

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

April 30, 2010

**TO:** T. J. Dwyer, Technical Director  
**FROM:** D. L. Burnfield and M. T. Sautman, Site Representatives  
**SUBJECT:** Savannah River Site Weekly Report for Week Ending April 30, 2010

Staff members D. Gutowski, B. Heshmatpour, S. Lewis, A. Poloski, and S. Stokes, were on-site for discussions with the DOE-SR, Savannah River Nuclear Solutions, and Savannah River Remediation. The topics discussed included: enhanced chemical cleaning, rotary microfiltration, small column ion exchange, and the ongoing test program to develop the mixing design for delivery of tank farm waste to waste treatment plant.

**F-Canyon:** Sealed containers of transuranic waste continue to challenge remediation workers.

- Workers unplugged, opened, and repacked the titanium tetrachloride can that had smoked periodically (see April 23, 2010 report). Although the temperature of the can's contents was slightly above ambient temperature, no further reactions occurred.
- Inside the same drum were two bulging cans, nested around a partially filled can of oil (similar to penetrating oil). Facility personnel were attempting to open the inner can to remove the can of oil to bring the container into compliance with the waste acceptance criteria. While a worker tried to remove the plastic bag covering the bulging can, the lid popped off with a loud bang. The worker was not injured nor was any contamination released from the enclosure. In the future, workers will be allowed to puncture a bagged can.
- The operations manager told workers to relieve pressure from two sealed containers equipped with pressure gages. Although the containers were not pressurized, this action violated a Technical Safety Requirement because engineers had not evaluated opening this type of sealed container. The containers' robust construction could contain higher pressures than that analyzed in current calculations. In addition, the metal is too thick for the puncture device.

**F-Tank Farms:** Following last week's contamination event, SRR has identified corrective actions to improve command and control, contamination control, and procedure compliance. Training will re-emphasize the use of time outs and defining what is the safe configuration for events involving suspended loads. For complex jobs, operations will look at the feasibility of installing video cameras inside huts or establishing command and control centers. The amount of contamination that was released last week was worsened by not rinsing decontamination solution off as required by the vendor (and instead allowing it to dry out for days) and not flushing the pump. Workers will now be required to rinse/flush equipment that contacted waste. Furthermore, hut roofs will be required to be staged nearby. Recovery actions were delayed last week because the required roof was not even fabricated yet.

**Modular Caustic Side Solvent Extraction Unit (MCU):** H-Tank Farms has transferred all of the high organic strip effluent to the Defense Waste Processing Facility, where it was diluted per the Justification for Continued Operations. Workers are preparing to restart MCU processing. (See March 5 and 26, 2010 reports).

**L-Area:** L-Area personnel placed the storage rack and bucket of spent fuel that was suspended above the floor of the basin (see April 23, 2010 report) in a safe configuration and are developing long-term corrective actions.