

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

February 16, 2016

TO: Steven Stokes, Technical Director
FROM: William Linzau and Rory Rauch, Site Representatives
SUBJECT: Oak Ridge Activity Report for Week Ending February 12, 2016

Building 9212: In response to the recent issue involving a sample bottle that exceeded nuclear criticality safety (NCS) loading limits (see 1/29/16 report), the CNS Y-12 Production Manager for Enriched Uranium Operations issued a standing order requiring increased oversight of non-resolution fissile sampling activities in Building 9212. This week, the site reps observed a senior supervisory watch (SSW) visit that was primarily dedicated to observing such activities, per the direction in the standing order. The enhanced oversight proved quite valuable as the SSW representative performed a thorough evaluation of certain sample collection and pour-up operations and ultimately identified several areas for improvement. This included a violation of an NCS requirement to maintain 12 in. spacing between containers used to transport sample bottles. A follow-on discussion with the operators revealed that they misunderstood the requirement believing that it was not necessary to maintain spacing between the containers if the cumulative total of sample bottles in two containers did not exceed the allowable limit for a single container. The SSW representative also identified an approved, effective procedure without a use category. The responsible supervisor responded appropriately to this situation by suspending procedure performance in accordance with site conduct of operations requirements. The SSW representative logged these concerns in the SSW observation database to allow for performance trending and identification of follow-up actions.

Building 9206: On Thursday, Building 9206 experienced a partial loss of power due to a circuit breaker tripping unexpectedly. This unplanned power outage de-energized the audible and visual alarms for the building's Criticality Accident Alarm System (CAAS). To comply with the safety basis Limiting Condition of Operation (LCO), the building's shift manager directed the establishment of a restricted access area to prevent people from nearing the building until criticality evacuation alarms are restored. The shift manager declared the establishment of the restricted access area, but control of a portion of the area had yet to be established. The Building 9206 Operations Manager declared this failure to meet the LCO condition a Technical Safety Requirements (TSR) violation. CNS Y-12 Infrastructure personnel restored electrical power and facility personnel restored CAAS functionality and exited the LCO. Additional details on this event should be available after CNS holds a fact-finding meeting. However, it appears that complications presented by Building 9206's proximity to a main pedestrian gate into the protected area of the plant were at least a partial contributing factor to the TSR violation. CNS engineers had already undertaken an effort to eliminate these complications by documenting the basis for a reduced CAAS annunciation area. This would in turn reduce the size of the restricted access area due to a loss of the CAAS alarm and free access through the nearby gate. This week, CNS formally submitted the associated safety basis change request for NPO approval.

Highly Enriched Uranium Materials Facility (HEUMF): Last year, CNS implemented a Justification for Continued Operations (JCO) that addressed an Unreviewed Safety Question associated with a TSR Surveillance Requirement for HEUMF smoke detectors (see 8/14/15, 10/23/15, and 12/18/16 reports). Recently, CNS selected a design modification—a Very Early Smoke Detection Apparatus (VESDA) system—that will allow for testing of the operability of the smoke detection function consistent with code requirements. The VESDA system will not be installed and operational until March 2017; therefore, NPO extended the JCO to that date.