

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

March 6, 2015

TO: S. A. Stokes, Technical Director
FROM: M. T. Sautman and D. L. Burnfield, Site Representatives
SUBJECT: Savannah River Site Weekly Report for Week Ending March 6, 2015

H-Canyon/HB-Line: SRNS completed their causal analysis of why criticality safety controls were not properly implemented at HB-Line and H-Canyon (see 2/20 and 2/27/15 reports) and identified corrective actions to prevent recurrence. The main causes that SRNS is focusing on include: 1) loss of agitation not identified in common mode failure (CMF) evaluation, 2) no positive engineered indication that agitation occurs, and 3) not properly annotating equipment to return to normal after loss of power. SRNS intends to revise the existing CMF evaluations for loss of agitation and the sample control program and then conduct a series of extent of condition reviews of nuclear criticality safety evaluations (NCSE) in HB-Line and H-Canyon to identify and resolve similar vulnerabilities. Related reviews will also examine if controls require interpretation to implement, whether quantitative controls would be better, and how the NCSEs address the interface between HB-Line and H-Canyon. SRNS plans to develop a positive means to confirm agitators are running and address other sampling and transfer procedures that may rely on agitation. SRNS will also revise their abnormal operating procedure to ensure that the agitator variable frequency drives are reset after a loss of power and determine if other safety class, safety-significant, general service-criticality, and essential equipment will operate once power is restored following a loss of power event. Furthermore, SRNS will conduct extent of condition reviews to see if any of the above lessons learned are applicable to their other nuclear facilities. Only a handful of the corrective actions include a specific action to perform. Most of the corrective actions involve evaluations and extent of condition reviews, the adequacy of which will be highly dependent on the rigor with which they are conducted. Each corrective action will require Corrective Action Review Board review and approval for closure.

Tritium: The SRNS Independent Investigation Team released a thorough report on the tritium unloading puncture event (see 1/30/15 report). The major causal factors identified by the team included: 1) lack of a tool control/sharps program, 2) incomplete execution of the assisted hazards analysis (AHA) program, and 3) noncompliant disciplined operations. The latter included weaknesses with procedure compliance, pre-job briefings, complacent reliance upon skill of the craft, and execution of the immediate procedure change (IPC) process. The team's recommendations included: 1) establishing a tool control/sharps program, 2) conducting AHA training, and 3) improving conduct of operations (e.g., IPC process, procedure validation, procedure compliance and understanding, pre-job briefings). SRNS has also started having a board of senior managers evaluate how a shift operations management team would plan and execute a hypothetical high-risk task. The site rep observed the first evaluated seminar (replacement of a magnesium bed at the Tritium Extraction Facility) and offered suggestions for improving future evaluated seminars.

F-Canyon: While performing testing of the air damper control, Fan # 2 failed to start. When the fan attempted to start, the breaker for the fan tripped. As a part of the troubleshooting that followed, SRNS re-racked the breaker and attempted to start the fan; however, the breaker tripped a second time. SRNS is continuing the troubleshooting process to determine the cause. Both Fan #1 and Fan #2 were operating so the facility was not required to enter the limiting condition for operations.

235-F: The Corrective Action Review Board (CARB) reviewed the closure actions for the Type A findings following the 235-F facility self-assessment. The site rep attended a few of the CARB discussions. The CARB found that several of the corrected procedures needed further improvements for clarity and to comply with site-wide procedures. The resulting delay will result in a corresponding delay in the start of the readiness assessment until at least 3/12/15.