DEFENSE NUCLEAR FACILITIES SAFETY BOARD

June 22, 2012

TO: T. J. Dwyer, Technical Director
FROM: M. T. Sautman and D. L. Burnfield, Site Representatives
SUBJECT: Savannah River Site Weekly Report for Week Ending June 22, 2012

Liquid Waste Operations (LWO): Several safety and conduct of operations incidents have occurred at LWO facilities recently. (See 6/8 and 6/15/2012 weekly reports). On Sunday, near the end of the shift, an F-Tank Farm (FTF) crew tried to shut down a pressurized air compressor, accumulator tank, associated equipment, and hoses. During this task, they inadvertently disconnected a pressurized (125 psi) air hose. When the hose whipped out of control, it struck a SRR radiation control inspector (RCI). The RCI was not significantly injured. The event resulted from several significant procedure violations. First, the operator ignored the procedure requirement to open the accumulator tank drain valve prior to removing the hose to ensure that the system remained depressurized. Second, the operator violated safety requirements by removing the hose whip restraint prior to disconnecting the hose. The site rep and SRR safety and health personnel also walked down the event scene and identified many additional conduct of operations and housekeeping issues. These included a procedure violation where an FTF employee from another shift signed off on a step that apparently had not been completed.

At H-Tank Farms, a RCI exited a contamination area without surveying his highly contaminated radiation monitoring equipment and bag (~120,000 dpm β/γ). He then transported his instruments and bag through a clean area and left them overnight in a radiation buffer area (RBA). The next day, he carried the contaminated equipment back through a clean area and RBA, where he discovered his mistake.

Based upon the series of events, SRR concluded that "…taken together they drive a need for further evaluation and response to address cross cutting concerns or commonalities in cause." Therefore, SRR stood down work and began taking additional actions to refocus their staff on safety, management of hazardous energy control, and disciplined operations. SRR solicited worker feedback during these efforts. SRR plans to roll out phase two of this improvement effort during the week of July 9, 2012.

Savannah River National Laboratory (SRNL): In order to take plutonium samples from a legacy furnace (see 1/5/07 report), researchers working inside a large glovebag have to remove several bags of waste and equipment from a metal box. The original procedure was rewritten to address site rep concerns with the clarity and formality of the instructions. During the evolution, the site rep and radiological protection manager expressed concern that the workers were reaching inside the box and lifting, pushing, and pulling waste items with their hands. Although they were wearing protective gloves, exerting pressure with your hands and touching hidden surfaces does not reflect the lessons learned from three prior puncture events at SRS (see 4/28/06, 8/11/06, and 6/18/10 reports). The site rep later contacted senior SRNS management because of concerns with the conduct of this evolution and the plans for completing it. SRNL management paused the activity until additional controls and tools could be put in place and the workers had a chance to observe transuranic waste remediation techniques at F-Canyon. While the formality and plans at the next pre-job briefing were noticeably improved, SRNL had to delay the resumption of work due to equipment problems with their radio system.

SRNL addressed site rep concerns with their Justification for Continued Operations (JCO) by requiring the immediate cessation of hot work permit, open flame, grinding, and welding activities upon loss of fire water supplies and pumps (see May 18–June 8, 2012 reports).