

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

June 8, 2018

TO: S. A. Stokes, Technical Director
FROM: M. T. Sautman and Z. C. McCabe, Resident Inspectors
SUBJECT: Savannah River Site Activity Report for Week Ending June 8, 2018

Savannah River National Laboratory (SRNL): While under the Management Control Plan, operations personnel were replacing two high efficiency particulate air (HEPA) filters, one from each flow path for the Section C Off Gas Exhaust (OGE) system (see 5/18/18 report). The original configuration had the A flow path online (i.e., both A-inlet and A-outlet dampers open) and the B flow path offline (i.e., both B-inlet and B-outlet dampers closed). After successfully replacing one of the B flow path HEPA filters, an operator opened the B-inlet damper and closed the A-inlet damper, leaving the B-outlet damper closed. This resulted in both the A and B flow paths being offline. The operator realized the error when they went to remove and replace one of the A flow path filters and noticed a stronger vacuum than expected. The operator then adjusted the dampers to the correct configuration and, after a radiological survey, continued working without notifying supervision. The error resulted in a low OGE system vacuum and an alarm in the control room that led control room personnel to enter a limiting condition for operation. The control room was not aware of the issue that led to the upset condition until approximately 30 minutes later when the operator performing the HEPA filter work entered the control room. The subsequent fact finding meeting (FFM) revealed several issues. For instance, the procedure for replacing the HEPA filters provided very little guidance on manipulation of the dampers and the necessary configuration. The first line manager and operator also noted that they failed to discuss the proper damper manipulation and configuration during the pre-job brief. At the time of the event, there was no ongoing work in the affected laboratory modules.

After the FFM, the resident inspector (RI) noted several other issues. For example, the procedure used when the system upset occurred had not been suspended after the issue was identified. It is unclear why operations personnel decided to wait until after the FFM (several hours later) to suspend the procedure. Additionally, operations personnel were not properly controlling the procedure and had inadvertently combined two different working copies. Further, the RI identified a technical safety requirement step that was not signed off on the suspended procedure. SRNL personnel later confirmed that they had performed the step.

Defense Waste Processing Facility: During normal operations, a differential pressure between the pour spout and the melter draws the glass up the melter riser until it overflows and falls through the pour spout and into the canister. The procedure allows an alternate approach involving gravity pouring. In this mode, the melt pool level is adjusted until the glass moves up the melter riser high enough to reach and drop through the pour spout. SRR chose to resume pouring using this mode in order to collect data on a melter level detector. The RI observed this activity. No issues were noted.

Tank Farms: In response to DOE direction (see 5/25/18 report), SRR revised their offsite dose calculations for the recent 3H Evaporator Documented Safety Analysis Addendum to reflect the new methodology for dispersion modeling. In addition, they are incorporating the new approach for 2H Evaporator dose calculations that also address new hydrogen generation rates.