

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

January 20, 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 January 20, 2012

F-Tank Farms: Type IIIA tanks have stainless steel ductwork from the tank to the high-efficiency particulate air (HEPA) filter and originally had carbon steel ductwork from the HEPA filter to the exhaust fan. In 2003, cracks were found in the carbon steel ducts of 8 Type IIIA tanks and the contractor replaced them with stainless steel ducts. A laboratory analysis of the cracks determined them to be stress corrosion cracks, possibly caused by NO_x vapors. Last week, an operator investigating high purge flow rates for Tank 46 identified a 6-7 inch long crack on the inside of a 90° elbow on a weld downstream of the HEPA filter. Tank 46 is a rapid hydrogen generation tank and the calculated area of the crack was large enough for SRR to declare the purge ventilation system inoperable. Additional inspections identified smaller cracks on Tank 44's ducts, a slow generation tank. Both of these tanks still had the carbon steel ducts. In the short term, SRR is preparing to repair the cracks with a patch and conduct some nondestructive examinations. Longer term, SRR plans to replace these two carbon steel ducts with stainless steel. A total of 12 Type IIIA tanks in F- and H-Tank Farms still have carbon steel ducts.

H-Canyon: SRNS adds caustic to their liquid waste before transferring it to H-Tank Farms to ensure the receipt tank stays within its corrosion control limits. H-Canyon has a Waste Compliance Plan (WCP) to ensure they comply with H-Tank Farms' Waste Acceptance Criteria. This week, SRNS realized that their new caustic tank was not completely draining. As a result of this heel, operators were not adding as much caustic to waste batches as intended. This caused 3 of the 10 recent plutonium discard transfers and 3 of the 12 recent sump transfers to not comply with the WCP limits although the bulk chemistry inside the receipt tank still met corrosion control limits. Part of the heel resulted from the drain sloping upwards, but SRNS is investigating the cause for the rest of the observed heel.

Training: DOE Order 426.2, *Personnel Selection, Training, Qualification, and Certification Requirements for DOE Nuclear Facilities*, requires operations management personnel to have a BS degree in engineering or a related science although the order allows for some substitution of related experience for credit hours. A recent DOE assessment identified discrepancies between job descriptions for several operations positions and the DOE Order. These substitutions were not documented as required. The site reps met with SRNS because several managers do not possess a BS degree. Although this requirement has been in place since 1994, SRS contractors have continued to rely on alternatives to education for many personnel without a degree. The site reps encouraged the contractor to develop a long-term plan to start shrinking the education gap rather than continue to heavily rely on equivalencies.

A site rep also reviewed the new closed and open book comprehensive exams for shift operations managers in F-Area. The quality of the exams were fair.

Each facility relies on a council to advise the facility manager on the safe operation of the facility; including items like authorization basis changes. A chairman of Solid Waste Management Facility (SWMF) council had chaired the last 6 council meetings without holding the requisite qualifications. While SWMF is taking the necessary corrective actions to ensure no safety problems from this deficiency, it is clear that the selection, training and qualification program at solid waste requires improvement.