

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

June 6, 2014

**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 June 6, 2014

Mr. Fox provided site representative support this week.

**Tank Farms:** SRR credits the Flammability Control Program with preventing tank explosions and a supporting software system handles the data and performs the calculations used to implement the safety program. The software programming incorporates equations and logic contained in the Flammability Control Program Description Document. The logic is necessary since the type of waste contained in each tank varies, requiring the application of different conditions and assumptions for each calculation. This week, SRR discovered that the software does not correctly program the logic described in the program description document and some of the resulting errors are not conservative. SRR subsequently performed spot checks on the system and believes that the current problem is limited to a single module of the system. Additionally, SRR stopped activities that could cause a disturbance of the waste in any of the tanks until a conditional release was approved that defined the mitigative actions necessary to allow continued operations. SRR will perform a root cause analysis to identify additional actions.

**HB-Line/H-Canyon:** DOE approved the implementation of the new Documented Safety Analysis and authorized SRNS to restart Phase II operations in support of plutonium oxide production. That being said, no plutonium will be transferred from H-Canyon to HB-Line until SRNS completes the remaining ground level release modifications (see 12/13/13 report). SRNS also hopes to begin inspection of the H-Canyon exhaust air tunnel next week (see 1/6/12 and 9/6/13 reports). DOE and SRNS continue to work on cost and schedule details to support processing of High Flux Isotope Reactor fuel and the installation of a third dissolver in H-Canyon and the potential upgrading of the HB-Line ventilation system to safety class.

The site rep also met with SRNL personnel to discuss their analysis of 9975 primary containment vessels in a fire and their use of a new hydrogen recombiner. The staff will be reviewing the technical basis for the assumed fire temperature, expected hydrogen generation rate, and burst pressure.

**Conduct of Engineering:** The site reps met with SRNS engineering and nuclear safety managers to discuss their common cause analysis and corrective action plan (see 4/4 and 4/25/14 reports). The common causes affect validation of inputs and assumptions, engineering judgment, adequacy of technical reviews, and other weaknesses. The corrective actions address key factors like improving the rigor of safety basis development, validating input and assumptions, and analyzing safety systems to identify any vulnerabilities, but right now there is not much specificity in the planned actions.

**Work Planning and Control:** The site reps found another example of a work order planned by construction services personnel (see 5/23/14 report) that does not comply with the site instructions on technical work documents. In this case, the site rep identified additional problems assigning actions and in identifying controls for identified hazards. The Independent Evaluation Board has identified additional examples of poorly prepared construction work orders.

**Quality Assurance:** The site rep met with SRNS quality assurance representatives to discuss the site procedures for procuring safety related items from vendors who have not met the requirements of ASME standard NQA-1, *Quality Assurance Requirements for Nuclear Facility Operations*. SRNS demonstrated that the site is conservatively implementing the requirements for these procurements.