

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

April 2, 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 April 2, 2015

**Defense Waste Processing Facility (DWPF):** After evaluating several options, SRR is considering upgrading the zone 1 ventilation system to safety class to address the Potential Inadequacy in the Safety Analysis (PISA) related to the melter feed rate temperature correlation basis (see 11/21/14 report). This upgrade would also be credited for the PISA related to retained hydrogen in several DWPF vessels (see 12/19/14 report). The zone 1 ventilation system was originally safety class (SC), but was downgraded to safety significant several years ago. If SRR decides to pursue this approach, the backfit analysis (BFA) is estimated to take eighteen months. In the interim, SRR would perform a BFA to qualify the current melter feed flow instrumentation as SC. SRR intends to keep their melter off-gas flammability model, but these controls would be implemented as a programmatic control rather than the current Limiting Condition for Operation. Meanwhile, SRR has begun removing the contents from four of the main processing vessels in preparation for a major upgrade to their purge systems. Once the outage begins and SRR implements an interim set of Technical Safety Requirements, SRR will be working against calculated time limits to replace obsolete flow meters and rotameters with accuracy issues.

An inspection of the diesel fire pump found the wear rings to be badly worn. SRR will be rebuilding this pump and also bead blasting the suction side of the pump because significant corrosion was found. The electric fire pump will also be inspected and rebuilt. Once the pumps are ready and SRR completes two modifications to the DWPF fire sprinkler system, SRR will retest the fire pumps to determine if they are meeting code requirements or whether they need to continue pursuing replacement pumps (see 7/11/14 report).

**Tritium:** The site rep attended an issue review in the Tritium Extraction Facility (TEF). One of the functions of the TEF chillers and cooling towers is to keep the gloveboxes from overheating. This helps balance the pressures in the gloveboxes and the room. Tritium personnel recently revised a work package to allow workers to perform maintenance on a motor control center cubicle while maintaining the chillers and cooling towers in service. When workers performed this task, however, five of the eight electrical circuit control cards were damaged badly enough to require replacement. Engineers believe this new configuration may have caused this unexpected response. SRNS has ordered replacements for all eight cards since they have exceeded their expected lifetime. The issue review will continue in two weeks.

**HB-Line:** A newly assigned contractor fire protection engineer identified a number of existing conditions that call into question the one-hour fire rating for three stairwell enclosures. These conditions include the storage of anti-contamination clothing in a room below a stairwell, wall penetrations without seals, and non-rated/listed doors. These and several other existing conditions will also complicate the plans to upgrade the ventilation system to safety class (see 6/6/14 report).