

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

March 20, 2017

TO: Steven Stokes, Technical Director
FROM: Jennifer Meszaros and Rory Rauch, Resident Inspectors
SUBJECT: Oak Ridge Activity Report for Week Ending March 17, 2017

Building 9995/Criticality Accident Alarm System (CAAS): Last week, the power supply to the Building 9995 remote terminal unit (RTU) failed. The RTU is part of the facility Emergency Notification System (ENS). The facility CAAS audible alarm is amplified via the ENS so that personnel located in the identified annunciation area are able to hear the alarm and respond appropriately. The Plant Shift Superintendent's (PSS) Office initially received an alarm indicating RTU trouble; once notified, the responsible operations manager performed a voice test over the ENS speakers and was unable to verify that the test was audible throughout the Building 9995 annunciation area. The shift manager thus entered the appropriate Technical Safety Requirements (TSR) limiting condition of operation (LCO).

CNS maintenance personnel replaced the RTU power supply without incident. The PSS declared this activity "emergency work" in accordance with the site work control manual. As such, work planners were allowed to follow a less rigorous planning process because the work, by definition, was required to prevent significant consequences (e.g., serious injury or loss of property). Although the PSS has improperly authorized emergency work in the past, CNS made changes to the work control manual in order to better describe conditions under which such work may be authorized (see 9/4/15 report). The resident inspectors and the PSS discussed the decision to declare the activity emergency work given that the responsible shift manager implemented the appropriate LCO actions. In this case, the PSS indicated that the affected ENS also serves to relay protective actions to workers in the facility in the event of an emergency other than an inadvertent criticality. As such, the PSS believed that emergency work was required to recover this function. The resident inspectors agree with the PSS.

CAAS Safety Basis Initiative: The CNS Y-12 engineering organization is proposing notable changes to facility and site CAAS requirements. For instance, the engineering organization is standardizing the CAAS LCO included in each facility TSR so that system operability is defined across the site by the same characteristics (i.e., detection, annunciation, and power). They are also streamlining LCO actions as a result of system inoperability and are documenting the technical bases for surveillance frequencies and LCO action completion times. Finally, the engineering organization is modifying the manner by which facility personnel manage CAAS-inaudible areas and restricted access areas (RAAs). These latter areas are implemented via LCO actions when the CAAS is inoperable and currently extend beyond a facility's exterior walls. CNS facility management has struggled in some instances to implement these areas when required (see 2/17/17 report). The engineering organization is revising facility TSRs and the site safety analysis report so that RAAs will only extend to a facility's exterior walls. They are further providing a technical basis for this modification. The NPO nuclear safety organization has approved nearly all of the necessary safety basis revisions; once all are approved, CNS expects orderly implementation of the safety basis documents to take six months.

Building 9212: Enriched Uranium Operations personnel resumed reduction operations this week after last operating at the end of Fiscal Year 2016. The resident inspectors and an NPO facility representative observed operators loading material into tubes within a series of gloveboxes. They noted near the end of the work that glovebox exhaust gauges displayed pressure readings that were outside of ranges prescribed in the procedure. They provided this feedback to the responsible system engineer, who is investigating the issue further.