Summary Notes, October 23, 2007
SRS Citizens Advisory Board
Waste Management Committee Meeting

The Savannah River Site (SRS) Citizens Advisory Board (CAB) Waste Management Committee (WMC) met on Tuesday, October 23, 2007, 5-7 p.m., at the Aiken Municipal Conference Center, in Aiken SC.

The purpose of this meeting was to discuss the following:

1) DOE-SR Waste Disposition Organization Realignment;
2) Radioactive Liquid Waste Disposition Planning Update;
3) PUREX Waste Treatment Update;
4) Transuranic (TRU) Waste Program Update; and
5) an opportunity for public comments on CAB related documents.

ATTENDEES:

CAB Members	**Stakeholders**	**DOE/Contractors/Others**
- Joe Ortaldo, Chair	John Reynolds, Parsons	Sheron Smith, DOE-SR
- Alex Williams, Vice Chair	Jerry Houghton, Parsons	Terry Spears, DOE-SR
- Manuel Bettencourt	Rick Ford, Citizen	Mike Simmons, DOE-SR
- Bob Miesenhiemer	Jim Barksdale, EPA	Larry Ling, DOE-SR
- Leon Chavous	Shelley Sherritt, SCDHEC	Bert Crapse, DOE-SR
- Karen Patterson	Bill Lawless, Citizen	Steve Thomas, WSRC
- Stan Howard		Dave Olson, WSRC
Mary Drye		Bob Hiergesell, SRNL
		Stuart MacVean, WSRC
		Lee Fox, WSRC
		Shelia McFalls, WSRC
	Rick McLeod, Technical Advisor	Sonny Goldston, WSRC
		David Hoel, DOE-SR

- *Waste Management Committee Members*

Welcome and Introduction:

Joe Ortaldo, WMC Chair, welcomed and thanked everyone for attending the meeting.

Mr. Ortaldo, WMC Chair, referenced the meeting ground rules and encouraged participation of all attendees. Then, the attendees introduced themselves.

Mr. Ortaldo, WMC Chair, provided an update and status of the WMC open and pending recommendations.

Mr. Ortaldo, WMC Chair, reviewed the upcoming committee meeting schedule.

The meeting discussions opened with Terry Spears, DOE-SR, providing informal remarks stating that the Department of Energy – Savannah River Operations Office (DOE-SR) Waste Disposition organization is undergoing a realignment that will strengthen the Department's oversight of the Salt Waste Processing Facility Project and consolidate focus on the oversight and execution of interim salt waste processing activities along with other related activities associated with sludge processing and waste removal prior to tanks closure. Questions from the CAB members included clarification on where would the Saltstone Facility reporting would occur; DOE-SR continues to work with SCDHEC and EPA to establish dates for the closure of Tanks 18 & 19.

Several CAB members expressed that the emphasis that the direct reporting of the Salt Waste Processing Facility to the DOE-SR Manager is important and improves functionality and focus; and does the Contractor (Parsons) or DOE-EM have a designated senior manager to correspond with the DOE-SR Director. Mr. Spears continued discussions by stating that the DDA processing that was started in March, and the permit mod resolution occurring in August which enhanced operability of the facility, that Saltstone was restarted at approximately 10:30 a.m. today and has processed about 43,000 gallons. He also stated that the ARP and MCU had proficiency runs beginning this week with hot operations scheduled to begin in March 2008.

The meeting presentations began with the Radioactive Liquid Waste Disposition Planning Update provided by Larry Ling, DOE-SR. Mr. Ling provided an overview of the planning process, the facilities in the Integrated Waste Disposition System, major program objectives, the current planning assumptions, an overview of the revised plan and changes from the last plan. He stated that the Savannah River Site (SRS) has an integrated comprehensive planning process; manages stakeholder involvement confirming program objectives and alignment with goals; manages risks; and seeks opportunities for improvement in life-cycle acceleration of the disposition of Liquid Waste. DOE-SR is confident that the four major operating facilities will work together and there is no indication that the Defense Waste Processing Facility will be shut down or temporarily in any outage. Based on the presentation, Mr. Meisenheimer stated that it appears that tank closure may not be a high priority for the Department. Ms. Shelly Sherritt, SCDHEC, stated that SCDHEC has strong concerns on the missed target dates and delays in tank closure. She stated that there are additional concerns of the impacts of even small increases of waste such as the 300,000 gallons of H-Canyon waste going to the tank farms. Mr. Ling responded by stating that tank closure is a very high priority but that no tanks are scheduled to be closed during FY13-FY15 due to sequencing and having space available to move the waste. Joe Ortaldo, WMC Chair, requested a copy of the final Systems Plan when approved. Mr. Spears made a commitment to provide a copy of the Systems Plan when it is approved to Mr. Ortaldo, SCDHEC, and EPA. Joe Ortaldo requested all attendees to send any further in-depth questions on the Radioactive Liquid Waste Disposition Planning to Sheron Smith for distribution and resolution. Mr. Ortaldo, Chair, requested the briefing be provided at the full board meeting in November. *(Details of presentation provided below).*

The meeting continued with Mike Simmons, DOE-SR, providing a presentation on the PUREX Waste Treatment. He provided the history and stated the types of PUREX waste and alternative treatments completed. He stated that the Legacy organic PUREX solvent is the only remaining waste left to treat. The naphthalene issue that was identified through the Vendor lab analysis is being addressed through solidification which meets the Underlying Hazardous Constituent treatment standard. He reviewed the cost range and schedule to complete processing and shipments of all PUREX by 12/30/2008. He stated that the urgency is that PUREX treatment is a regulatory commitment and the right thing to do. *(Details of presentation provided below).*

The last presentation was provided by Bert Crapse, DOE-SR, on the Transuranic (TRU) Waste Program Update. He stated that SRS completed 122 shipments to WIPP in FY07, and planning to continue shipments in FY08 to reduce the Site's legacy TRU waste volume. He reviewed each item in Recommendation #241 with the status. The RCRA Permit Modifications for TRU Pads 1 and 2 have been submitted to South Carolina Department of Health and Environmental Control. The large box NDE and NDA systems have been deployed. The TRU Program does expect some budget curtailment in FY08, but will continue to prioritize the shipment of drum waste. *(Details of presentation provided below).*

Public Comment:

Bill Lawless asked if the WMC Chair saw a need for a recommendation based on the presentations.

Adjourn:

Mr. Ortaldo adjourned the meeting at 7:05 p.m.

Follow-Up Actions:

1. Provide a copy of the Systems Plan when signed to Joe Ortaldo, WMC Chair.
2. Anyone who has additional questions on the Radioactive Liquid Waste Disposition Planning, please forward the questions to Sheron Smith for further distribution and resolution.
3. WMC Chair requested that the Radioactive Liquid Waste Disposition Planning Update be provided to the full board at the November meeting.

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PRESENTATIONS:

Radioactive Liquid Waste Disposition Planning Update:*(presented by Larry Ling, DOE-SR)*

Presentation Overview:

- Planning Process
- Facilities in the Integrated Waste Disposition System
- Major Program Objectives
- Current Planning Assumptions
- Overview of Revised Plan
- Changes from Last Plan
- Risk

LW System Planning Process (Diagram provided)

Liquid Radioactive Waste (F,H,J, S,&Z) (Map provided)

Integrated Waste Disposition Facilities (Diagram provided)

Program Objectives

- Safe Storage and Management of Waste
- Meet Regulatory Milestones
- Comply with Salt Waste Determination
- Process Sludge Through DWPF
- Startup and Feed SWPF
- Support H-Canyon Waste Disposition from Legacy Materials Stabilization
- Minimize Radionuclides Sent to Saltstone

Current Planning Assumptions

- Tank closure commitments from the FFA are high priority.
- All permit issues associated with the resumption of DDA processing are resolved by November 2007.
- ARP/MCU will be available for full operations in March 2008 (initially at 2 gpm ramping up to 3 gpm).
- DWPF will produce canisters at maximum throughput for duration within planning constraints.
- Sludge mass will be reduced through mitigation strategies to limit canisters produced to 7,000 or less.
- SWPF will be online by September 2012.

- SWPF will process approximately 3.75 Mgal of salt waste during its first year of operation and 5.5 Mgal per year average thereafter.
- Tank 48 will be available September 2012 for general waste service.
- Tank 50 will be available for general waste service by May 2012.
- After June 2008, 300 kgal/yr. of canyon waste will be received by the Tank Farms until 2022.

Overview of Revised Plan

- Continue to Safely Store and Manage Tank Waste Volume
- Tank Closures (FFA)
  - FY22 date met for closure of all non-compliant tanks
  - FY10 – FY12 FFA dates met (Tanks 5, 6, 4, 8, 16)
  - FY13 – FY15 FFA dates missed by 3 to 31 months
- Site Treatment Plan (STP) missed
  - Waste processed by 2030 vs 2028
- Comply with Salt Waste Determination
  - DDA of Tank 41
  - Initiation of ARP/MCU operation by March 2008

SWPF

- Startup supported for September 2012
- Processing begins with higher-curie material (>4 Ci/gal)

DWPF Processing

- Just-in-time sludge batch preparation
- Preparation directly tied to SWPF start-up (SWPF delay impacts Sludge Batch 8)
- Sludge mass reduction performed through implementation of aluminum dissolution
- Low temperature aluminum dissolution for Sludge Batch 5
- Full aluminum dissolution flowsheet performed in Tank 42 starting with Sludge Batch 7

H-Canyon Operations

- Supported H-Canyon processing through 2019
- Incorporates HLW waste generation minimization efforts

Curies sent to Saltstone minimized to about 1.4 M Curies

Major Change Summary from Previous Planning Bases

- DWPF Production
  - Results of sludge mass evaluation incorporated
    - Included mitigation actions
      - Aluminum dissolution flowsheet
      - Alternative technologies to improve waste loading
  - Proposed Pu Vitrification assumed
- Process Salt Waste

Maximize Tank Space

- Conversion of additional 2F Evaporator concentrate receipt tanks (i.e., Tanks 47 and 44) assumed to process early year tank closure streams
- Return of Tanks 48 and 50 to higher-activity waste service

Approach to Risk Management
- Risk Planning – Disciplined approach
- Assessment – Major risk categories include:
  - Tank Space
  - Equipment Failures
  - Technology
  - Process Performance
  - Project Integration
  - External Coordination
  - Capture emergent risks into Risk Register
- Integration with Planning
- Dealing with Residual Risk

PUREX Waste Treatment Update: *(provided by Mike Simmons, DOE-SR)*
Purpose
- Update the CAB on PUREX solvent treatment as requested by Recommendation # 241.

PUREX Treatment History
- Disposition path for PUREX waste was thermal treatment at the Consolidated Incineration facility (CIF).
- CIF suspended operation in 2000; alternative treatment needed for PUREX waste.
- CIF Focus Group and Savannah River Site pursued optional alternatives.
- Systems Engineering evaluation identified alternative treatments to CIF for both aqueous and organic PUREX.

PUREX Waste Types
Legacy PUREX Waste
- Aqueous PUREX Waste
  - Non-organic liquid from canyon washing operations and old solvent tank closure in E-Area
  - Volume: ~12,500 gallons
  - Classification: Low-level Waste
- Organic PUREX Waste
  - Actual solvent liquid: Tributyl phosphate/n-paraffin
  - Volume: ~ 25,000 gallons
  - Classification: Mixed Waste

F-Canyon PUREX Waste
- Additional solvent waste generated from F-Canyon deactivation in 2004
  - Volume: ~60,000 gallons
  - Classification: Low-level Waste

PUREX Alternative Treatments
- Legacy Aqueous PUREX
  - Effluent Treatment Facility (ETF)
  - **Completed March 2004**
- F-Canyon PUREX Waste

  - Commercial solidification
  - **Completed April 2007**
- Legacy Organic PUREX
  - Commercial solidification
  - Ongoing

Legacy Organic PUREX Treatment Issue

- Vendor lab analysis measured a previously unidentified chemical (naphthalene) in the legacy PUREX solvent.
- Naphthalene, in the PUREX solvent, is a Resource Conservation and Recovery Act (RCRA) Underlying Hazardous Constituent (UHC) requiring treatment to meet the Land Disposal Restriction (LDR).
- PUREX solvent shipments have been delayed (since April 2007) while vendor performed tests to determine if immobilization by solidification meets UHC treatment standard for naphthalene.

PUREX Current Status/Path Forward

- Bench scale solidification testing was successful in treating UHC's.
- Test results were presented to Nevada Test Site (NTS) personnel on August 23, 2007.
- NTS agreed to review a profile for the solidified waste form.
- Vendor submitted profile to NTS on September 26, 2007 and if approved, shipments will follow.
- If not approved, a profile for solidification followed by vacuum thermal desorption (VTD) will be submitted for approval.

Cost

- Cost for solidification approximately $50/gallon.
- Cost for solidification followed by VTD $150 - $300/gallon.

PUREX Schedule
09/30/2019 - Original Site Treatment Plan (STP) schedule utilizing CIF for treatment.
12/30/2008 - 2002 STP schedule after suspension of CIF.
09/30/2007 - 2003 self-imposed STP schedule.
12/30/2008 - Current milestone utilizing clean-up credits.

Conclusion

- Legacy organic PUREX solvent is only remaining waste left to treat.
- Solidification is still believed to be the treatment method of choice.
- A contingency path forward for solidification followed by VTD is available at an increased cost.
- Either treatment path can be accomplished within required timeframe.
- Any significant delays or changes in strategy will be relayed to CAB in future meeting/s.

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Transuranic (TRU) Waste Program Update: *(provided by Bert Crapse, DOE-SR)*
Purpose

- Provide update to CAB Recommendation #241 (items 3 - 6) as requested
- Provide status of TRU Waste Program

SRS Current TRU Waste Inventory

- Approximately 6,000 55-gallon drums
- Approximately 4,000 cubic meters of large box waste
- Waste covered under TRU Pad 1 – HA TRU

SRS TRU Waste FY07 Accomplishments

- Completed 122 WIPP shipments
- Achieve Battelle-Columbus commitment to disposition 3,300 drums
  - Disposed of over 3,800 drums during fiscal year
- Repackaged 6 large containers
- Submitted RCRA Permit Modification for TRU Pads 1 and 2
- Deployed large box NDA and NDE systems

WIPP Shipments Update

- Two to three shipments per week
- Averaging 250 - 300 drums per month

CAB Recommendation # 241 - October 2007 Progress Report

Item #3 - Expedite shipments of legacy TRU drums, approval of the accreditation program for repackaged large box TRU wastes, and pre-licensing activities control by DOE for the TRUPACT-III.

- Fully funded and disposed over 3,800 drums in FY 2007
- Repackaged 6 Large boxes in FY 2007
- Deployed large container NDA and NDE units in FY 2007
- Submitted TRUPACT-III license application to NRC in July 2007

Item #4 - Work with Waste Isolation Pilot Plant (WIPP), Environmental Protection Agency (EPA), and the State of New Mexico Environment Department (NMED) to accelerate the necessary program approvals from EPA and NMED to begin removing the Battelle Remote Handle (RH) -TRU waste.

- Initial audit for Battelle RH-TRU waste was conducted in August 2007
- Drums are currently being certified under WIPP
- First shipment may occur in November
- DOE commitment is to ship all Battelle RH-TRU by January 1, 2009.

Item #5 - Expedite the disposal of the high activity TRU waste on Pad 1 including the submission of an application for the issuance of a Resource Conservation and Recovery Act (RCRA) Part B Permit.

- DOE and SCDHEC conducted numerous meetings in FY 2007 to determine path forward for Pad 1
- Reached agreement with SCDHEC to ship as much of Pad 1 TRU waste to WIPP as possible

- Submitted RCRA Permit modification in June 2007 supporting DOE and SCDHEC agreement
- Physical activities to removing waste on Pad 1 expected to occur in FY 2010.

Item #6 - Accelerate the management decisions to decrease the high activity TRU waste inventory at SRS.

- DOE interprets "High Activity TRU Waste" to be Pad 1 TRU waste.
- Reached agreement with SCDHEC to ship as much of Pad 1 TRU waste to WIPP as possible.
- Submitted RCRA Permit modification in June 2007 supporting DOE and SCDHEC agreement.

PBS-013 Planned Funding

FY 2008	$ 61 Million (President's Budget)	Supports limited Drummed TRU Waste activities and WIPP Shipments
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Summary

- Continue to ship TRU waste to WIPP and reduce Site's legacy TRU waste volume
- Meeting commitments with the State
- Investing in program to characterize large boxed TRU Waste
- Able to close CAB Recommendation 241