

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

April 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 April 20, 2012

Board staff members Daniel Bullen and Thomas Spatz were on site this week.

H-Tank Farms: SRR must repair or replace the Tank 51 telescoping transfer jet (TTJ) in order to continue processing the next sludge batch. (See April 6 and 13, 2012 reports). Since the site does not currently have a spare TTJ, SRR is pursuing the repair of the jet. The contact dose rates are expected to be very high (>100 rad per hour.) Utilizing operator input, SRR developed long handled tools and local shielding to protect the operators. The site rep observed mock-up training that enabled the workers to demonstrate their ability to use the tools in the restricted conditions that simulate those of the tank farm. The mock-up training was successful. SRR will now use the lessons learned to revise the procedures prior to attempting the repair.

F-Tank Farm: The pipe that is used to deposit the grout in Tank 19 (tremie) ruptured near the top of the tank. Because of this, SRR switched grout placement to Tank 18. A new tremie is being prepared for insertion into Tank 19. As of April 19, 2012, F-Tank Farm personnel have placed over 400,000 gallons of grout in the two tanks.

235- F: SRNS entered a Limiting Condition for Operation (LCO) for single fan operation in order to perform the load test of the 292-2F diesel generator. After SRNS completed the load test, the automatic transfer switch for the B bus switched back to normal power. Fan E5-2 unexpectedly shut down and the operator manually started the E5-1 fan per procedure. SRNS declared the E5-2 fan inoperable. Because the facility could only sustain single fan operation, F-Area personnel remain in the LCO.

L-Basin: The Board staff met with SRNS engineers to discuss recent videos of gas bubbles being released from oversized can vents (see March 23 report). The oversized cans with the most frequent bubbles are those that contain K-cans. This indicates that some of the seals on the 50-year old K-cans have failed, which is allowing water to contact the fuel. In addition, the four oversized cans containing the six Z-cans are also releasing bubbles. This implies that the fuel in the three breached Z-cans is still likely reacting with water while some or all of the other Z-cans have also failed since they were repacked.

Fire Protection: The site reps met with DOE and SRNS to discuss their progress on a variety of fire protection issues. On the positive side, SRNS is starting to see positive trends in reducing the number of unplanned fire impairments and working off issues identified during their fire water distribution system material condition walkdowns. However, progress in resolving authorization basis and code compliance issues at the Savannah River Laboratory (SRNL) is slow. Last December, DOE approved a Technical Safety Requirement response plan because SRNS was unable to restore operability of the Building 773-A sprinkler system within 45 days. DOE informed the sites reps that SRNS believed it could take up to six more months before SRNL could even implement a Justification for Continued Operations. The path forward for addressing these issues as well as those related to A-Area in the Board's March 27, 2012 letter is very ill-defined.

Nuclear Safety: SRNS is proposing to use a 2-hour release duration for a HB-Line fire scenario and possibly other accident scenarios across SRS. One apparent driver for this proposal is that it reduces the calculated accident dose consequences by 60% and some of the planned missions at HB-Line are expected to otherwise drive safety class controls.