call Jody Hamm at (803) 898-3817. Please call me at (803) 896-4181 if you have any other questions.