

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

December 23, 2016

TO: Steven Stokes, Technical Director  
FROM: Jennifer Meszaros and Rory Rauch, Site Representatives  
SUBJECT: Oak Ridge Activity Report for Week Ending December 23, 2016

**Building 9204-2E:** CNS personnel held a critique this week to discuss discrepancies associated with a procedure that workers used to perform non-destructive analysis of a weapon component. During a senior supervisory watch visit earlier this month, a worker using the procedure noted that computer prompts on a screen did not match those identified in the working copy of the procedure. A process engineer evaluated the discrepancies and concluded that the working copy did not match the effective version of the procedure found in the controlled document management system even though the cover sheets (including the revision number) on both versions were identical. Upon further evaluation, process engineering identified seven total differences between the working copy and the effective version of the procedure.

As a result of this event, the responsible manager paused all assembly/disassembly operations until working copies of active procedures were replaced with new printouts from the controlled document management system. During fact finding and critique meetings, CNS personnel could not definitively identify the root cause of this event; however, they believe a non-effective version of the procedure was introduced into the work area in May 2016 to support training associated with a modification to the process. Thus, CNS management will evaluate methods to more clearly identify non-effective versions of procedures to prevent reoccurrence. They will also review working copy procedure verification processes used at Pantex in order to implement best practices at Y-12.

**Building 9204-2E/Criticality Accident Alarm System (CAAS):** Earlier this month, the Building 9204-2E shift manager observed indications that two CAAS detector stations were without power while on an unscheduled walkdown. The shift manager called the plant shift superintendent (PSS), who confirmed that the PSS office received a failure alarm several hours earlier from the supervisory control system that supports these stations. Soon thereafter, a system engineer confirmed the stations were inoperable and the shift manager entered the applicable limiting condition of operation (LCO).

CNS subsequently held a fact-finding meeting on the event. The attendees determined that the stations lost power during a diesel generator test performed on the day of the event. During the test, load is briefly transferred to uninterruptible power supply (UPS) batteries until the diesel generator begins to supply power. System engineers believe an issue with the UPS batteries not only prevented the load transfer from occurring, but prevented restoration of normal power to the CAAS stations after the test was completed. Several days prior to the event, the PSS office received a generic trouble alarm from the subject UPS unit. In response to the alarm, the system engineers verified that the affected CAAS stations remained operable and began troubleshooting activities, but did not recognize that this alarm indicated a condition that would impair the CAAS during a diesel generator test. The fact-finding attendees identified actions to determine the issue with the UPS batteries and evaluate opportunities to improve associated alarm response actions.

**Highly Enriched Uranium Materials Facility (HEUMF):** This week, the HEUMF safety-significant power distribution system (PDSS) failed a monthly technical safety requirement surveillance when the diesel generator unexpectedly shut down. It appears the shutdown was caused by a low coolant level alarm, which previously caused a system impairment (see 1/8/16 report). The PDSS is in an LCO while engineers troubleshoot the issue.