

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

March 24, 2017

TO: S. A. Stokes, Technical Director
FROM: M. T. Sautman and Z. C. McCabe, Resident Inspectors
SUBJECT: Savannah River Site Resident Inspector Report for Week Ending March 24, 2017

K-Area: In response to a recent staff review, DOE directed SRNS to complete measurements of the Californium Shuffler by the end of August and complete the draining and removal of mineral oil from the digital radiography unit. The high density polyethylene in the shuffler and the mineral oil were significant contributors to the combustible loading and facility fire hazards.

Tritium Extraction Facility (TEF): NNSA approved the corrective actions SRNS performed to resolve the pre-start findings the NNSA Readiness Assessment team identified. TEF is now in the extraction cycle for the first time since June 2015. A resident inspector observed workers perform the initial valve lineup. During this activity, he noticed that a glovebox airlock that was posted with a sign stating “Maintain GB airlocks at < 400 torr” was reading between 400 and 760 torr. After pointing this out to the facility manager, she took a time out until so the pressure could be brought back into range.

HB-Line: While performing predictive maintenance on a circuit breaker panel HB-Line maintenance personnel inadvertently opened a breaker that caused an inlet damper on Air Handling Unit No. 2 to lose power. Per the design, the inlet damper opened once it lost power causing an in-rush of supply air. The differential pressure then began rising towards zero inches water column. Control room personnel noticed the rising pressure and quickly took action to shut down the supply units. Almost simultaneously, the control room received a low vacuum alarm as the facility differential pressure began to go positive. After further investigation HB-Line personnel were not able to determine if the air supply units were shut down from the activation of the safety-significant interlock or control room personnel action. Although the facility differential pressure briefly went positive, Radiological Control personnel did not find any spread of contamination. HB-Line personnel are evaluating how the predictive maintenance is performed to try to avoid inadvertently opening breakers in the future.

Defense Waste Processing Facility: A resident inspector observed workers place the melter in deinventory mode, shut down the backup off-gas system, and begin to drain the melter seal pot. However, work was suspended when the pipe connected to a recently closed valve developed a significant water leak. The seal pot was later drained and flushed. A lightning strike caused zone 2 and 3 ventilation to shut down for approximately 15 minutes and the building to be evacuated. Zone 1 ventilation was not lost and surveys did not find any spread of contamination.

Other Items: SRR commenced their Readiness Assessment for Salt Disposal Unit 6.

- A mechanic found voltage present while performing pre-work voltage checks on a 235-F time delay relay. Workers drained the shield windows of cells one and two.
- SRNS personnel completed the H-Canyon exhaust tunnel crawler inspection this week.
- DOE identified that the field copy of a Salt Waste Processing Facility system operational test (SOT) procedure was a draft version of the correct revision number that did not incorporate all review comments. Parsons is confirming all open SOTs are the correct version.