



**Savannah River Site  
Citizens Advisory Board  
Recommendation 229  
SRS TRU Waste Update**

**Background**

The Savannah River Site (SRS) has two principal types of legacy Transuranic (TRU) waste, debris waste contaminated with Pu-238 and debris waste contaminated with Pu-239. The TRU waste can also be divided into waste that is stored in 55-gallon drums and waste that is stored in large boxes. All of SRS TRU waste is mainly heterogeneous debris waste consisting of job control waste, which includes protective clothing, rags, tools, equipment, piping, and gloveboxes used during the processing of plutonium and other nuclear materials. The original SRS TRU waste inventory consisted of 11,650 cubic meters, roughly half of this in 30,000 55-gallon drums and the other half in approximately 3,000 non-drummed waste containers of varying sizes (Ref. 1).

To date more than half (18,000 drums) of the low activity (principally Pu-239) drummed waste has been shipped to the Waste Isolation Pilot Plant (WIPP). The shipments of the remaining low activity drummed wastes are to be completed in 2007. Before the remaining high activity (principally Pu-238) drummed waste and non-drummed waste can be shipped, WIPP certification of new technologies and methods are needed for performing large container assay and X-ray and limited intrusive repackaging for large containers and high-activity drums. The start-up of the WIPP certification equipment for non-drummed waste is expected to also occur in 2007. SRS has already begun to initiate a project to repack non-drummed waste and plans are to have approximately 20 boxes ready and waiting on the WIPP certification equipment. Shipment of such waste cannot occur until NRC certification of the TRUPACT-III shipping container is received. It is expected that the TRUPACT-III certification from NRC will be available in 2007 and assuming all goes well with the certification, SRS can begin shipments in 2008.

In August 2005, SRS completed the receipt of 303 cubic meters of TRU waste from the DOE Mound site (located near Cincinnati, Ohio). As part of the agreement with the South Carolina Department of Health and Environmental Control (SCDHEC) approximately twice as much SRS TRU waste had to be shipped to WIPP than was received from Mound. A similar arrangement was made to accept receipt of TRU Waste from the Battelle Waste Jefferson Site near Columbus, Ohio and in December 2005, SRS completed the receipt of 37 cubic meters of TRU waste from Battelle. As part of the Battelle agreement with SCDHEC, SRS must disposition 1,000 cubic meters of SRS legacy TRU waste by September 2006. SRS plans to meet this disposal agreement by shipping TRU waste to WIPP and by segregating out waste in the TRU waste inventory that is less than 100 nanocuries per gram that can be disposed as mixed low level waste. The mixed low level waste will be sent to the Nevada Test Site instead of WIPP and will count toward the Battelle agreement limit.

In an effort to begin the process to get some of the high activity (principally Pu-238) drummed waste ready for shipment, SRS plans to start soil removal surrounding the concrete culverts storing the drums on TRU Pad 1 in 2008. The current SRS TRU waste program has been accelerated almost 20 years from the first projected plan and the current SRS Accelerated Cleanup Plan has all legacy TRU waste projected to be off the site by 2013.

**Comment**

Based upon the periodic TRU waste updates, it appears that SRS will complete the disposition of all low activity drummed TRU waste next year (2007). The SRS CAB appreciates these updates and looks forward to receiving more in the future as additional TRU waste activities begin, such as the large box characterization equipment start-up - 2007, Pad 1 soil removal - 2008, and TRUPACT III shipments - 2008. All of these activities are critical to meeting the legacy TRU waste removal date and the SRS Citizens Advisory Board (CAB) cannot over emphasize its interest in seeing progress being made to remove the high activity TRU waste at SRS. However, based on recent DOE-SR funding reductions in the TRU Waste/Solid Waste Program (approximately \$27 million), the SRS CAB has concerns about SRS meeting this removal date.

Therefore, the SRS CAB is concerned that the WIPP certification for non-drummed TRU waste will present a significant challenge in SRS achieving the removal of all legacy TRU wastes from SRS by 2013. The SRS CAB acknowledges that a lot of work needs to be accomplished (deployment of equipment, WIPP certification of the equipment, operators trained and qualified to operate the equipment, and WIPP facility preparations to receive the non-drummed wastes). However, if DOE places the necessary emphasis and resources on the certification process, the SRS CAB believes that non-drummed certification can be expedited and an inventory of certified non-drummed TRU waste can be ready and approved to be shipped to WIPP as soon as the NRC TRUPACT-III certification is received.

Although not solely a SRS directive, the reported 33% WIPP capacity being used by only 19% of the TRU waste inventory across the DOE complex peaked the interest of the SRS CAB. DOE must find ways to more effectively utilize the volume of the current TRUPACT II shipping containers and thereby increase the overall operational efficiencies of WIPP.

### **Recommendation**

In an effort to ensure that the SRS TRU program stays on track and the removal of all legacy TRU wastes from SRS occurs by 2013, the SRS CAB makes the following recommendations:

1. DOE-HQ commit the necessary funding for the large box characterization equipment to be operational by the end of FY 2007 and DOE-SR report on the status of the funding and the status of the required operator training by October 1, 2006.
2. DOE-SR identify ways to increase the packing efficiencies of TRUPACT-II containers system wide and provide a report to the SRS CAB before October 1, 2006.
3. DOE-HQ continue to work on ways to increase the overall operational efficiencies (including effective utilization of space) of WIPP. DOE-SR provide an update to the SRS CAB to make them aware of potential operational bottlenecks at WIPP which may impact SRS TRU waste shipments.
4. DOE-HQ arrange to have appropriate personnel present to the SRS CAB by October 1, 2006, the status of SRS equipment certification and SRS operator certification.

### **References**

1. TRU Waste Update, presentation to the WM Committee by Bert Crapse, February 16, 2006.

### **Agency Responses**

[Department of Energy-SR](#)