



SRS Citizen's Advisory Board

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Waste Management Committee Meeting

Aiken Municipal Conference Center, Aiken, SC

October 17, 2006

The Savannah River Site (SRS) Citizens Advisory Board (CAB) Waste Management Committee (WMC) met on Tuesday, October 17, 2006, 5:00 PM, at the Aiken Municipal Conference Center, Aiken, SC. The purpose of this meeting was to discuss the Liquid Waste Disposition Processing Plan (DPP), the Technology Development Update and to hear public comment. Attendance was as follows:

CAB Members

- Bob Meisenheimer
- Joe Ortaldo
- Bill Lawless
- Mary Drye
- Leon Chavous
- Wendell Lyon
- Judith Greene-McLeod

Stakeholders

- Bill McDonell
- Liz Goodson
- Perry Holcomb
- Murray Riley
- John Contardi, DNFSB
- Mark Sautman, DNFSB
- Harry Harmon

*Rick McLeod

Regulators

- Dave Wilson, SCDHEC
- Shelly Sherritt, SCDHEC
- Tom Rolka, SCDHEC
- Van Keisler, SCDHEC
- John McCain, SCDHEC

DOE/Contractors

- Larry Ling, DOE
- Sherri Ross, DOE
- Tom Treger, DOE
- David Hoel, DOE
- Gerri Flemming, DOE
- Sheron Smith, DOE
- Julie Petersen, DOE
- Virginia Dickert, WSRC
- Frank England, WSRC
- Ron Campbell, WSRC
- Pamela Amendola, Parsons
- Mindy Mets, V3Technical Services
- Jim Moore, WSRC

- *WM committee members*

* *CAB technical advisor*

** Karen Patterson and Manuel Bettencourt, members of this committee, were unable to attend.

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.

Mr. Meisenheimer explained that before the committee got into the actual agenda, that Shelly Sherritt, South Carolina Department of Health and Environmental Control (SCDHEC), had some news to share with the Committee.

Saltstone Permit Modification:

Shelly Sherritt, SCDHEC, announced that the draft Saltstone Disposal Facility Permit Modification has been made available for public review and a 45 day public comment period has been set from October 3, 2006 to November 17, 2006. Ms. Sherritt explained that the SCDHEC objective is the reduction of risk posed by 36 million gallons of toxic and radioactive waste stored in aging tanks at the SRS. The risk

reduction for this material is waste treatment via continued operation of the Defense Waste Processing Facility (DWPF), start up of the Salt Waste Processing Facility (SWPF), and tank closures in accordance with the Federal Facility Agreement (FFA) to minimize residuals in South Carolina.

The draft permit has conditions for limited disposal, treatment facility schedules and funding. The conditions limit disposal to 1.4 to 2.3 million curies. This is reduced from the original Waste Determination that contained a range of 3.0 to 5.0 million curies. This includes the total from the Deliquification, Dissolution and Adjustment (DD) facility, Modular Caustic Side Solvent Extraction (MCU) and SWPF. The draft permits sets deadlines for start up of MCU by September 30, 2007, and SWPF by September 30, 2011. It requires DOE to take all necessary steps to obtain timely funding.

Failure to meet an effective permit condition subjects DOE to penalties between \$35,000 and \$105,000 per day of non-compliance.

A public meeting will be held November 8, 2006, at 6:00 p.m., at the Aiken Municipal Conference Center. The draft permit may be viewed at www.scdhec.gov/lwm/html/public.aasp

Ms. Sherritt explained that SCDHEC had received a letter on September 18, 2006, from the National Regulatory Commission (NRC) which they received anonymously reporting vault cracks. This is not a new issue for SCDHEC since SCDHEC has actively overseen design/operational changes in the past to address cracks. Recent visual inspections by SCDHEC confirm no moisture in the Saltstone cell cracks. The draft permit modification incorporates the changes to prevent this issue in the future.

In summary, SCDHEC believes the draft permit modification is protective of human health and the environment and drives risk reduction.

During discussions, both SCDHEC and DOE were strongly complimented for working cooperatively in resolving the issues for this permit. Ms. Sherritt expects the public comments to be wrapped up and a decision made by the end of December. The permit should be approved within the first quarter 2007.

Mr. Meisenheimer encouraged members of the committee to attend and speak in support of the draft permit at the November 8 public meeting.

Liquid Waste Disposition Processing Plan (LWDPP):

Larry Ling, DOE Director of the Salt Processing Division, explained that the programmatic objectives for the Disposition Processing Plan (DPP) are continued safety operations, achieving tank closures to meet the current Federal Facility Agreement (FFA) commitments, sustained Defense Waste Processing Facility (DWPF) operations to disposition waste, and high-capacity Salt Waste Processing through the Salt Waste Processing Facility (SWPF).

The critical path for SRS tank space management near term (2006 – 2009) is to provide concentrate receipt space for evaporator systems operations. For mid range (2010 – 2011) is to provide additional waste tank space through other approaches. For long range (Beyond 2011) is to provide high-capacity salt waste process through SWPF operations.

The DPP critical elements in the near term are to disposition Tank 41 waste through the Deliquification, Dissolution and Adjustment (DDA) process. Tank 41 has the lowest amount of curies per tank and is a

Type III tank. Another critical element is the operation of the Actinide Removal Process (ARP) / Modular Caustic Side Solvent Extraction (MCU) facilities beginning in September 2007, and the modification of Tank 25 as the 2F Evaporator concentrate receipt tank. The ARP construction has been completed and the MCU is 95 percent complete.

The critical elements mid range are the treatment of organic-bearing Tank 48 waste to restore Tank 48 to general use and construction of the Lag Storage System (Saltstone Feed System) to restore Tank 50 to general use.

The critical element long range is the staging of feed for the SWPF operations.

The immediate path forward for the salt process includes the following:

- Initiate Saltstone Facility processing – perform the DOE Readiness Assessment and initial operation with the current Tank 50 material
- Initiate Tank 25 deliquification to prepare ARP/MCU feed
- Complete Tank 48 technology testing and treatment selection
- Continue waste removal from Tanks 5 and 6
- Continue closure activities for Tanks 18 and 19 which are the next two tanks to close
- Complete SWPF final design
- Complete SWPF geotechnical field work
- Complete SWPF Independent Design Review
- Complete SWPF External Independent Review of cost and schedule

During discussion, Mr. Ling estimated that the DDA would start up sometime in first quarter 2007 and would operate for approximately one year. The Lag Storage System should be in operation by 2010.

Technology Development Status:

Sherri Ross, DOE Programs Division, described the technology development activities to support the liquid waste processing and disposition, including tank closure. The Disposition Processing Plan (DPP) defines the business plan through 2012 with the technology gaps identified. A Technology Development group was formed to address the technology gaps while project teams were formed to develop the technologies to fill the gaps. This approach is used to solve the problems quickly. The Technology Development projects have been added to the current contract and/or proposed in the contract extension.

There are seven areas in the current scope and three pending scopes under evaluation. Each is addressed below.

Tank 48 Alternative:

A technology is needed to develop and deploy an alternative process to Aggregation to disposition the organic waste in this tank. Two leading options have been identified and are being tested prior to the final sections. An independent verification and technical review final report was issued August 10, 2006. The Fluidized Bed Steam Reforming full scale test was started September 18, 2006 and was completed Friday, October 13, 2006. The Wet Air Oxidation bench scale test was started September 25, 2006. A recommendation is expected November 30, 2006.

Sludge Mass Reduction:

A process to reduce the sludge mass as part of a larger program to reduce the High Level Waste (HLW) System life cycle cost and scheduled is needed. The SRS experience with Aluminum Dissolution will be

leveraged as well as industry experience to identify alternatives. The Technology Exchange will be co-sponsored with the Savannah River National Laboratory (SRNL), Pacific Northwest National Laboratory (PNNL), Hanford and other industries. An alternative evaluation is in progress to identify alternatives.

Tank 16 Annulus Cleaning:

A technology is needed to remove insoluble salt from the annulus. The selected technology will be demonstrated in one of four risers. This will support tank closure. The approach is to obtain samples of the material in the annulus and then develop vendor competition. Expressions of interest were sent to 46 vendors. Seven proposals were developed for further development with plans to down-select to three for demonstration prior to the award.

Chemical Cleaning:

In order to support tank closures of Tanks 5 and 6 in September 2010, oxalic acid cleaning technology will be deployed. Alternative technologies will be developed for future tanks. The SRNL developed chemistry similar to Tank 16 demonstration in 1982 will be used with vendor equipment and/or service. The Hanford experience using SRNL-developed chemistry will be leveraged. The key issue is the hydrogen generated from acid/carbon steel reaction. Tests are in progress along with alternative evaluations. The site would like to minimize chemical cleaning because of problems down stream.

Mechanical Cleaning:

A method for cleaning Type IV tanks is needed. The application will be evaluated in Tanks 18 and 19. In the long term, the application will be adapted and expanded to other tanks. There is an attempt to develop a crawler-based vacuum system that adds little or no water during waste removal. This is a first of a kind equipment and process. SRS is teaming with Hanford to reduce the overall cost. The first two tests resulted in plugging of the transfer lines. The third test was effective with evaluations in progress. Two more tests are planned if needed.

Tank Closure Center:

There is a need to develop a facility where SRS and vendors can test and demonstrate equipment to solve SRS tank closure needs including bulk waste removal, tank cleaning, annulus closure, transfer piping closure and cooling coil closure. The approach is to consider the commercial Greenfield project and leverage the Hanford test tank experience. The conceptual design and site selection are in progress.

In summary, there are several active projects that are aligned with the DPP needs utilizing WSRC, SRNL, vendors and DOE complex experience. Additional projects are under consideration. DOE is committed to keep the CAB and other affected stakeholders fully informed.

During discussions, Ms. Ross assured the committee that the regulators had been informed of the status on all the pending technologies. She mentioned that the point of compliance question was still pending. In answer to a question of cleaning out the tanks to the “maximum extent practical”, Ms. Ross explained that the definition infers that the site has used all technology that is currently available; the risk is considered for removing the balance of the waste, and the benefit of removing the waste against the cost. If the new technology for cleaning out the tanks does not work, then the site would respond appropriately in the NRC Request for Additional Information. Regarding the delay in closing tanks, Ms. Ross explained that a final decision has not been made yet pertaining to deployment of the new technology under investigation or the development of new performance modeling which directly impact upon the closure schedule for

Tanks 19 and 18. DOE will continue to work with regulators, SCDHEC and EPA, and consult with NRC in resolving issues and finalizing a strategy, including schedule, for moving forward with closure of Tanks 19 and 18. If a decision is made to deploy the technology currently under investigation and/or performance of additional modeling of environmental and health impacts prior to closure, DOE anticipates approximately three year schedule impact. To clarify, this project is currently one year behind the FFA commitment closure dates, resulting in a total approximate four year delay to the current FFA closure commitments.

Public Comment:

There were no public comments.

Adjourn:

Mr. Meisenheimer adjourned the meeting

Follow-Up Actions:

The following are the actions items:

- Bill Lawless requested that the WMC be copied with the anonymous letter sent to NRC and forwarded to SCDHEC on the report of vault cracks. - S. Sherritt/J. Moore
- Bob Meisenheimer and Bill Lawless both expressed interest in developing a draft recommendation to be presented at the November CAB meeting supporting the draft SCDHEC Permit modification on Saltstone. They would work closely with S. Sherritt and L. Ling on the draft recommendation. - B. Lawless/B. Meisenheimer/R. McLeod/J. Moore
- Joe Ortaldo requested that when the yearly calendar on Liquid Waste is developed that consideration be given for updates on the Salt Process critical path items. Bob Meisenheimer requested that the SCDHEC Saltstone Permit conditions be included also. - T. Spears/T. Treger/J. Moore