



SRS Citizens Advisory Board

Waste Management Committee Meeting

Aiken Municipal Conference Center, Aiken, SC

August 15, 2006

The Savannah River Site (SRS) Citizens Advisory Board (CAB) Waste Management Committee (WMC) met on Tuesday, August 15, 2006, 5:00 PM, at the Aiken Municipal Conference Center, Aiken, SC. The purpose of this meeting was to discuss the Salt Permit Status, Tank 41 Options, New Technology for Tank Clean Up and to hear public comment. Attendance was as follows:

CAB Members

- Bob Meisenheimer
- Joe Ortaldo
- Manuel Bettencourt
- Bill Lawless
- Karen Patterson
Alex Williams
Mary Drye
Leon Chavous
Wendell Lyons
Jerry Devitt

Stakeholders

Ernie Chaput
Jack Roberts
Perry Holcomb
Lee Poe
Leah Ross

*Rick McLeod

Regulators

Rob Pope
Ken Feeley

DOE/Contractors

Bill Spader, DOE
Terry Spears, DOE
Sherri Ross, DOE
Julie Petersen, DOE
Greg Johnson, DOE
Tom Robinson, WSRC
Jim Cook, WSRC
Ed Stevens, WSRC
Ron Campbell, WSRC
Charlie Hansen, Parsons
Jack Kasper, Parsons
Michael Norton, Parsons
Jim Moore, WSRC

- *WM committee members* * *CAB technical advisor*

Welcome and Introduction:

Bob Meisenheimer, Chair, thanked everyone for being at the meeting and asked them to introduce themselves. Mr. Meisenheimer referenced the meeting ground rules and reviewed the agenda. Shelly Sherritt, SCDHEC, tried to participate via conference call but technical difficulties with the phone system prevented her participation.

New Technology for Tank Clean Up:

Sherri Ross, DOE, explained that there was one particular company and device that appears to have high potential in helping clean up our waste tanks. The device uses high pressure water and a suction head but introduces very little water into the system. The device is lowered into the tank in a vertical position and then a hydraulic system extends the arm to horizontal and locks it

into operating position. A high pressure water supply is driven through the pipe and a venturi effectively drawing the waste up into the suction bell. The operation is portable and the plans are to move it from tank to tank.

There are approximately 4,300 gallons of solids in Tank 18 and 15,000 gallons of solids in Tank 19. It is expected that roughly 60,000 gallons of water will be required to remove a significant portion of the remaining 19,300 gallons of solids. The waste will be placed into Tank 7. The system plan will reserve 120,000 gallons for the demonstration.

The limits of the technology include interferences with the hoses within the tank itself, radiation exposure to maintain the equipment and space available in the receipt tank.

Tests are currently being conducted. Some of the tests that have been completed are the proof in concept, total liquid flow rates, solids removal flow rates, rough estimate of liquid head curves and the platform is in operation in Hanford. Tests that still need to be completed are the air/vapor measured flow rate, we need to quantify the aerosolization, confirm conveyance over long runs of the horizontal hose and conduct endurance tests for materials of construction.

This type of application is being used in several dry conveyance systems. Walt Disney World is using it to transport municipal waste, this is the largest dry conveyance system now in operation, and it's also used in grain transport between shipping terminals, cement transport at large construction sites and mining and well drilling. Similar applications of platform technology are in use at S-122 cleanup at the Hanford Site, potable water tanks and oil refinery de-sludging operations.

While tank space is limited, the technique is inherently economical. Roughly three gallons of fresh water is needed for every gallon of residue. Only water is applied during actual solids removal.

Risks and the planned mitigation are as follows:

- Risk: Contaminant aerosolization in the receipt tank

Mitigation: Confirm the degree of aerosolization through testing and use a demisting sparger if needed. Inadvertent aerosolization mitigated using doubly contained hose.

- Risk: High cesium-137 loading of waste creates high radiation hazards to workers.

Mitigation: Employ the use of portable shield blocks over the above-grade transfer line.

- Risk: Dry conveyance methods is a spark prone operation

Mitigation: Confirm the phenomenon through testing. The waste itself is non

flammable and only use non-flammable hydraulic fluid.

- Risk: Hydraulic fluid could be flammable.

Mitigation: Only use non-flammable fluids. Also able to build on Hanford experience with non flammable fluids.

- Risk: Wet dry aspirated solids are very erosive.

Mitigation: Confirm the degree of erosivity through testing and select erosion resistant materials. Limit time-at-risk operation.

- Risk: Total flow rate of the aspirated stream (air, water, and solids) could be greater than the receipt tank ventilation rate.

Mitigation: Confirm total flow rate through testing and adjust receipt tank ventilation accordingly.

- Risk: Long runs of pneumatic transport could be clog prone.

Mitigation: Confirm clogging potential through testing and install a flush station or booster station if needed.

For the path forward, additional DOE management briefings are ongoing as well as meetings with the South Carolina Department of Health and Environmental Control (SCDHEC) and the Environmental Protection Agency (EPA) to resolve Federal Facility Agreements tank closure commitments. DOE will continue to consult with the Nuclear Regulatory Commission and will keep the CAB and other affected stakeholders fully informed.

During discussions, it was mentioned that if the site decides to pursue this technology on Tanks 18 and 19, it could delay the closure up to four years. This process could be used on four other tanks with no coils. The decision to use this process has not been decided and is still being evaluated. DOE has answered 17 of the 67 questions in the Nuclear Regulatory Commission's Request for Additional Information on the Tank Closure Waste Determination.

Salt Process Status:

(Note above, Shelly Sherritt, SCDHEC, tried to call in but the phone system did not work.)

Terry Spears, DOE, reviewed the history of the efforts to get the permit to start up the Deliquidification, Dissolution and Adjustment (DDA) facility. SCDHEC is looking for a long

term commitment to get the job done. The site has been working since December 2005 with SCDHEC, the Defense Nuclear Facility Safety Board, and the Governors Nuclear Advisory Council. The Secretary of Energy sent a letter to the Governor Sanford but didn't make the necessary commitments that the Governor was looking for so the Governor responded expressing his disappointment that a firmer commitment wasn't made. Mr. Spears explained that he could and wouldn't speak for SCDHEC but he is optimistic that a resolution will be forthcoming in weeks, not months, resulting in the public involvement process.

Tank 41 Options:

Terry Spears explained that successful and timely salt waste removal and disposal is central to SRS efforts to proceed with all aspects of tank waste cleanup and closure. The salt waste must be removed and treated before the tanks can be closed. Removal of the salt is also needed to allow SRS to continue removing and stabilizing the high-activity sludge fraction of the waste through the Defense Waste Processing Facility (DWPF). The issue is that the salt waste is filling up tank space needed to prepare the sludge waste for treatment in DWPF and to handle recycle streams from DWPF operations. In addition, tank space is necessary to continue to receive waste from operation of H-Canyon and to prepare feed for the Salt Waste Processing Facility (SWPF) when it becomes operational in 2011.

While we evaporate liquid waste to conserve space, the concentrated supernates and salt cake products are filling up the SRS waste tanks. There is a critical shortage of tank space at present, which left unaddressed, will result in filling up the tanks with salt. To address this challenge, DOE developed, under Section 3116 of the Ronald Regan National Defense Authorization Act of 2005; a waste determination was prepared for disposal of salt waste from SRS tanks. This waste determination was approved by the Secretary of Energy in January 2006.

The salt waste determination called for treatment of salt waste using three principal treatment approaches:

- Deliquification, Dissolution and Adjustment (DDA) process – originally planned for operations beginning in October 2006
- Actinide Removal Process (ARP)/Modular Caustic Side Solvent Extraction Unit (MCU) coupled operations – originally planned for operations beginning in September 2007
- SWPF – originally planned for operations beginning in 2009

During and since finalization of the SRS salt waste determination, a number of issues have arisen that have driven a fresh look at the implementation approach for achieving the objectives built into the waste determination. Principally, these include:

- DOE's decision to upgrade the design specifications for the SWPF to seismic Performance Category (PC) 3 from PC-2 – resulting in a 26 month delay

- Experience with the new waste determination process under Section 3116 indicated that the process would take longer than originally anticipated – resulting in additional work necessary to prepare for the closure of each tank or group of tanks.

In taking this fresh look, DOE worked closely with the SCDHEC and the SC Governor's Nuclear Advisory Council to establish a set of common goals and objectives for planning. These include:

- Continued safe storage, transfer and concentration of liquid radioactive waste
- Meeting tank closure commitments
- Continued sludge stabilization via DWPF
- Supporting nuclear material stabilization via H-Canyon for current missions
- Providing for feed for the SWPF
- Keeping the amount of radionuclides disposed in Saltstone as low as reasonably achievable

SRS developed the Liquid Waste Disposition Processing Plan (DPP) to meet the common objectives identified above while dealing with delays. The DPP utilizes the same treatment approaches identified in the approved waste determination while minimizing the amount of curies to be disposed in Saltstone at SRS. To do this, DDA waste treatment was limited to one tank (Tank 41), while ARP/MCU waste treatment was expanded (2007 – 2011).

At present, SRS has planned in the DPP to treat and dispose of a minimum amount of DDA waste (only Tank 41). There are no other treatment alternatives known for this waste at present. If SRS does not disposition Tank 41 waste through DDA, it will need to be treated later via ARP/MCU and will significantly impact the achievement of common objectives identified above. In the DPP, SRS has identified the rough order of magnitude impacts of no DDA treatment: With no DDP:

- It leaves an additional approximately 1 million gallons of waste in Tanks 41 and 49 for treatment by ARP/MCU
- Delays recovery of Tank 25 as the 2F Concentrate Receipt Tank
- Delays closure of Tanks 4,5 and 6 (and later tanks) by as much as 18 months
- Extends time waste remains in non-compliant tanks
- Delays readiness of Sludge Batches 5, 6 and 7, which results in three separate feed breaks for DWPF (early 2009, 2011, and 2013), each lasting two to five months

- Results in filling of 2H Evaporator system with salt and no space for DWPF recycle waste. This in turn results in shutdown of DWPF (in 2009 timeframe) for six to twelve months. (It should be noted that this is highly dependent on other factors and is likely not a precise estimate) (Also, it should be noted that this overlaps the SB 5 feed break).
- Results in filling Tank 39 (Canyon Receipt Tank) (approximately 2009) and potential shutdown of H-Canyon for upwards of 15 months
- Reduces space available for SWPF feed preparation and likely results in feeding SWPF at a reduced rate during early years

During discussion, Tank 48 was brought up. Mr. Spears explained that the site was looking for technology to clean up Tank 48. The site has looked at 40 alternatives and has narrowed it down to three. An independent review team has reviewed the selection process and has issued their report. The independent review team agreed on the technical evaluation process and preferred the Steamer Reforming alternative. Timing for selection is expected by November 30, 2006.

Public Comment:

A public comment was received on August 17, 2006, from Lee Poe requesting that it be placed in the public comment record. Mr. Meisenheimer agreed that the letter should be included and is included below.

Adjourn:

Mr. Meisenheimer adjourned the meeting

Follow-Up Actions:

The following are the actions items:

- Obtain independent review team report on the alternatives for clean up of Tank 48 and forward to the Waste Management Committee. – T. Spears/J. Moore

Public Comment from Lee Poe, August 17, 2006.

August 17, 2006

807 E. Rollingwood Rd.

Aiken, SC 29801

To; Bob Meisenheimer

Joe Ortaldo

Dear Sirs:

I am sorry it was necessary for me to leave the WMC meeting Tuesday night before you reached the public comment section of the meeting because I had an item that I wanted to raise. His letter provided you with my points.

The CAB has taken the position “to keep DWPF operating at full capacity” because of the risk HLW presents. I request you get number of curies vitrified to date and compare them to the total curies in Tanks when the CAB began. The risk reduction is an important measure of effectiveness of this activity. As I recall there have been several recommendation on this issue. Publish the risk reduction in the annual CAB report.

I sensed at Tuesday’s meeting, the CAB members thought closure of Tanks 18 and 19 to be a significant risk reduction item. Closure of these two tanks is not a significant risk reduction item and the technology Sherri was talking about should be developed. I think delaying closure of these two tanks for a short time is worth what we get out of it.

I did get the impression from this meeting and others that many people think the risk potential of reuse of non-compliant tanks are equivalent. I disagree with that position. For example Terry Spears, while talking about Tank 41, said it may be necessary to put some waste back in non-compliant tanks and he mentioned Type 4 tanks. My ears sharpened on that casual statement. In my judgment Type 4 tanks are the more risky of the noncompliant tanks. Those single walled tanks do not have the leak detection capability that exists in Type 1 and 2. I think the WMC should come up with a recommendation on the order of reuse of non-compliant tanks. In my opinion, I had rather reuse either Type 1 or 2 before I reused Type 4 tanks. Types 1 and 2 have leak detection capability and containment of leakage.

I think the CAB is moving in a proper direction I want to thank you for your time and effort. Several recent recommendations have encouraged DOE to work with regulators to reach speedy agreement on issues and get on with the work. I am pleased to have the CAB representing public stakeholders. I consider part of my personal responsibility participation in what goes on at SRS. Many of my contemporaries do not have the same objective. I think the CAB should work to provide updates on SRS for citizen stakeholders. WE might be able to interest some of them.