

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

October 22, 2010

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 October 22, 2010

Board Visit: SRO, SRSO, and contractor personnel briefed the Board members and staff on nuclear operations and safety initiatives at the Savannah River Site. The Board members and staff also walked-down the Solid Waste Management Facility (SWMF), the F-Area TRU waste repackaging area, and the Tritium H-area new manufacturing facility.

SWMF: Facility workers have been moving drums from Pad 16 (the Pad which had previously been contaminated when a TRU waste drum leaked liquid) to other areas of the SWMF. (See July 30, 2010 report). While working on some of these drums, which had previously been removed to Pad 15, facility workers detected contamination at levels as high as 114,000 dpm/ α (probe) and 2,000 dpm/100cm² α (transferable). The drums had been incorrectly located in a radiological buffer area and not in a contamination area. Work was stopped in the immediate area, and the Shift Operations Manager (SOM) was notified. There was no personnel contamination, and the area radiological control personnel posted the affected area as a contamination area.

P-Area Deactivation and Decommissioning: Subcontract personnel from Avisco were preparing and cutting P-Area process sewer lines. Avisco had specified that several clean lines were to be cut in the prejob briefing. After cutting several clean system lines, they cut two potentially radiologically contaminated lines on an out-of-service process sewer sampling station. The lines were marked clearly and correctly in accordance with site-wide procedures. The Avisco workers were trained properly as radiological workers; however, the workers did not follow the instructions they had received from supervision, did not request the proper assistance from radiological protection personnel, did not follow the appropriate radiological work permit, and did not wear the appropriate personal protective equipment. Upon discovery of the cut lines, the SRNL radiological control organization personnel surveyed the workers, the piping, and the surrounding area and found no contamination.

Replacement of Calibration Source: Because of the extremely high radiation levels that can be observed when Tritium Producing Burnable Absorber Rods (TPBARS) are received and processed, the site needs instruments capable of reading as high as 10,000 rads/hour. The site calibrates these instruments within this range using a ⁶⁰Co source. The site uses a subcontractor to replace the source when it decays beyond the point that it will reliably yield the required radiation levels. The site rep attended a briefing and a walkdown of the procedures planned to be used for the replacement of this source with a 6,500-Curie source. During the walkdown, SRNS personnel identified that similar replacements of sources has been problematic. The site rep pointed out to the SRNS radiological protection manager that they could improve the likelihood of success if they used a conduct of operations mentor to oversee the process.