

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

December 9, 2016

TO: S. A. Stokes, Technical Director
FROM: M. T. Sautman and Z. C. McCabe, Site Representatives
SUBJECT: Savannah River Site Weekly Report for Week Ending December 9, 2016

H-Canyon: H-Canyon maintenance personnel performed an internal source calibration on the safety class (SC) water monitoring system. The task involved removing one of the two SC water monitors and the SC automatic diversion valve timer interlock from service, which requires entering two separate conditions of a Limiting Condition for Operation (LCO). The maintenance work package included a step for the shift operations manager (SOM) to sign off ensuring that the facility was in the proper LCO. The step did not specify which of the four LCO conditions for the water monitoring system should be entered. The step did discuss the work being performed on the water monitor but included no discussion of the interlock. Additionally, the SOM reviewed the scope section of the work instructions, but it also did not mention the interlock. After the SOM reviewed and signed off the step, he entered the facility into the LCO condition applicable to the water monitor being out of service, but did not enter the LCO condition for the inoperable interlock. After the work was released, maintenance personnel took the interlock out of service per the work instructions rendering it incapable of performing its SC safety function. After discussing the maintenance work with the system engineer later in the shift, the SOM learned that the work included removing the interlock from service. The SOM then informed the H-Canyon management team of the situation. The work performed did not place the facility in an unsafe condition and the interlock was placed back into service within the timeframe required by the LCO, had the correct condition been entered.

DOE Guide 423.1-1B, *Implementation Guide for Use in Developing Technical Safety Requirements*, includes "failure to comply with an LCO" as a circumstance that would result in a TSR violation. Furthermore, as an example of what is meant by "failure to comply with an LCO," the guide includes "a safety system is rendered incapable of performing its safety function (e.g., by maintenance) without entering the applicable LCO." However, SRNS has determined that the situation does not constitute a TSR violation because the facility performed the actions required by the LCO condition (i.e., returned the valve to operable status within the LCO-required time limit) had the condition been entered. This is the most recent of seven events since April 2016 where SRNS personnel have demonstrated less than adequate LCO administration (see 4/22/16, 4/29/16, 6/3/16, 7/22/16, and 10/14/16 reports). It is the fourth of which SRNS did not declare a TSR violation because the required actions of the LCOs were inadvertently completed within the required times. DOE-SR is evaluating their position on the classification of this and similar events as TSR violations.

Recommendation 2012-1: SRNS began removing material from Cell 6. Workers are removing equipment in order to remove material-at-risk and facilitate future decontamination efforts. This is the first manual work inside a cell in decades.

Defense Waste Processing Facility: Engineers identified that a 2011 software update for the gas chromatographs introduced an error that under certain abnormal circumstances would cause the reported hydrogen concentration to be incorrectly assigned a value of 0% and the actual hydrogen concentration value to be reported as the oxygen concentration. A review of the processing history since this update did not identify any cases where those required circumstances existed. SRR stopped processing in the affected vessels until the software error could be corrected.