

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

August 2, 2013

TO: S. A. Stokes, Acting Technical Director
FROM: M. T. Sautman and D. L. Burnfield, Site Representatives
SUBJECT: Savannah River Site Weekly Report for Week Ending August 2, 2013

HB-Line: The Readiness Assessment (RA) team requested that HB-Line personnel conduct an administrative check to simulate the response to a loss of purge air to Phase II vessels. Not only was this evolution not announced ahead of time, but it was initiated late on the day shift Sunday so that the number of available responders would be minimized and the actions would extend over multiple shifts. HB-Line personnel easily met the required times to establish an alternate purge method although the demonstration was overly simulated, exhibited weak independent verifications, and did not explicitly demonstrate the stopping of all air jet operations. The site rep also passed on observations about the contractor RA including the need for operators to explain their actions and earn information, excessive simulation during dry runs, the lack of simulated process upsets during dry runs, and the lack of a prerequisite for equipment operability in the Plan of Action.

Facility Operations: SRNS personnel have been taking corrective actions to improve conduct of operations. In addition, facility personnel have been evaluating their conduct of operations and identifying the causes for recent weak performance. As a result, H-Canyon, HB-Line, K-Area, and L-Area exited deliberate operations mode. H-Canyon and HB-Line management also issued their Conduct of Operations Improvement and Sustainability Plans. Several of the actions are related to increasing the number of work release managers, shift operations managers, etc. One of the goals is to increase the oversight of nuclear operations.

The H-Area maintenance manager also issued an H-Area Maintenance Back Log Work-Off Plan. Key focus areas are to reduce the backlog of high priority maintenance work orders and the soaring number of deferred preventive maintenance and instrument calibrations. A critical aspect of the plan is to replenish the maintenance workforce, which has been dramatically reduced during the last few years. (See 3/15, 5/17, and 6/7/13 weekly reports).

Tank Farms: SRR had noticed increasing levels in the F-Tank Farm Catch Tank from intrusion of rainwater. (See 7/12,26/13 reports.) The catch tank and the encasement for the Tank 8 drain are contaminated from an event that occurred in the 1960s when the Tank 8 overflowed into the encasement. This contamination appears to have been transferred to the rainwater. Late last week, SRR concluded that the water in the catch tank backed up through the encasement and around the jacketed transfer line into Tank 8. This week they confirmed their conclusion using camera monitoring. Water also appears to have entered the Tank 8 annulus, and for the first time smears of the annulus indicate contamination is present (30,000 d/m β/γ). In order to control the rainwater, tank farm personnel connected a temporary transfer line and successfully transferred material from the catch tank to Tank 34. They are also successfully drying the water from the Tank 8 annulus.

Solid Waste Management Facility (SWMF): H-Canyon TRU waste personnel remediated waste from a TRU waste container and filled two daughter standard large boxes (SLB2s) with the remediated waste. The final assay of the containers measured ~4700 and 6200 plutonium-239 equivalent curies (PECs). Both of these PEC values exceed the Documented Safety Analysis limit of 2100 PEC for containers outside a concrete culvert. (See 7/26/2013 report.) Because they violated two Limiting Conditions of Operations (LCOs), SRNS developed and DOE-SR approved a response plan. In order to comply with this plan, SRNS has suspended operations within 20ft of the SLB2s, isolated the containers using concrete barriers, and taken other necessary actions. SRNL has reviewed the available data including the available spectrum and has confirmed that the assay is probably representative of the actual composition of the contents of the box.