

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

November 22, 2024

TO: Timothy J. Dwyer, Technical Director
FROM: Frank Harshman and Clinton Jones, Resident Inspectors
SUBJECT: Oak Ridge Activity Report for Week Ending November 22, 2024

Emergency Management: A resident inspector (RI) observed a full-scale emergency management exercise. Emergency management employees from the Savannah River Site, plant shift superintendents from Pantex, and personnel from Oak Ridge National Laboratory benchmarked the exercise and acted as additional observers. CNS's exercise scenario involved a simulated vehicle fire that ignited nearby pallets containing hazardous chemicals. The fire resulted in injuries of varying severities to three workers. CNS categorized the event as a site area emergency. The RI reviewed documentation associated with the exercise, such as the initial protective actions and dispersion modeling, and found they were appropriate given the scenario. CNS conducted a post exercise hotwash and a critique. CNS will grade the exercise and produce an after-action report to document resulting corrective actions. The RI discussed the event with the Y-12 field office emergency management program manager and found his evaluation of CNS's performance consistent with the resident inspector's observations.

Cold weather preparations: The RIs continue to review cold weather preparations at Oak Ridge defense nuclear facilities to evaluate the effectiveness of long-term corrective actions resulting from a previous significant freezing event. During that event, a fire suppression system located above the ceiling tiles in Building 9995 froze and ruptured (see 12/30/2022 report). The ceiling tiles created a boundary from the warmer air in the room, allowing the temperature above the tiles to fall below freezing. The RI walked down the affected areas and found that CNS has not elected to reinstall the ceiling tiles to prevent reoccurrence. At ORNL during a previous freezing event, a stairwell fire suppression system ruptured in the area outside of the processing room in Building 2026. The freezing event coincided with an unplanned extended power outage (see 1/6/2023 report). Isotek installed additional heating systems in the stairwell that can be powered by the building's emergency diesel generator to prevent reoccurrence.

Building 9204-2E: CNS performed the annual audibility surveillance requirement for the legacy criticality accident alarm system (CAAS) this week. CNS allowed the technical safety requirements surveillance on the legacy CAAS to exceed the one-year deadline and entered an allowed grace period, which has a maximum extension of three months, due to a scheduled implementation of the newly installed CAAS. During the implementation verification review (IVR) for the new CAAS, the IVR team lead determined that the procedure was inadequate to perform the surveillances as written (see 10/18/2024 report). CNS corrected issues with the procedure and planned to re-perform the surveillances to address the findings from the IVR this week. CNS postponed the implementation of the new CAAS again after heavy rain due to a shift technical advisor discovering water leaking into the enclosure for the new CAAS equipment through a 240-volt electrical panel and conduit. As a safety precaution, CNS isolated power to the enclosure containing the new CAAS equipment. The RIs are following CNS's corrective actions to address the water ingress into the enclosure and subsequent effects on the installed equipment and batteries.