

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

January 25, 2013

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 January 25, 2013

H-Tank Farms: Three hours and twenty minutes after operators isolated steam to the Tank 42 purge reheater, the Tank 42 purge exhaust continuous air monitor alarmed. After confirming the filter paper probed 100,000 dpm $\beta\gamma$, SRR secured the ventilation system to this rapid flammable gas generation tank. Subsequent radiological surveys found liquid (probing 5 mrad/hr) on top of the tank and up to 300,000 dpm $\beta\gamma$ fixed on the ground downwind. SRR did not detect any increase in airborne radioactivity downwind of the Tank 42. Based on past events (see 12/16/05 and 10/3/08 reports) and a subsequent filter x-ray, the cause of this release may have been moisture in the tank headspace air condensing near the high efficiency particulate air filter and allowing soluble cesium-137 to wick through the filter media. That being said, engineers are investigating some peculiarities with this event that prevent the identification of a definitive cause at this time.

Recommendation 2012-1: The site reps met with DOE and SRNS to discuss the draft deliverables addressing 235-F fixed combustibles, electrical de-energization, and F-Area emergency protective actions (PA). While the latter explained why SRNS believed that remain indoors was a more viable PA than evacuation, their draft report did not explain why remaining indoors in any of the nearby facilities would necessarily provide adequate protection to collocated workers. The de-energization plan was immature and required a formal walk-down to confirm the location of power source components.

HB-Line: SRNS commenced their month-long implementation verification review of the new safety basis in preparation of upcoming readiness assessments. The site rep questioned how the team is handling configuration management since the new Documented Safety Analysis (DSA) and Technical Safety Requirements (TSR) will not be approved by DOE for another week or so and calculations, the DSA, and the TSRs are still being revised.

In response to site rep questions about operator proficiency and timeliness, SRNS conducted drills with three shifts that demonstrated that operators could implement the alternate purge method within the required times.

Savannah River National Laboratory (SRNL): The site rep met with the SRNL Chief Engineer to discuss their plans for addressing the many code noncompliances with the fire water supply and sprinkler systems that were identified in the recently revised backfit analyses. SRNL has identified a funding source to pay for the additional evaluations and calculations, modifications to the sprinkler and fire water supply systems, and the revised procedures, fire hazards analysis, and Justification for Continued Operations. However, SRNL does not have any funding to pursue the recommended full replacement of the fire water supply system. DOE's August 10, 2012 letter to the Board stated that DOE had concluded that replacement with a current code compliant fire water supply tank and fire water pumps was warranted. (See March 27, 2012 Board letter and 8/17, 11/2, and 11/9/12 weekly reports).

Defense Waste Processing Facility: The site rep questioned a draft specific administrative control (SAC) on flammability controls that included a provision that diffusion through open vessel holes could provide "proper ventilation." Due to the lack of a technical basis of the adequacy of ventilation, the lack of criteria for a calculation showing this, and no foreseeable operational need to invoke this provision, SRR deleted this provision from the SAC.

Facility Rep Qualifications: The site rep observed an oral board for a new facility representative in the tank farms. The board was conducted professionally and the candidate's performance was satisfactory.