

Savannah River Site

Citizens Advisory Board

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**Recommendation 311**  
Review Tank Cleaning Criteria

**Background**

The Savannah River Site (SRS) has 37,000,000 gallons of liquid nuclear waste remaining from the various defense missions dating back to the early 1950's. The State of South Carolina considers this waste the most dangerous environmental issue in the state. Since the mid 1990's the Department of Energy (DOE) site has assumed the mission of cleaning the tanks, stabilizing the wastes and decommissioning the tanks.

This cleanup mission is the subject of an enforceable agreement with the South Carolina Department of Health and Environmental Control (SCDHEC) and the United States Environmental Protection Agency (EPA) referred to as the Federal Facility Agreement (FFA). This agreement requires the Department Of Energy to request funding for and execute plans that would clean up the 20 remaining old style tanks by 2022.

Cleanup consists of emptying the tanks by processing the liquid fraction through an extraction process such as ARP / MCU or the Salt Waste Process Facility (SWPF). The contaminated water from these separation processes is stabilized as grout in the Saltstone facility and the highly radioactive material is put into glass canisters in the Defense Waste Processing facility. The glass canisters are being stored at SRS until a long term repository is available.

The emptied tanks are further cleaned by various processes including mechanical, chemical and/or vacuum technologies to remove the highly radioactive radionuclides to the maximum extent practical. The FFA requires that the tanks be cleaned until the three agencies (DOE, SCDHEC and EPA) agree waste removal activities may cease. More than one technology and multiple waste removal campaigns per technology were deployed when cleaning tanks 18, 19, 5 and 6 for closure.

The public protective standard considers someone living at the facility boundary (100 meters from the edge of a tank) and consuming all of their food and drink from the land to have an increased risk of exposure of only 25 mrems at any time in the next 10,000 years. As a benchmark, the average exposure from all sources for someone living in America is over 600 mrems. Almost 50% of this exposure is from nuclear medicine which has grown greatly in the last 30 years.

Liquid Waste System Plan Revision 18 calls for the cleaning and closing of 20 tanks at dates later than agreed to in the FFA. In addition tank cleanup and closure will be delayed from 2022 as required by the FFA until 2028.

The SRS CAB is questioning the past practice of cleaning tanks. The CAB is also questioning whether public risk scenarios should be reviewed to more realistically balance the current risks from delayed cleanup with the long term risks of closed tanks.

### **Recommendations**

The Savannah River Site Citizens Advisory Board recommends:

1. The DOE review the past level of clean-up to determine if efficiencies achieved from a different balance of short term and long term risk were applied it would free-up money and resources to accelerate the cleanup of additional tanks reducing short term risks without creating increased long term risks.
2. The DOE review evaluated risk scenarios to determine if more realistic risk scenarios would free-up resources for short term risk reduction at SRS or other locations and still protect the public in both the long and short term.