DEFENSE NUCLEAR FACILITIES SAFETY BOARD

April 18, 2025

TO: Technical Director
FROM: Oak Ridge Resident Inspectors
SUBJECT: Oak Ridge Activity Report for Week Ending April 18, 2025

Utilities Infrastructure: Previously, CNS conducted an event investigation into the discovery of a newly identified potable water system single point failure (SPF) valve that supplies credited fire suppression systems (see 3/14/2025 report). A fire protection engineer (FPE) completed a follow-up action to evaluate the potential impacts that other valve failures in the system may have on nuclear facilities. The FPE, along with utilities personnel, identified additional broken valves that could potentially impact the water supply to Building 9204-2E and the 9215 Complex. The FPE determined that if these valves failed shut, redundant supply to those facilities would be impacted, and the remaining valves would be considered SPF valves (see 4/4/2025 report). Since the identification of the issue, utilities personnel have completed flow testing on the broken valves in question and determined that the valves failed in the open position. CNS determined that the flow of potable water is maintained with the broken valves failed open, thus eliminating the designation of the redundant valves as SPF valves. The YFO maintenance program manager and fire protection program manager highlighted CNS's lack of progress in repairing failed valves that impact fire protection systems in YFO's monthly maintenance and infrastructure operational awareness report.

Building 9204-2E: CNS continues to struggle with bringing the new CAAS-3S™ online. Facility operations management is pursuing the replacement of gasket material installed in electrical conduits to resolve water ingress into the bunker that contains alarm and processing cabinets, as well as the credited uninterrupted power supply battery cabinets for the system. During earlier testing, the system engineer discovered software problems with the non-credited computer that serves as the interface to the safety-related programmable logic controller of the system. These problems caused a major fault, preventing the system from being reset (see 2/14/2025 report). As a result of this discovery, CNS inquired with the manufacturer of the system about the problem, only to be told it was a known issue. CNS coordinated with the vendor to have a software update installed as a fix. After installation of the software update, the system engineer developed a set of test instructions to run the alarm, processing cabinet, and computer interface through a series of tests to ensure the software update resolved the issue. Due to conflicting maintenance priorities, facility operations management postponed portions of the testing planned for this week. The RI reviewed the test instructions, discussed the scope of the testing with YFO subject matter experts, plans to observe the testing, and review the completed documentation. The GA-6 legacy system is still operational, providing overlapping coverage for criticality detection.