

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

October 6, 2023

TO: Timothy J. Dwyer, Acting Technical Director
FROM: Frank Harshman and Clinton Jones, Resident Inspectors
SUBJECT: Oak Ridge Activity Report for Week Ending October 6, 2023

Emergency Management: Late last week, the Y-12 fire department responded to a dumpster fire at the New Hope Center. New Hope Center is outside the Y-12 Property Protection Area and contains site badging, human resources staff, the history center, and is accessible to the public. The building contains no additional hazards outside those found in a standard office building. The fire was quickly extinguished with no injuries or building damage reported.

Highly Enriched Uranium Materials Facility (HEUMF): CNS declared a potential inadequacy of the safety analysis (PISA) when a fire protection engineer informed the facility safety organization that the total combustible loading of the high mast powered industrial truck (HMPIT) is not accurately reflected in a fire calculation. CNS uses information from the calculation to evaluate the design basis fire in the documented safety analysis. CNS instituted an operational restriction that requires a fire watch when an HMPIT is operating in storage bays around containers potentially affected by the analysis inaccuracy, or when moving those containers outside of the bays. CNS is currently evaluating the impacts to the calculation from the increased combustible loading and plans to conduct a causal analysis due to several recent combustible loading issues for the building.

Building 9204-2E: CNS is nearing completion of the new criticality accident alarm system (CAAS) installation in Building 9204-2E. Testing of the new system will begin this weekend and extend through the month of October. The CAAS system engineer issued a temporary modification to disconnect the Building 9204-2 annunciation interface from the existing system and connect it to the new system to verify proper annunciation levels from the new system. The temporary modification will allow the system engineer to perform sound level measurements on the newly installed and currently existing horns in the covered facilities. CNS will enter the applicable limiting condition for operation prior to the start of testing each day and exit upon completion. To prove operability after the temporary modification is removed, a partial annunciation test will be performed on the legacy detection system. The issuance of a temporary modification allowed for documented configuration control of the system. The scope of the testing that will be performed this weekend will include horn circuit verification and sound level measurements. Over the rest of the month, backup battery tests, response tests, and radiation detector source testing are planned. The existing horns and lights installed in Building 9204-2 will then be connected to the new system. In Building 9204-2E, new annunciation horns and radiation detectors were installed as part of the upgrade. Additional supporting equipment for the system was installed inside an existing bunker adjacent to Building 9204-2E with its own climate control. As part of the upcoming safety basis changes, the climate control parameters will be monitored in the shift manager's office. The resident inspectors are reviewing the test plans and safety basis changes for the new system as they become available.