SRS Citizen's Advisory Board

SRS Citizens Advisory Board

Nuclear Materials Committee Meeting

Aiken Municipal Conference Center

Aiken, SC

March 15, 2006

The Savannah River Site (SRS) Citizens Advisory Board (CAB) Nuclear Materials Committee met on Wednesday, March 15, 2006, 5:00 PM, at the Aiken Municipal Conference Center. The purpose of this meeting was to discuss the SNF Program and Status; H-Canyon/HB-Line Activities for FY06 and DNFSB Commitments Status, and to hear public comment. Attendance was as follows:

CAB Members	**Stakeholders**	**DOE/Contractors**
- Joe Ortaldo	* Rick McLeod	Gerri Flemming, DOE
Wade Waters	Bill McDonnel	Charles Nickell, WSRC
- Karen Patterson	Russ Messick	David Burke, WSRC
Leon Chavous	Perry Holcomb	William Swift, WSRC
Manuel Bettencourt	Mike French	Paul Sauerborn, WSRC
Meryl Alilof	Jack Roberts	Teresa Haas, WSRC
- Gerald Devitt		Patrick McGuire, DOE
Wendell Lyons		Nick Delaplane, DOE
Art Domby		Scott DeClue, DOE
Alex Williams		Mike Dunsmuir, WSRC
Tracey Carroll		Kevin Smith, DOE
Bob Meisenheimer		Phil Breidenbach, WSRC
Ranowul Jzar		
Donna Antonucci	**Regulators**	
	Jim Barksdale, EPA	

- NM committee members ** CAB technical advisor*

Welcome and Introduction:

Manuel Bettencourt, Chair, welcomed those in attendance and asked them to introduce themselves

SNF Program and Status: Bill Swift stated that the purpose of the presentation is to provide an update on the spent nuclear fuel program, including drivers, inventory, path forward and summary. Mr. Swift stated the program drivers are as follows:

- Programmatic EIS/ROD of 1995
    - Consolidated Aluminum (Al)-based SNF at SRS
        - Ship Foreign Reactor Research (FRR) fuel and Domestic Reactor Research (DRR) fuel Al-based SNF to SRS
        - Swap SRS Non-aluminum for Idaho National Laboratory (INL) aluminum based fuel
- Interim Management of Nuclear Materials EIS/ROD of 1995
    - Process MK-31 targets, TRR, EBR-II (complete)
    - Process MK-16/22s (complete)
    - Disposition Miscellaneous "at risk" SNF and targets (98% complete)
- FRR SNF EIS/ROD of 1996
    - Receive up to approx. 17,800 FRR SNF elements (less than 9,000 scheduled)
    - Received Highly Enriched Uranium (HEU) / Low Enriched Uranium (LEU) target material approximately 1,500 Material Test Reactor Equivalent
    - Initiate accelerated development of alternate treatment /packaging technologies
    - Process FRR SNF if a health and safety concern develops
- SRS SNF Management EIS/ROD of 2000
    - Melt and Dilute

- Preferred alternative for 60% Al-based SNF
- Evaluation of Preparing for Direct Disposal / Direct Co-Disposal as a back up if Melt-Dilute technology can not be demonstrated
- Availability of conventional processing facilities endured until Melt-Dilute implementation

o Conventional processing

- Preferred alternative for 40% Al-based SNF
- At risk materials identified in Interim Management of Nuclear Materials EIS/ROD
- Al-based SNF identified as a health and safety risk
- Package and Prepare to Ship to other DOE Sites
- Preferred alternative for 20 Metric Tons of Heavy Metals (MTHM) of SRS non-Al based SNF

Mr. Swift stated that the Foreign Research Reactor (FRR) program has had receipts from 23 countries with 163 casks and 5638 assemblies which accounts for approximately 62% of the total inventory projected to be returned from participating countries. SRS has shipped 5 shipments to INL, which included 12 casks with 914 assemblies. The Domestic Research Reactor (DRR) has seen 196 shipments since 1996 with 196 casks and 2363 assemblies.

Mr. Swift pointed out that the inventory is Material Test Reactor type in a form as Al-clad plates. The most common assembly type received at SRS is box shaped containing 19 fuel plates. SRS also receives non-Material Test Reactor type fuel from the High Flux Isotope Reactor (HFIR). Mr. Swift also addressed the reactor basin storage area as having enough space to hold all receipts of DRR and FRR Material Test Reactor fuel through 2019 assuming new storage racks for HFIR fuel are built before current storage runs out in the 2009 time frame. The current plan is to continue to evaluate disposition options (Canyon processing and Direct disposal) and to continue to safely store the spent fuel.

The following questions arose from the presentation.

Q. Are the shipping casks specific to DOE sites?

A. The casks are either rented or directly owned by DOE. The casks can be used by more than one DOE site.

Q. Is SRS using the melt and dilute process for SNF?

A. SRS is not currently developing the melt and dilute options for SNF.

Q. What would be the SNF form sent to Yucca Mountain?

A. The SNF that SRS would send to Yucca Mountain would be in the form of glass if processing is chosen or in a sealed canister if direct disposal is chosen.

Q. Based on the graphs showing storage space vs. inventory, wouldn't the SRS have to get rid of inventory?

A. There are several plans being considered that would consider a balance of inventory.

Q. If SRS needed to get rid of excess inventory, then what would be the lead time to assure proper inventory space is available?

A. SRS would need a lead time of 6 months to 1 year to be successful.

Q. If a leaking assembly were found in the basin, how would it be handled by SRS?

A. The fuel would be placed in another package in order to eliminate the leaking into the water within the basin.

Q. When will a decision be made regarding the disposition of the current fuel inventory?

A. The DOE is considering many options for disposition of the fuel inventory and should know more in the summer of 2006.

H-Canyon and HB-Line Status: Phil Breidenbach stated the purpose of his presentation is to summarize nuclear material processing activities through the end of September 2006 for H-Canyon and HB-Line facilities and to status the DNFSB commitment to be completed by H-Canyon and HB-Line.

H-Canyon activities include Highly Enriched Uranium (HEU) recovery, Low Enriched Uranium (LEU) shipments, waste to Saltstone, and waste repackaging. The HEU recovery program has dissolved 84% of the unused site reactor fuel and will complete its campaign before the end of FY06; and has dissolved 37% of the contaminated uranium scrap, and that campaign will continue in FY06 and complete in FY07.

The Low Enriched Uranium shipments consist of HEU which is blended with Natural Uranium (NU) to make LEU for commercial power reactors. TVA's Brown's Ferry #2 reactor in Alabama began using SRS LEU to make electricity in April 2005, and to date have completed 165 shipments of LEU or about 77% of the total inventory and is enough LEU to supply

electricity to all of the homes in Georgia and South Carolina for almost 2 years. H-Canyon began sending waste to Saltstone instead of the tank farm in January of 2005, to reduce the overall cost of waste processing; and to date have transferred over 200,000 gallons. The remainder of the waste from HEU processing will go to Saltstone. H-Canyon also began repackaging waste into certified shipping containers for shipment off-site; to date H-Canyon have repackaged 7 large storage boxes out of 16 planned for FY06, and will continue into FY07.

Mr. Breidenbach addressed the HB-Line activities and improvements. Neptunium (Np) processing continues to convert Np stored in H-Canyon to a solid for shipment off-site. To date 85% of the total Np has been transferred to HB-Line; and expect to complete this last of 54 DNFSB commitments before the 12/31/06 due date. Preparations are in progress to demonstrate handling and processing of plutonium currently stored in containers made to DOE standard 3013. The schedule calls for processing 20 of the 3013 containers in FY06. The HB-Line will continue to stabilize plutonium residues generated from the shutdown of FB-Line, which to date have completed 34% of the total and expect to complete the remainder of the material in FY06. In terms of improvement to the old HB-Line ventilation, this project will replace the ventilation fans and filters that ensure personnel safety. Equipment and duct work installation is in progress and scheduled to be completed by the end of March, 2006. The new system is to be on-line by July, 2006.

In summary, Mr. Breidenbach stated that site continues to safely operate H-area facilities to efficiently disposition hazardous nuclear materials. The last remaining DNFSB commitment, stabilization of NP, should be completed before the commitment date of 12/31/06.

Questions that arose during this presentation are as follows:

Q. How long will HEU blend down continue?

A. The HEU blend down process will continue through 2007 and beyond.

Q. What are the plans for H-Canyon after 2007?

A. DOE does have a plan for activities within H-Canyon after 2007.

Public Comment: Manuel Bettencourt asked that a presentation be made on the status of options being considered by DOE for processing SNF; which DOE indicated should be available by the summer of 2006.

Adjourn: Manuel Bettencourt adjourned the meeting at 6:35PM.