



**Savannah River Site  
Citizens Advisory Board**

**Recommendation 187  
SRS TRU Waste Program Acceleration**

**Background**

The Savannah River Site (SRS) has two principal types of legacy Transuranic (TRU) waste, a debris waste contaminated with Pu-238 and a debris waste contaminated with Pu-239. The TRU waste can be divided into waste stored in 55 gallon drums and large boxes. Both waste types are basically a heterogeneous mixture of job control waste, which includes protective clothing, rags, and tools used during the processing of plutonium and other nuclear materials and may include equipment, piping and glove boxes. The SRS TRU waste inventory consists of 11,650 cubic meters, roughly half of this in 30,000 55-gallon drums and the other half in 3,000 non-drummed waste containers of varying sizes (Ref. 1). The Waste Isolation Pilot Plant (WIPP) located deep within underground salt deposits near Carlsbad, NM has been developed as the national repository for DOE TRU waste. The last time the SRS Citizen's Advisory Board (CAB) received an update on the SRS TRU Waste Program was about a year ago. At that time, April 14, 2003, 100 shipments (4,100 drums or 860 cubic meters) of Pu-239 waste had been shipped to WIPP. However, no shipments of Pu-238 waste had taken place. This was mainly due to the transportation challenges associated with the size of bulk containers holding the high-activity waste and the need to mitigate the hydrogen gas concerns and worker exposure (Ref. 2). None of the high activity TRU waste has been shipped. At the March 18, 2004, WM Committee meeting, it was reported that 327 shipments (10, 144 drums or 2,100 cubic meters) had been shipped to WIPP. Furthermore, both Pu-238 and Pu-239 waste is being shipped to WIPP. The current shipping rate is 24 shipments per month. Under the current Westinghouse Savannah River Company (WSRC) contract (through 2006), the target case scope is 4,000 drums per year or 3,360 cubic meters by 2006. The accelerated schedule under the contract (maximum case scope), would remove 11,650 cubic meters by 2006, which equates to all of the legacy TRU waste at SRS (Ref. 3). To meet this accelerated schedule a number of challenges need to be overcome. Regulatory relief is needed on the transportation of curie and wattage (hydrogen generating) limits. A method is needed for limited intrusive repackaging for large containers and high-activity drums. New technologies are required for large container assay and X-ray. The new TRUPACT-III shipping containers must be available and NRC approval is required for the existing TRUPACT-II and the new Arrowpak containers to handle high-activity drums.

**Comment**

The SRS CAB has been a strong advocate for DOE to institute an accelerated schedule for removing all of the TRU wastes from SRS (Ref 4, 5, 6, & 7). Commitments have been made to insure the CAB that progress is being made to accelerate TRU waste removal (Ref. 8 & 9). Progress is being made, as noted by the recent milestone of the 10,000<sup>th</sup> drum of TRU waste being shipped to WIPP (Ref. 8). The SRS CAB commends DOE for the excellent progress being made. A presentation by the Carlsbad Field Office (CBFO) had been scheduled for November 19, 2003, concerning the NRC submittal for the TRUPACT-III and other WIPP Waste Acceptance Criteria (WAC) issues. The CAB has not received the update but would welcome a presentation by CBFO. In addition, the CAB would like to hear about the DOE decision on the viability of the ARROW PAK container for wastes with the potential to generate hydrogen gas. DOE expected to have a decision by late FY 03. If a decision is made not to pursue ARROW PAK, then DOE was supposed to submit a modification to NRC on the TRUPACT-II for approval. The SRS CAB would like to receive an update on these issues. In addition, DOE was supposed to be evaluating all currently funded hydrogen "getters" research work at the end of FY 03 and make a determination on it being a viable option for shipping high wattage (hydrogen-generating) TRU waste. The CAB has not heard about a final

determination. The final disposition of TRU waste remains a great concern of the SRS CAB. There appears to be a real potential to accelerate the removal of legacy TRU waste at SRS and the SRS CAB would like for DOE to aggressively pursue this action. One action the CAB encourages DOE to pursue is to move forward with the "Maximum Case" scope to have all legacy TRU waste removed by 2006.

### **Recommendation**

The SRS CAB makes the following recommendations:

1. By September 27, 2004, DOE, working through CBFO, provide to the SRS CAB a schedule to demonstrate that the design, certification and fabrication of the TRUPACT III shipping containers will meet the SRS 2006 maximum case scope in the WSRC Contract.
2. By September 27, 2004, DOE describe to the SRS CAB the planned method and timetable for implementation of a technology to remediate (i.e., remove prohibited items), assay, and X-ray large containers. The SRS CAB is interested in what facilities are to be used, built or modified to repack/mediate the large containers.
3. By September 27, 2004, DOE, working through CBFO, share its determination on the availability of the ARROW PAK container with the SRS CAB and provide a schedule for submitting a modification to NRC on the TRUPACT-II to allow shipments of drum waste with high TRU waste activity.
4. In order to maintain the increased rate of intrusive repackaging for drum waste, DOE-SR installs the LANL glove box to meet the 2006 maximum case scope.
5. DOE-HQ assures that adequate funding is in place to accelerate the removal of legacy TRU waste at SRS by 2006 (maximum case scope).

### **References**

1. Savannah River Site TRU Waste Program, presentation to the National Academy of Sciences by Joseph A, D'Amelio, January 28, 2004.
2. Transuranic (TRU) Waste, presentation to the WM Committee by Sonny Goldston, April 17, 2003.
3. SRS TRU Waste Program, presentation to the WM Committee by Bert Crapse, March 18, 2004.
4. Citizens Advisory Board Recommendation No. 153 (adopted April 23, 2002), "TRU Waste Priority and Offsite Shipments".
5. Citizens Advisory Board Recommendation No. 155 (adopted July 23, 2002), "TRU Waste Shipment Acceleration".
6. Citizens Advisory Board Recommendation No. 163 (adopted May 20, 2003), "High Activity TRU Waste Packaging".
7. Citizens Advisory Board Recommendation No. 164 (adopted May 20, 2003), "Waste Isolation Pilot Plant Non-Compliant Item WAC".
8. Response letter to Recommendation 163 from Mr. Jeffrey Allison, Manager DOE-SR to Mr. Wade Waters, Citizens Advisory Board Chair, dated June 10, 2003.
9. Response letter to Recommendation 164 from Mr. Jeffrey Allison, Manager DOE-SR to Mr. Wade Waters, Citizens Advisory Board Chair, dated June 10, 2003.

### **Agency Responses**

[Department of Energy-SR](#)