

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

April 10, 2017

TO: Steven Stokes, Technical Director
FROM: Jennifer Meszaros and Rory Rauch, Resident Inspectors
SUBJECT: Oak Ridge Activity Report for Week Ending April 7, 2017

Fire Protection/Building 9995: This week, a small fire occurred in a process hood in Building 9995, the Y-12 analytical laboratory. The fire occurred during an operation to prepare non-radiological samples for chemical analysis. The operation involved two different types of samples that required preparation in an instrument at different temperature settings. On this occasion, a chemist mistakenly set the instrument at the incorrect temperature for one of the samples. A short time later, personnel in the area heard a loud sound and observed charring and a small flame on a paper towel in the hood next to the instrument. They evacuated the area and contacted the laboratory supervisor, who notified the plant shift superintendent. During the evacuation, the chemist put out the flame using a fire extinguisher. The fire department subsequently responded to the scene and reported no flame or fire in the hood. During the fact-finding meeting for the event, the responsible manager noted that the governing procedure for this operation does not specify the temperature settings required for the instrument; instead, analytical laboratory personnel rely largely on training and pre-job briefings to communicate instrument inputs. The responsible manager identified corrective actions to strengthen the pre-job briefing process, remove combustible materials from the hood in question, and develop a checklist to ensure temperature settings such as these receive independent verification. The resident inspectors have remaining questions regarding whether this scenario was evaluated as a credible activity-level hazard and the extent-of-condition for other laboratory activities.

Fire Protection/Building 9212: Last week, while investigating reports of a water leak into a Building 9212 office area, the responsible building manager found water flowing from an open fire suppression system valve on the roof of Building 9212. After notifying the shift manager, he contacted fire department personnel who were in the process of restoring water to the system in question following construction activities to replace sprinkler heads (see 3/24/17 report). Fire department personnel immediately suspended use of the system restoration procedure and received direction from the shift manager to close the valve. This week, CNS held a fact-finding meeting on the event and learned that there had been a miscommunication between construction personnel regarding which valves to manipulate during a series of safety checks following sprinkler head replacement activities. As a result of this miscommunication, the construction foreman did not provide fire department personnel with the correct scope of valve positions to verify prior to system restoration. Construction management identified corrective actions related to improving the processes for tracking system configurations during construction activities and communicating the system configuration during turnover to the user organization.

Highly Enriched Uranium Materials Facility (HEUMF): This week, the HEUMF operations manager reported a performance degradation of the secondary confinement system (SCS) after discovering that a damper on the system would not fully close upon activation of the SCS, as required by the HEUMF technical safety requirements. Maintenance personnel initiated the inquiry that led to the identification of the performance degradation by noting unexpected airflow while a portion of the SCS should have been in an isolated configuration. In response to the inquiry, the shift manager checked the damper position indicators via a remote computer readout. The readout reflected the dampers in a closed position; nonetheless, he contacted the system engineer who initiated a service notification to perform a field evaluation. Following completion of the maintenance activity, the assistant operations manager initiated activities to evaluate the dampers and found that one would not fully close. Maintenance personnel are currently troubleshooting the issue with the damper and the damper position indicators.