

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

February 10, 2012

TO: T. J. Dwyer, Technical Director
FROM: M. T. Sautman, Site Representative
SUBJECT: Savannah River Site Weekly Report for Week Ending February 10, 2012

F-Canyon: After writing down the correct plutonium-239 equivalent curies (PEC) for the original drum, an operator selected the incorrect venting configuration for the three resulting post-remediation drums from a procedure table based on the total PEC. A second person verifier also missed this error. Although the incorrect vents were installed on the drum lids, a third worker noticed the error prior to shipment. Initially, SRNS believed this to be a violation of the specific administrative control, but an engineer determined that the installed drum vents would still provide the required hydrogen flow rate for the drum headspace.

235-F: While restoring power following a diesel generator load test, the non-operating exhaust fan was found free-spinning and its discharge damper open, resulting in a reduced building differential pressure. Thirty-five minutes later, the operating fan shut down causing a brief total loss of ventilation and activating the safety significant interlock. The announcement to evacuate the facility did not occur for 23 minutes (although the lone worker inside 235-F evacuated earlier). SRNS informed the nearby construction sites of the loss of ventilation and an engineer told the workers in the trailers adjacent to 235-F to evacuate although these notifications were informal and not driven by the abnormal operating procedure (AOP). SRNS is still troubleshooting the cause of the event and is reviewing all of the 235-F AOPs and emergency procedures to ensure they require the proper notifications.

HB-Line: SRNS declared a positive Unreviewed Safety Question related to sealed sources (see 2/3/12 report). A review identified that not all of the affected sources were stored in the vault. This storage was a compensatory action for the original Potential Inadequacy in the Safety Analysis.

Emergency Preparedness: DOE, SRNS, and SRR conducted a training drill that involved two Technical Support Rooms (TSR) at the Emergency Operations Center. The drill scenario involved a seismic event, which caused both a hydrogen deflagration and a stack collapse onto a vault in the tritium facilities while an aftershock triggered a fire in H-Tank Farms. Staff in the Consequence Assessment Room also practiced modeling two separate plumes. The drill revealed the need to improve communications and coordination amongst the control rooms and TSRs.

Backfit Analyses (BFA): A SRNS extent of condition review of eighteen prior BFAs identified three BFAs whose conclusions were questionable based on the documentation provided (see 10/14/11 report). SRNS plans to revise their BFA process to improve the technical rigor in future BFAs.

Worker Self-Protection: SRNS issued interim guidance for when a hazards analysis can assume that a facility worker recognizes and responds to a hazardous condition and evacuates the immediate area when determining unmitigated radiological or chemical consequences. Safety significant controls would still be required for events involving energetic releases of high concentrations of radiological materials, deflagrations and explosions, significant chemical and thermal burns to the worker's body, or leaks that could lead to asphyxiation.

Solid Waste Management Facility: The site rep observed interviews and the dry run for the contractor's Readiness Assessment of Gas Generation Testing. The team identified no findings and six opportunities for improvement.