



SRS Citizen's Advisory Board

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Waste Management Committee Meeting

Aiken Municipal Conference Center, Aiken, SC

October 24, 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 Transuranic (TRU) Waste Update, Risk Management Plan Project Baseline Summary (PBS)-SR-0013, PUREX Solvent Treatment, Consolidated Incineration Facility (CIF) Status, Paper Pellets and to hear public comment. Attendance was as follows:

CAB Members

- Bob Meisenheimer
- Joe Ortaldo
- Manuel Bettencourt
- Bill Lawless
- Karen Patterson
- Alex Williams
- Madeleine Marshall
- Leon Chavous
- Wendell Lyon

Stakeholders

- Bill McDonell
- Jack Roberts
- Perry Holcomb
- Murray Riley
- Tammy Monday, Perma-Fix

DOE/Contractors

- Tom Treger, DOE
- Bert Crapse, DOE
- Steve Mackmull, DOE
- Helen Belencan, DOE
- Mike Simmons, DOE
- Sheron Smith, DOE
- Sonny Goldston, WSRC
- John Harley, WSRC
- Larry McCollum, WSRC
- 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.

Joe Ortaldo, Vice-Chair, explained there had been a slight change in the agenda and the Consolidated Incineration Facility (CIF) status report would go first. Mr. Ortaldo introduced Helen Belencan, DOE, who introduced Sonny Goldston.

Consolidate Incineration Facility (CIF) Status

Sonny Goldston, WSRC, reviewed the CIF history. CIF was completed in 1996. Operations began in 1997 and operations were suspended in November 2000. In 2002, SRS negotiated deferral of CIF closure until alternate technology is available to treat organic PUREX. An annual progress report was submitted to SCDHEC May 24, 2006. An extension of deferral for one year is approved if adequate progress has been demonstrated.

The closure of CIF is driven by the RCRA permit and would be required to begin after treatment of PUREX solvent is demonstrated. Closure must be completed within 180 days (estimated mid FY2008). SRS, SCDHEC and the Environmental Protection Agency (EPA) are discussing transferring closure requirements to the Federal Facility Agreement (FFA). This would allow SRS to maintain focus on higher risk cleanup activities, place CIF decommissioning (closure) to start FY 2011 and decommission the facility to the slab. CIF transfer to the FFA and removal from the SRS RCRA Permit will be simultaneous to maintain regulatory coverage. Discussions with EPA and SCDHEC are on going.

During discussions it was pointed out that the cost to dismantle CIF would be approximately \$30 million.

Transuranic (TRU) Waste update:

Bert Crapse, DOE, explained that the purpose of the presentation was to provide a TRU program update including CAB recommendation 229 that requested information about large container characterization and shipping efficiencies. TRU waste continued accelerated shipments to the Waste Isolation Pilot Plant (WIPP) in 2006 as well as achieving the Battelle-Columbus commitment to disposition 1,000 cubic meters of TRU waste five weeks early. The Modular Repackaging System started up in February 2006 and Savannah River National Laboratory (SRNL) drum repackaging started up in June 2006. Larger container repackaging continued and the low activity waste segregation was initiated from TRU waste inventory for the Nevada Test Site shipments. F-canyon drum repackaging started in August 2006 averaging 250 drums per month. Drum repackaging activities are averaging 250 drums per month.

During October the site made four shipments per week to WIPP. This averaged about 300 – 400 drums per month. A total of 2930 drums were shipped to WIPP in fiscal year (FY) 2006. The site will average two to three shipments per week in FY2007. In FY2006, 497 drums were shipped to the Nevada Test Site and 450 cubic meters was disposed on-site as low-level waste.

Large container repackaging at H-Canyon and E-Area resulted in repackaging 20 large steel boxes in FY2006. Assay screening is being performed to identify waste for low-level waste disposal.

Approximately 500 drums of equivalent mixed low-level waste were shipped to the Nevada Test Site in FY2006. The site will continue to repackage drum mixed low-level waste into Nevada Test Site approved boxes (macro-encapsulation) in FY2007. Approximately 400 drums equivalent are scheduled to be shipped to the Nevada Test Site in FY2007.

Large equipment NDE equipment was installed in E-Area vaults and start up testing is underway. Technical and cost delays have pushed the project completion to FY2007. The project costs for the NDE is \$7 million and \$8 million for the NDA project. The Non destructive Assay equipment is being fabricated at the vendor with delivery expected in the Spring of FY 2007 and operational in FY 2008.

In FY 2007 and 2008, the site will start pre-retrieval activities for Pad 1 with the submission of Resource Conservation and Recovery Act (RCRA) Part B Permit for TRU Pads 1 and 2. Large box WIPP characterization will start up and be operational in FY 2008. Disposition of low activity drummed inventory (approximately 27,000 drums) will be complete in FY 2008. The TRU waste storage foot print will be reduced by seven pads and TRUPACT III shipments will be initiated.

The following is the status of the agreement commitments made with Battelle-Ohio. The site has completed two for one shipments of TRU waste and completed the Battelle shipments. TRU waste from off-site received at SRS to date is approximately 340 cubic meters. The site has disposed of 1,000 cubic meters. The site received \$2 million funding from DOE for the Battelle, Ohio work. Fabrication of one TRUPACT III was complete with drop testing scheduled for November 2006. The NDE and NDA large box equipment startup is scheduled for FY 2007.

The future agreement commitments include shipping 3,000 drums to WIPP in FY2007. DOE must remove the Battelle remote-handled TRU waste from SRS by January 1, 2009. DOE will establish a large box certification program at SRS as defined by (1) the fabrication and integrity testing of a TRUPACT III container by December 30, 2006, and (2) the receipt, installation, and startup (to demonstrate operability) of NDE and NDA for the TRU waste large box process line by the end of FY2007.

During discussions, Mr. Crapse explained that the ArrowPAC container would be used as a inter-site shipping container only.

Risk Management Plan (RMP) PBS-SR-0013:

Bert Crapse, DOE, introduced Sonny Goldston who gave the presentation. Mr. Goldston explained that the last formal risk assessment for the Solid Waste Stabilization and Disposition Project Risk Management Plan was October 2004. This current risk assessment was performed June and July 2006. The Risk Management Plan is a lifecycle risk assessment focusing on two key aspects: (1) completion of legacy TRU disposition by the end of 2012 and (2) completion of the Environmental Management (EM) lifecycle. He introduced Sonny Goldston.

Mr. Goldston, WSRC, explained that several new risks were identified in this new Plan with mostly external effects. In addition, more rigor was placed in the definition of residual risk and contingency. Residual risk is the risk left over after you apply the risk management process. The most risk is in the TRU waste program.

The TRU project has significant cost risk based on the uncertainty about the availability of the TRUPACT III container for shipping large boxes of TRU waste to WIPP and the uncertainty associated with the ability to perform the necessary NDA and NDE characterization analysis on large boxes of TRU waste. The realization of either of these risks leads to the need for a significant rebase lining of the TRU project to repackage all this waste into smaller containers which extends the schedule beyond 2012 and significantly increases cost. A facility to repackage for shipment in the TRUPACT II is not available.

External risk events were identified such as a 9/11 type of national security event leading to a temporary shutdown of transportation or disposal capability for TRU waste as well as a natural event such as a hurricane, earthquake, or other weather event leading to temporary shutdown of SRS facilities. Another risk is a transportation accident leading to a temporary suspension of the ability to move TRU waste to WIPP. Contingency results for these risks require approximately \$715 million near-term and \$545 million in the out-year lifecycle.

All risks that can be mitigated or reduced by action now are being worked. The high risks in PBS 13 are dominated by the risks and cost impacts associated with the disposition of TRU waste. External risks that cannot be mitigated or reduced are best addressed by the successful shipment of legacy wastes, particularly TRU waste to its final disposition site as quickly as possible.

During discussions, a member of the WMC felt that the greater risk in TRU waste is the TRU waste on PAD 1. He felt this was a problem that was not addressed and would have given the site an opportunity to point out the problem with the public and regulators.

PUREX Solvent Treatment:

Mike Simmons, DOE, explained that PUREX is Plutonium Uranium Extraction Process. It is a chemical process for separating plutonium and uranium from fission products and is composed of tributyl phosphate and n-paraffin (similar to kerosene).

There are two types of legacy PUREX, aqueous PUREX waste and organic PUREX waste. The aqueous PUREX waste is non-organic liquid from canyon washing operations and old solvent tank closure in E-Area. There are approximately 12,500 gallons classified as low-level waste. The organic PUREX waste is actual solvent liquid. There are 25,000 gallons classified as mixed waste.

There is also 60,000 gallons of low-level PUREX solvent waste generated from F-Canyon deactivation in 2004.

The disposition path for PUREX waste was thermal treatment at the Consolidated Incineration Facility (CIF). However, CIF suspended operation in 2000 so alternative treatments were needed for PUREX waste. A systems engineering evaluation identified alternative treatments for both aqueous and organic PUREX. The alternatives for legacy aqueous PUREX is the Effluent Treatment Project (ETP). Commercial solidification is the alternative for legacy organic PUREX. The F-Canyon PUREX waste will go to the Toxic Substances Control Act (TSCA) Incinerator (12,000 gallons) and to commercial solidification (48,000 gallons).

The TSCA Incinerator treated 12,000 gallons in April/May of 2004 at a cost savings of \$400,000 compared with solidification. The Waste Control Specialists (WCS) contracted for treatment of 48,000 gallons in 2004. The first 10,000 gallons was successfully solidified utilizing a polymer and shipped to the Nevada Test Site for disposal. The last F-Canyon waste batch processed at WCS did not meet the Nevada Test Site Waste Acceptance Criteria (WAC). The exact cause of the failure was undetermined but the waste did not solidify properly and failed the liquid release criteria. EnergySolutions-Utah contracted to remediate/dispose of the WCS waste containers and have been shipped. Perma-Fix contracted to treat/dispose of the remaining F-Canyon PUREX and legacy Organic PUREX waste. A pilot scale test was witnessed at the Perma-Fix Materials and Energy Corporation facility during the week of October 16, 2006. F-Canyon PUREX shipments to Perma-Fix are scheduled for completion by December 31, 2006. Legacy PUREX shipments to Perma-Fix are scheduled for completion by June 30, 2007. SRS has accelerated the Site Treatment Plan (STP) date for treating legacy Organic PUREX from 2019 to September 30, 2007.

Paper Pellets:

John Harley, WSRC, explained that this presentation would provide justification for closure of recommendation 180. The purpose of the paper pellet program was to convert waste material into boiler fuel. It conserves landfill space, conserves fuel/saves money, complies with government directives to conserve and use green fuel, provides a cleaner burning fuel and promotes energy conservation. The current plan is to transfer the extruder and shredder to Three Rivers Landfill. The site will utilize biomass package boilers to replace the current stoker boilers.

Public Comment:

There were no public comments.

Adjourn:

Mr. Ortaldo adjourned the meeting

Follow-Up Actions:

The following are the actions items:

- Bert Crapse suggested that when the approach for getting TRU waste out of the covered ground TRU PADs 1 and 2 is being developed, that the site would come back to the WMC and give them a presentation. It was suggested that this might be done in June 07. - Bert Crapse/Sheron Smith
- Bert Crapse said that DOE would report to the WMC the status of the drop tests on TRUPACT III. - Bert Crapse/Sheron Smith
- Bill Lawless requested that DOE come back to the WMC when they have something meaningful on the evaluation of potential breaching of TRU PAD 1 and 2. It was mentioned that low activity containers from TRU PAD 1 would be investigated using optics on a small scale to see if containers within the concrete culverts are breached. It was suggested that this might be in the June 07 timeframe. - Bert Crapse/Sheron Smith
- It was requested that the WMC be given a break down of the curries of the material on TRU PAD 1 and 2 when TRU waste is presented again. - Bert Crapse/Sheron Smith
- Manuel Bettencourt suggested that TRU drums on PAD 1 could be possibly placed in the grout in a liquid waste tank when it is being closed. Joe Ortaldo requested that this be placed on an agenda list to be discussed at another time. - Sheron Smith
- Joe Ortaldo requested that copies of the Risk Management Plan for PBS-SR-0013 be sent to Perry Holcomb and Joe Ortaldo for review. - Sheron Smith
- Bert Crapse suggested that the WMC needed to hear the full story of TRU PAD 1 in a future presentation. - Bert Crapse/Sheron Smith
- Karen Patterson said that DOE had said during discussions of SWPF that DOE-HQ was working on a process and policy that would look at total system risk. She asked for a presentation or status report on how DOE-HQ was coming on this policy change. - Sheron Smith
- Bill Lawless suggested that the WMC and CAB develop a letter of accommodation to all involved in the PUREX treatment process concerning the extraordinary accomplishment. This letter would go out sometime like next September when the program is complete. The letter should get high level attention and make it news worthy. - Sheron Smith/Bob Meisenehimer

- Bill Lawless suggested that a recommendation should be developed on the PUREX and TRU waste presentation. In addition, Mr. Lawless felt that a recommendation should be developed supporting the DOE position to push out the closure of CIF until maybe the Actinide Removal Process (ARP) and Modular Caustic Side Solvent Extraction Unit (MCU) are closed down for total reduced cost by completing them at one time. - Bill Lawless/Joe Ortaldo/Sheron Smith
- Joe Ortaldo will review recommendation #180 on Paper Pellets to see if it can be closed based on the presentation. - Joe Ortaldo/Sheron Smith
- Bill Lawless suggested that at the full CAB meeting when a recommendation is closed, that a summary be presented of why the recommendation was closed. - Sheron Smith