

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

May 1, 2009

**TO:** T. J. Dwyer, Technical Director  
**FROM:** M. P. Duncan and M. T. Sautman, Site Representatives  
**SUBJECT:** Savannah River Site Weekly Report for Week Ending May 1, 2009

**H-Canyon:** While a crane operator was busy remotely installing the port cover on a dissolver with the New Hot Crane (NHC), the 2.5 ton hoist block fell unnoticed into the uncovered cell. The several hundred pound block fell ~25 feet onto the dissolver, damaging a spare pipe jumper connector. An operator noticed that the block was missing five days later and reviews of prior crane videos identified when the failure had occurred. Since the 2.5 ton hoist was repaired last October, workers have been performing monthly inspections of the wire rope until a load test could be performed and return the hoist into service. No deterioration was noted during the March 12 inspection. The wire rope failed where it passes through a hydraulic, emergency cutting device. The current hypothesis is that the block was swaying when the NHC traveled and this caused repeated contact between the wire rope and the partially protruding cutting blade.

**K Area:** The K Area Interim Surveillance operation recently discovered two plutonium oxide-filled 3013 containers with foreign material. One contained a stainless steel scoopula and the other contained a nitrile glove. The container with the glove was not compliant with DOE-STD-3013-2004. Both came from Hanford. Determination of the extent of condition will be difficult given that there are thousands of 3013 containers from there.

**H Area New Manufacturing:** A rupture disc burst during a weapon component unloading operation due to an incorrectly positioned valve. The valve had been closed by a semi-automated program that had detected a leak.

**512-S:** While wearing a plastic suit and working in a contamination area, a construction worker's breathing air hose was inadvertently disconnected from the breathing air manifold. This was caused by another exiting worker that was mistaken about which number was labeled on his suit and hose. As trained and reinforced during every pre-job briefing, the worker quickly removed his plastic suit hood when he lost air flow instead of first attempting to exit the contamination area.

**Waste Solidification Building:** NNSA recently approved a revision to the Preliminary Documented Safety Analysis that addressed a condition of approval regarding the red oil explosion accident scenario. This also addresses an issue in the Board's letter dated January 12, 2009. The contractor concluded that this scenario is credible and that safety class controls are required due to the potential unmitigated consequences associated with an explosion in the high activity evaporator. Safety class controls include temperature interlocks, vent paths, and the inventory control program. Safety significant controls include a steam pressure interlock and the waste acceptance criteria.

**235-F:** Engineers have been trying to determine why the emergency main breaker tripped last week during the diesel generator's monthly load test, but troubleshooting has been inconclusive.

**Modular Caustic Side Solvent Extraction Unit:** Scientists involved in the original process development reviewed the rapid increases in differential pressures that have been seen with the strip effluent coalescer. They suspect the primary cause to be pre-soaking the coalescer element in Isopar-L™ rather than solids formation.