

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

February 21, 2025

TO: Technical Director
FROM: Oak Ridge Resident Inspectors
SUBJECT: Oak Ridge Activity Report for Week Ending February 21, 2025

Building 9215: CNS experienced a loss of cooling water to a depleted uranium casting furnace bottom plate during the cooldown phase of a casting run. The loss of cooling water resulted in the furnace bottom plate gasket reaching high enough temperatures to smoke profusely.

Operators called the fire department and isolated power to the casting furnace. CNS directed all personnel out of the building and relocated them to a nearby administrative building. Personnel in an adjacent building secured their ventilation intake due to the acrid smoke smell. The fire department did not observe any flames and monitored the furnace to ensure temperatures continued decreasing. CNS did not report any injuries and response to the event did not require the activation of the emergency operations center. CNS suspended furnace operations until an event investigation can be conducted.

Building 9212: Chemical operators identified two bulging sample bottles in one of the building's processing wings, established an administrative boundary, and informed the shift manager (SM). The SM entered the abnormal operating procedures (AOP) for bulging container response and an abnormal condition involving fissile material. The SM also informed the nuclear criticality safety (NCS) engineer, fire department, and production personnel of the issue. The fire department performed temperature monitoring of the sample containers and determined no imminent hazard or ongoing reaction existed. The following day, the SM, with written guidance from the NCS engineer, directed processing of the samples via the normal sample processing procedure. The SM appropriately rescinded the administrative boundary and exited the AOPs once the sample processing was completed.

Highly Enriched Uranium Materials Facility (HEUMF): CNS discovered a relief valve on the building's safety significant diesel fire pump had been missed during a required three-year test and inspection. The surveillance is specified by the National Fire Protection Association standards and is not elevated to the technical safety requirements. The inspection and testing of the relief valve was scheduled for June 30, 2024; however, no work was completed due to issues discovered during the execution of the original work package. Prior to the due date, CNS determined that the diesel fire pump would remain operable with the overdue surveillance; however, it did not document a formal operability determination nor document it in the facility logs. A newly appointed system health manager found the overdue inspection and testing during a recent review. CNS personnel entered the appropriate limiting conditions for operation to remove and test the valve. Once CNS personnel completed the testing and inspection, they reinstalled the valve and confirmed operability of the pump. An event investigation is scheduled for next week to discuss the events that led to this issue and to determine the appropriate corrective actions to prevent recurrence.