



SRS Citizens Advisory Board

Waste Management Committee

**Federal Building, Aiken, SC
June 22, 2004**

The SRS Citizens Advisory Board (CAB) Waste Management Committee (WMC) met on June 22, 2004, 5:00, at the Federal Building, Aiken, SC. The purposes of the meeting were to discuss the Governor's Nuclear Advisory Council June 10 presentation, Yucca Mountain Waste Acceptance Criteria, and DWPF recycle.

Attendance was as follows:

CAB Members

- Jerry Devitt
- Perry Holcomb

- Bob Meisenheimer
- Darryl Nettles

- Harold Rahn
- Murray Riley

Regulators

- *CAB Technical Advisor
- WM committee members
- +Facilitator
- ^Press

Stakeholders

Bill McDonell

Lee Poe

Rick McLeod *

DOE/Contractors

- Ron Campbell, WSRC
- Jim Cook, SRNL
- Alice Doswell, DOE
- Dennis Godbee, DOE
- Charlie Hansen, DOE
- Kim Hauer, WSRC
- Robert Hinds, WSRC
- Greg Johnson, DOE
- Mark Mahoney, WSRC
- Sharon Marra, WSRC
- Bill Pearson, DOE
- Jeff Ray, WSRC
- Sterling Robertson, WSRC
- Terry Spears, DOE
- Steve Thomas, WSRC
- Kelly Way, WSRC
- Elmer Wilhite, SRNL

Harold Rahn called the meeting to order at 5:00. He welcomed those in attendance and asked for introductions. He noted a change in the agenda and introduced the first speaker.

Governor's Nuclear Advisory Council Presentation-Terry Spears

Mr. Spears updated the committee on accelerated cleanup activities at SRS from a presentation given by Charlie Hansen at a regularly scheduled meeting of the South Carolina Governor's Nuclear Advisory Council (NAC) on June 10. The meeting with the NAC updated the NAC on the status of SRS accelerated cleanup activities. Since the fall of 2003, DOE-SR, WSRC, South

Carolina Department of Health & Environmental Control meeting (DHEC), Parsons (Salt Waste Processing Facility (SWPF) Contractor), and members of the NAC have engaged in dialogue to establish a set of commonly acceptable working principles for accelerated cleanup of SRS.

Mr. Spears explained that DOE is revising the Performance Management Plan (PMP) to mitigate delays in tank waste disposition and to reflect the impact of delays of Waste Incidental to Reprocessing legislation. Copies of the PMP have been issued for public review, posted on the SRS web site, and distributed at various Waste Management Committee meetings. The revision is currently undergoing internal reviews with other reviews planned for summer. Plans are to release the final in late summer 2004 after approval by the Office of Environmental Management (EM). The revised PMP commitments will be incorporated in the site M&O contract after EM approval.

Mr. Spears explained a chart of desired waste disposition end states based on the PMP. The goal is to continue high level waste vitrification. Over 1640 canisters of vitrified HLW have been completed, with ~5060 planned by 2019. Only 6% of the radioactivity has been vitrified. This reason for this percentage is that the site is initially processing batches from single shell tanks which have the least radioactivity. SRS continues to envision that waste will be processed and tanks closed by 2019. No low curie salt (LCS) has been disposed as of yet. The 2019 date is achievable as of today, but it gets more difficult as days go by.

Mr. Poe questioned HLW produced by new missions after 2019. Mr. Spears responded that these waste producers must dispose of their own waste. All legacy waste will be disposed by 2019 and the HLW System closed.

Mr. Spears explained the original strategy for salt processing and how this approach would leave 20 M curies of radioactivity (primarily from cesium) behind in Saltstone. Input from the NAC and DHEC suggested that an ALARA approach (as low as reasonable achievable) to minimize curies left in South Carolina was much more acceptable to stakeholders. In concert with these stakeholders, DOE modified this original strategy and has revised the PMP to reflect it.

DOE directed WSRC to shift work priorities to accommodate the modified strategy, as well as program delays encountered as a result of the WIR lawsuit, in January 2004. The modified salt processing strategy entails development of a large capacity Salt Waste Processing Facility (SWPF), near-term deployment of cesium and actinide treatment for limited low curie salt disposal, and staging feed for SWPF in advance of facility start up. When enacted, legislation sponsored by Senator Lindsey Graham will allow for implementation of this modified strategy and resumption of tank closure activities. The legislation would give DOE the authority to determine which waste materials require disposal in a Federal Repository and which can be safely dispositioned by other means and would effectively resolve legal issues associated with the WIR lawsuit.

Mr. Poe asked about the legislative process and the next steps. Mr. Spears told the group that the Senate has acted favorably by authorizing funding for SRS salt processing and tank closure activities and passing the FY05 National Defense Authorization with the Graham Amendment included. The House version authorized funding but directed a year-long study by the National

Academies of Science to review DOE waste disposition plans and to make recommendations to Congress on DOE's proposed path forward. On the appropriations side, the Energy and Water Subcommittee issued a markup on June 16, which the House Appropriations Committee endorsed. Unfortunately, the House Appropriations Markup does not provide funding for the SWPF and indicates that funding cannot be expended on WIR related activities. The Senate Appropriations Committee markup has not yet been completed. Once appropriations markups are complete, both the House and Senate must enact their versions of the bills. Differences must be conferenced before the final National Defense Appropriation is enacted. It is a very complicated process, and the final outcome will not be known until late in the Summer or in the Fall.

Mr. Spears then explained the SRS salt treatment and disposal strategy that has been incorporated into the revised PMP. He explained each facet of the strategy, including actinide removal facilities, Caustic Side Solvent Extraction Modular Unit, Low Curie Salt, Saltstone, and SWPF. He also provided an overview of the expected processing throughput and operating lifetimes of each.

Mr. Spears explained that Jessie Roberson has released FY04 funding to support design and construction of facilities supporting the strategy. He explained that the CSSX Modular Unit is a new feature of the strategy that is to provide small scale salt processing capability in the near term and to provide data that may be useful for SWPF design. He also explained that salt waste must be processed prior to startup of SWPF in 2009 in order to prevent an extended outage of DWPF and to enable staging of feed for SWPF. He detailed the tank farm influents versus effluents, and reiterated how in 2008, there will be insufficient space to continue sludge feed preparation for DWPF. Planned mitigation actions include bringing the SWPF online earlier in 2009, bringing a DWPF acid evaporator on line in 2009, limiting inputs to the tank farm system, and (importantly) removing limited amounts of salt waste as needed to prepare sludge batches and SWPF feed.

Mr. Poe asked that this committee hear a presentation on facilities and capabilities supporting the salt processing strategy. Mr. Spears offered to make such presentations available to the committee and/or CAB as necessary.

Mr. Hansen spoke of the two waste tanks closed by DOE at SRS in 1997 and the regulatory approval that accompanied these closures. He outlined waste removal from Tanks 18 and 19. In response to a question from Mr. Poe, Mr. Hansen clarified the nature of zeolite residues in Tank 19. Mr. Hansen expressed that DOE's biggest concern in tank closure is the protection of human health and the environment, and that the drinking water standard is not impacted by SRS's tank closure program. The Tank 18 and 19 Closure plans are in draft, and when appropriate, DHEC will approve these closure plans.

Mr. Hansen continued by detailing the DOE selected alternative of waste removal and addition of grout to stabilize the residual material and structure. He explained the conservative measures taken to measure the cumulative dose at the seep line from all DOE closure activities. He showed pictures of tank interiors after cleaning. He summarized by saying that SR is committed to accelerated clean up and risk reduction.

Yucca Mountain Waste Acceptance Criteria (WAC)-Bill Pearson

Next Mr. Pearson spoke to the committee on the Waste Acceptance Program and the federal repository. He first explained DWPF production. He stated that SR has poured 3197 tons of radioactive glass in DWPF, which means that 32% of the canisters are completed.

He outlined the WAC process developed in the mid 80's in which the Environmental Protection Agency (EPA) developed a program to set public health and safety standards for a federal repository to allow waste to meet performance criteria. He discussed various regulators, developers, and waste producers and the roles they play in the process. The program involves the NRC, the DOE office of Civilian Radioactive waste Management (RW), and SRS. He gave the group the RW web site-- www.ocrwm.doe.gov.

He explained the six documents that govern this process, and how SR fits into the total picture. He explained Table 7, *Estimated Schedule for Acceptance of Commercial and Government managed Nuclear Materials* taken from the Waste Acceptance System Requirements Document (WASRD), which points out that HLW is part of the total waste going to the repository. The schedule shows SR shipping in 2010 and continuing until all canisters are placed in the repository.

He detailed the Waste Acceptance Product Specification (EM-WAPS) that cover everything from the chemical composition and product consistency of the glass, to the fill height and plutonium concentration of the waste, to the canister itself.

Mr. Pearson discussed the Waste Form Compliance Plan and how it describes the basis that the DWPF will use to qualify and meet each specification for process control and reporting changes. All WCP revisions must be agreed to by DOE-SR and in some cases DOE-EM.

He moved on to discuss the Waste Form Qualification Report (WQR), a second set of documents that contain the results of testing activities to demonstrate DWPF's ability to comply with each specification. The WQR is divided into 13 volumes.

Then, of course, there are the production records that provide evidence that each macro batch of canister complies. The storage and shipping records describe the physical attribute of each canister and identify any abnormal event that may have occurred during storage.

A Quality Assurance (QA) program was established by RW and accepted by the NRC. All of these additional requirements have been incorporated into the DWPF manuals and procedures. Mr. Pearson summarized by saying that SR has thus far met all requirements and successfully produced 1640 canisters of the planned 5060 under the Waste Acceptance Process.

When asked about canisters that do not meet the waste acceptance process, Mr. Pearson replied that the system allows for non conforming canisters. SR would be required to provide a mitigation/deviation strategy to DOE and the repository in a Waste Form Compliance Plan. If there is any mitigation strategy, SR is required to seek approval all the way up the chain.

DWPF Returns-Doug Hintze

Mr. Hintze discussed the total waste volume for all tanks. Presently, there is more waste going into the tanks than coming out, and if this trend continues, the site will be in trouble in 2008. Mr. Hintze explained the four types of tanks and emphasized that SR is dealing with compliant tanks. He reviewed tank inventory for compliant and non compliant tanks. Presently, the only waste going into non-compliant tanks is DWPF recycle.

Mr. Hintze presented a graph of Tank Freeboard space. He discussed the contingency space of 1.3M Gallons. He explained the move to take care of the organics in Tank 48 and return it to service. The bottom line is that the tanks have about 2.3 M gallons of working space.

He discussed the Compliant Tank Inventory and how available working space continues to go down. He went on to discuss the tank farm influents and effluents during FY'03 through May '04. He added that Saltstone got rid of no waste this year.

He explained the impact of salt waste processing on tank farm space. About 2008, insufficient space will exist to continue sludge feed preparations for DWPF.

Mr. Hintze explained sludge processing impacts on compliant tank space for each DWPF canister. Processing one gallon of settled sludge increases complaint tank inventory by 1.3 gallons. He went on to explain the contributors to the DWPF recycle stream.

SR is considering several strategies to optimize the Type III tank working space. They are trying to eliminate influents, maximize evaporation, and minimize internal additions. They are also recovering Tank 48 for use and completing ventilation upgrades for Tanks 40 & 51. In order to reduce the volume of DWPF recycle, SR is looking at several options. These are using DWPF recycle waste to dissolve salt cake and adjust salt solutions for processing, processing DWPF recycle to Saltstone, and reducing volume of recycle via an acid evaporator.

The team is diligently looking at ways to avoid a DWPF slow down or shut down. When asked about the availability of the acid evaporator, Mr. Hansen responded that it won't be available before available tank space is depleted.

Mr. Poe commented that the CAB, WM Committee, and general public needed to respond to the misinformation in the media. He asked that DOE help them with the correct information and answers. Mr. Hansen responded that DOE has been compiling technical answers to all of the questions that the WIR lawsuit has raised and would be happy to share those with the committee.

Mr. Nettles asked for public comment.

Receiving no further comment, Mr. Nettles adjourned the meeting at 7:30