SRS Citizen's Advisory Board

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Nuclear Materials Committee Meeting

Aiken Municipal Conference Center, Aiken, SC
August 22, 2005

The Savannah River Site (SRS) Citizens Advisory Board (CAB) Nuclear Materials Committee met on Monday, August 22, 2005, 5:00 PM, at the Aiken Municipal Conference Center. The purpose of this meeting was to discuss the proposal for University of Washington Material to SRS, Depleted Uranium Disposition, the SRS Heavy Water Program, Committee discussion of GAO report on Plutonium Storage at SRS, and to hear public comment. Attendance was as follows:

CAB Members	Stakeholders	DOE/Contractors
Joe Ortaldo	Lee Poe	Gerri Flemming, DOE
Perry Holcomb	Mike French	Ron Campbell, WSRC
Karen Patterson	Russ Messick	David Burke, WSRC
Gerry Devitt	Bill McDonel	Randall Ponik, DOE
Bob Meisenheimer	Dianna Craig	Paul Sauerborn, WSRC
Art Domby	Rick McLeod	Teresa Haas, WSRC
Jean Sulc		Bill Swift, WSRC
		Bob Hottel, WSRC
	Regulators	Wes Bryan, WSRC
	Dawn Taylor, EPA	Marc Woodworth, DOE
		Dawn Gillas, DOE
		Jay Ray, DOE
		Les Sonnenberg, WSRC
		Kevin Smith, DOE
		Glen Christenbury, DOE
		Norman Shepard, DOE
		Phil Breidenbach, WSRC
		Patrick McGuire, DOE
		Barry Myers, WSRC

Note: Bill Willoughby is a CAB member of the NM committee, but was unable to attend this session.

Welcome and Introduction:
Gerry Devitt, Chair, welcomed those in attendance and asked them to introduce themselves

Proposal for University of Washington Material: Ron Oprea stated the purpose of this presentation was to provide the NM Committee an overview of the planned disposition of the

University of Washington material. Mr. Oprea stated the chronology of the material is as follows:

- In 1957, DOE-RL loaned material (enriched uranium fuel plates) to Univ. of Washington Nuclear Reactor (UWNR) for testing, research
- In 1989, UWNR returned the material to Idaho National Laboratory (INL) for dissolution at the Idaho Chemical Processing Plant (ICPP)
- In 1992, the ICPP processing was terminated and the U of WA material was placed in storage
- The material is surplus and is covered by the off-spec highly enriched uranium environmental impact statement (1996)
- Shipped to SRS in July, 2005 for storage and disposition through H-Canyon

Mr. Oprea described the material form as 30 aluminum clad fuel plates and scrap material, which accounts for approximately 400 grams of uranium. The proposed disposition path is to store the material until processed, dissolve in H-Canyon in FY07, and include as feed to the HEU blend down campaign. The resulting Low Enriched Uranium will be sent to TVA vendors to make oxide and fabricate fuel.

Depleted Uranium Disposition: Dawn Gillas stated the objective of this presentation is to give status of depleted uranium disposition (DUN (depleted uranium nitrate), DUO (depleted uranium oxide)). Ms. Gillas stated the nuclear weapons program left SRS with large inventories of DUO and DUN. DUO is packaged in 55-gallon, carbon steel drums, with several thousand overpacked in 85-gallon drums, and are being transported by rail to Envirocare for disposal. DUN was a low ph liquid with RCRA constituents stored in F-Area. The DUN was transported by tanker truck for treatment by a vendor in Oak Ridge, TN, then by truck to final disposal at the Nevada Test Site.

Ms. Gillas announced that DUN is done. Originally, there was approximately 132,000 gallons and the disposition was required to allow clean up of F-Area. SRS has made 41 shipments by truck in FY04 and FY05, the vendor then shipped treated waste to the NTS.

Ms. Gillas turned attention to DUO. DUO was housed in 7 metal structure buildings on site, now there are 5 buildings with storage conditions significantly improved. Ms. Gillas stated the following on the disposition of the DUO:

- Of the original 36,000 drums, approximately 20% have been disposed and another 5% expected by November
- 7,296 overpacked into 85-gallon drums (disposition began in FY04 and planned to be complete in November 2005 by railcar)
- The remaining 28,700 drums are 55-gallon (3270 were disposed in FY03 by railcar)
- DUO is a low radiological hazard, contains no RCRA constituents; and is a heavy metal oxide health hazard

In summary, Ms. Gillas stated the following:

- DUN is done
- DUO overpacks planned to be complete early FY06
- As of November 2005, expect to have approximately 25,400 55-gallon drums remaining to be dispositioned
- Remaining DUO is being stored safely until final disposition is accomplished

Lee Poe asked if there was a limit to the number of railcars used to transport the material. Ms. Gillas stated the limit is two railcars per shipment, but could do more with more resources. Perry Holcomb asked when the campaign that produced the DUO started. Ms. Gillas stated that SRS began to store DUO in the 1970's. SRS began shipping the worst condition drums first. Bob Meisenheimer asked what date the remaining 25,000 drums would be shipped from the site. Ms. Gillas stated that currently there is no funding to make the shipments. Mr. Poe asked why we could not dispose of this material on site, in lieu of sending to Envirocare. Ms. Gillas stated that the site Waste Acceptance
Criteria does not allow disposal of the material on the SRS. Bob Meisenheimer asked if the cost of disposal will ever get high enough to reconsider SRS as the disposal site. Kevin Smith stated that it was not likely.

Heavy Water Program: Les Sonnenberg stated the purpose of his presentation is to provide an overview of the Savannah River Heavy Water Program. Mr. Sonnenberg stated that heavy water is naturally occurring; the SRS inventory was extracted from the Savannah River from 1950 to 1980's. Heavy water was used as a Moderator for the SRS Reactors and is considered a National Asset. The current inventory is stored in C-, K-, and L-Areas in 6,800 55-gallon stainless steel drums and 6 tanks which hold the equivalent of 2,600 drums. The total inventory is just over 535,000 gallons or approximately 1,600 metric tons. Mr. Sonnenberg stated the following with regard to storage protection:

- Heavy water presents minimal hazards, primarily due to tritium concentration
- Measures to mitigate leakage include:
    - Predominantly small containers used (55-gallon drums)
    - Robust storage containers
        - DOT rated storage drums
        - Structural sound tanks (1/2" stainless steel walls)
    - Containment barriers
    - Routine surveillance and monitoring of the storage areas
- Measures to prevent tritium releases include:
    - Storage area air sampling
    - Outfall monitoring
    - Containment barriers

Mr. Sonnenberg identified some potential reuse options as different DOE complex uses, pharmaceuticals, heavy water reactors. Mr. Sonnenberg stated that low tritium concentration and high purity is required, and that export control is a major restriction to the movement of this National Asset material. Mr. Sonnenberg provided an overview of the process being tested to remove tritium from SRS inventory of Heavy Water by a vendor in Texas. In conclusion, Mr. Sonnenberg declared that SRS is actively pursuing heavy water reuse options, and is currently and will continue safely storing heavy water.

Mr. Poe asked what the site pays for S&M of the material. Mr. Sonnenberg stated the site pays $250,000/year. Mr. Sonnenberg noted that a sizable profit could be gained from the sale of the heavy water; however, there are costs associated with removal of the tritium from the heavy water.

Committee Discussion of GAO Report to Congressional Committees (GAO-05-665): Karen Paterson stated that the purpose of this discussion is to understand what is in the GAO report, which appears there is no long range plan by DOE regarding storage of Plutonium at the Savannah River Site. The response by most participants at the meeting was that they did not have enough time to review the information before this meeting. Ms. Patterson agreed to postpone the discussion until the next meeting of the CAB Nuclear Materials Committee.

Public Comment: None

Adjourn:

Gerry Devitt adjourned the meeting at 7:55PM.