

Recommendation 305

Replacing Glass Waste Storage Building (GWSB) #3 with GWSB#1

Background

The Department of Energy's (DOE) Savannah River Site (SRS) has two glass waste storage buildings (GWSB). Each GWSB holds about 2,200 cans of vitrified tank wastes. GWSB#1 became operational in 1996, and filled to capacity in 2006. GWSB#2 began operation in about 2006 and is expected to close around 2015-16. The first two GWSBs cost about \$80 million apiece. GWSB#3 is expected to cost between \$98 million to \$138 million.

The canisters in the GWSB's are intended for eventual storage in a long term repository. Previously, Yucca Mountain was intended to be the repository however it is currently not a viable option. The Waste Isolation Pilot Plant (WIPP) may prove to be an option for disposition of a portion of the canisters if certain regulatory obstacles can be overcome

Comments

Canisters of vitrified tank wastes at SRS are primarily holding vitrified sludge and it is possible these cans may be able to satisfy the WIPP-WAC (Waste Isolation Pilot Plant – Waste Acceptance Criteria) transportation and storage requirements. DOE has already proposed to build a pad for \$25 million and to store the canisters of vitrified waste inside of large above ground containers on the pad (Ref. 1-5).

If the vitrified waste in GWSB#1 meets the current WIPP-WAC requirements (or requirements revised according to revisions to DOE Order 435.1 to use risk based rather than source based criteria), it may be possible that DOE does not need to build the \$25 million pad to replace GWSB#3. If shipments out of GWSB#1 could begin soon enough to clear space, a new pad would not be required saving \$25 million. DOE could convert GWSB#1 into a "dual-use" facility at zero cost. Potentially the \$25 million that saved can be used to operationally ship-to-WIPP.

DOE needs to perform a census to exactly characterize the contents of the canisters in the two GWSB's and document the canister locations. Based on this analysis an evaluation can be conducted to determine if any of the material in the GWSB's can be relocated to WIPP and effect on future plans for Glass Waste Storage Facilities.

Recommendation:

The Savannah River Site Citizens Advisory Board recommends that DOE:

1. Complete an inventory of existing vitrified high-level waste in GWSB #1 and #2 and a projected inventory of planned vitrification to determine if the waste in the vitrified canisters can meet the current or revised WIPP WAC for transuranic wastes and report this inventory to the CAB by November 2013.
2. Determine the feasibility of converting GWSB #1 from a storage facility for vitrified sludge wastes canisters to a shipment and receiving facility to transport the canisters from

- SRS directly to WIPP (making GWSB#1 a dual-use storage and shipping facility). The results of this study should be reported to the CAB by November 2013.
3. Compare the economics of converting GWSB #1 from a storage facility for waste canisters to a shipping and receiving facility capable of transporting the canisters from SRS directly to WIPP versus building separate and new dual-use storage and shipping facility storage pad. This study should be reported to the CAB by November 2013.
 4. Present DOE's framework (including timing and proof of concept requirements) to the CAB by November 2013 to transport from GWSB#1 to WIPP assuming the canisters of waste that meet the WIPP WAC requirements. License the Remote Handled Transuranic Waste (RH-TRU) transportation system to use the RH 72B containers for initially transporting canisters directly from SRS directly to WIPP.
 5. Include in DOE's framework a plan that addresses the necessary changes to public policy, DOE Orders, Regulatory Permits and State and Federal law to support the shipment of SRS vitrified tank waste that meets the WIPP WAC directly to WIPP.

References:

1. SRS CAB Recommendation No. 13, November 26, 1995, High-Level Waste Storage Building.
2. SRS CAB Recommendation No. 158, January 14, 2003, Glass Waste Storage Building No. 2.
3. DOE presentation to the SRS CAB, January 6, 2004.
4. SRS CAB Recommendation No. 183, January 27, 2004, Glass Waste Storage Buildings #1 and #2, Long-Term Impact.
5. DOE-SR presentation to the SRS CAB, June 12, 2012, "Alternative Storage of vitrified waste canisters: Container Interim Storage Pad (CISP)".
6. Senate Bill on Nuclear Waste; American Institute of Physics, November 2, 2012, The AIP Bulletin on Science Policy News. .