

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

July 25, 2014

TO: S. A. Stokes, Technical Director
FROM: M. T. Sautman, Site Representative
SUBJECT: Savannah River Site Weekly Report for Week Ending July 25, 2014

Maintenance: The following case is yet another example where the maintenance of non-credited safety equipment lacks rigor (see 7/11/14 report for other examples). H-Canyon has a Limiting Condition for Operation requiring seismically qualified vessel air purge equipment be operable as well as a specific administrative control covering the use of this equipment. While the rotameters and piping are safety significant, the portable air compressor is general service. SRNS discovered that when responsibility for this air compressor switched from a subcontractor to SRNS last year, that none of the three, six, or twelve month preventive maintenance (PM) tasks were activated. (In reality, no PM has been conducted on this air compressor since SRNS established this control in 2010). Furthermore, since SRNS did not consider the air compressor to be a vital safety system, this system is not part of the system health report process even though there have been three reportable failures of this system since June 2012 (there was a fourth event, but it is not relevant).

Emergency Management (EM): DOE expressed concern about the decline in the overall performance within the EM program as evidenced by this year's "partially met" grade in the annual exercise. DOE directed SRNS to perform a full integrated review of all aspects of the implementation of the EM program.

K-Area: A subcontractor ignored a quality control (QC) hold point and drilled ~130 holes into the safety class structure without a QC inspector present. Furthermore, the workers were not wearing respirators or using wet drilling techniques as required.

H-Canyon: Based on projected budget impacts, DOE informed SRNS that they will be limited to transferring 50kgal of high level waste from H-Canyon to H-Tank Farms this fiscal year, 150kgal next year, and then 105 kgal each year between 2016 and 2019. While SRNS has been trying to reduce the volume of waste they transfer, these volumes will likely impact the amount of spent nuclear fuel, plutonium, and enriched uranium that can be processed.

Tritium Extraction Facility: During last week's loss of power event (see 7/18/14 report), one of the many faults received caused a valve to close. Four days later, an unrelated glovebox oxygen monitor low flow alarm required operations to establish an alternate means of monitoring oxygen. A few hours later, personnel noted that the alternate oxygen reading was abnormally low. After several hours of troubleshooting, SRNS determined that the cause of the low reading was that a valve to the high activity stripper was unexpectedly in the closed position. While the valve was in the incorrect position, the defense-in-depth high activity stripper system would have been unavailable to remove tritium if a release had occurred inside a glovebox.

Tank Farms: After receiving a low flow alarm, operators confirmed that the operating process vessel ventilation fan for H-Diversion Box 8 had shut down and the standby fan had unexpectedly not started. SRR restarted the fan after replacing a blown control power fuse on the power supply. The next day, SRR attempted a fan swap, but the second fan would not start until the control circuit was changed. Troubleshooting found the same fuse had blown again. A point to point inspection and testing of the control circuit components has not identified what caused the fuse to blow.