

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

December 5, 2016

TO: Steven Stokes, Technical Director
FROM: Jennifer Meszaros and Rory Rauch, Site Representatives
SUBJECT: Oak Ridge Activity Report for Week Ending December 2, 2016

Highly Enriched Uranium Materials Facility (HEUMF): CNS personnel held a critique this week to discuss safety-related HEUMF fire dampers that were not inspected and tested within the required surveillance frequency. Dampers are required to be inspected and tested every four years per National Fire Protection Association requirements. The CNS Y-12 test procedure governing damper surveillance further grants a 25%, or one year, grace period beyond the four year requirement. Some fire dampers are difficult to access; as such, facility personnel did not inspect and test a subset of the dampers within the four-year surveillance requirement and utilized the grace period allowed by the surveillance procedure. Last week, facility personnel discovered that several site procedures governing the testing and inspection of structures, systems, and components define more stringent grace periods than that identified in the damper testing procedure. Facility personnel thus recognized that many of the dampers were not inspected and tested before these more stringent grace periods expired.

As a result of this event, facility management committed to prioritizing completion of overdue surveillances and documenting the basis for continued operability of the affected dampers in a nonconformance report. During the critique, CNS managers identified a follow-on action to evaluate planned surveillances at other production facilities in order to ensure that the identified surveillance frequencies comply with site procedure requirements. Given that several site preventive maintenance procedures define the grace period differently, management also identified an action to review these procedures in order to better align grace period requirements.

Fire Protection: This week, the Y-12 site experienced an unexpected reduction in potable water supply pressure. The reduction was significant enough to impair several credited facility fire suppression systems. In each instance, the responsible operations manager entered the appropriate limiting conditions of operation for the affected systems. CNS utilities personnel returned the potable water supply system to its normal operating pressure within two hours of the event. CNS reported the issue as a performance degradation of the affected fire suppression systems and initiated its event investigation process. Preliminarily, it appears the reduction in pressure was due to an issue with the controller that automates potable water supply tank switching and filling operations.

Building 9212: Approximately two weeks ago, a nuclear criticality safety engineer observed signs of deformation in plastic tubing that was recently installed on the primary extraction (PX) system. CNS engineers evaluated the tubing and believe the deformation resulted from a recent change in the tubing's chemical formulation that introduced an incompatibility with the organic solvent used in the system. CNS engineers have determined that the tubing needs to be replaced and are currently evaluating replacement options. The subject tubing was initially replaced as part of the metal production improvement project (see 9/2/16 report) outage on the PX system and the maintenance activity to replace the tubing again will further extend the outage.