

From: Final Supplemental Environmental Impact Statement Defense Waste Processing Facility
(DOE/EIS-0082-S)

Uncontrolled Chemical Reaction in the Sludge Receipt and Adjustment Tank at the DWPF Vitrification Facility

This event is characterized by foaming, boilover, gassing, and/or belching of tank contents as a result of an incorrect transfer of chemical quantity or material. This event would occur in one of the process cells. Fine particulate materials released from the tank would be removed from the process cell by the Zone 1 Ventilation System. The Zone 1 exhaust is filtered by a 99.95 percent efficient sand filter before being released to the environment. Liquid materials would be contained in stainless steel-lined sumps and canyon walls and subsequently pumped to the Recycle Collection Tank. Nonessential personnel could be evacuated depending on the severity or undetermined status of the reaction. As indicated in Table 4.1-12, doses to the collocated worker and to the maximally exposed offsite individual would be well below the respective dose standards for normal operations. Only small radiation doses would be expected among close-in workers (Gehr 1994).

Gehr, D. F., 1994, Westinghouse Savannah River Company, Aiken, South Carolina, personal communication with P. L. Young, Halliburton NUS Corporation, Aiken, South Carolina, "Effects of the Bounding Accidents on the Close-in Worker at DWPF," June 10.

WSRC (Westinghouse Savannah River Company), 1993b, Safety Analysis - 200-S Area Savannah River Site Defense Waste Processing Facility, U.S. Department of Energy Approval Draft, August 1993, DPSTSA-200-10, Aiken, South Carolina. (Now WSRC-SA-6, DOE Review Draft, Safety Analysis Report, August.).