

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

March 14, 2025

**TO:** Technical Director  
**FROM:** Oak Ridge Resident Inspectors  
**SUBJECT:** Oak Ridge Activity Report for Week Ending March 14, 2025

**Building 9215:** CNS completed a contractor readiness assessment (CRA) for the newly installed metal purification process, also known as electrorefining (ER). The CRA team initially identified 14 prestart findings, 6 post-start findings, 19 weaknesses, and 11 observations. During their factual accuracy review, CNS modified the finding categorization form that the CRA team used. Per the revised form, the CRA team updated the number of issues identified to 7 prestart findings, 7 post-start findings, 20 weaknesses, and 15 observations. Due to the large number of issues identified and the length of time expected for CNS to resolve them, YFO decided to revise their initial decision to perform a parallel (concurrent) readiness review with the CRA team and instead will issue a shadow assessment report based on their observations, following-up with a separate federal readiness assessment. The CRA team concluded that the ER process achieved an adequate state of operational readiness in all but the nuclear & facility safety functional area. The CRA team stated that startup authorization be granted to conduct ER operations contingent on the satisfactory resolution and closure of all prestart findings and satisfactory completion of a follow-on CRA scoped to reassess the nuclear & facility safety functional area.

The Board's letter on December 5, 2023, to the Secretary of Energy regarding a revision to DOE Order 425.1D, *Verification of Readiness to Start Up or Restart Nuclear Facilities*, identified concerns with conduct of parallel readiness reviews including independence of the DOE readiness review. Although YFO acted independently, DNFSB staff observed that contractor representatives would frequently share YFO questions with the CRA team.

**Building 9720-5:** CNS conducted an event investigation into the discovery of a newly identified single point failure (SPF) valve on the potable/fire-suppression water supply. CNS defines a SPF valve as a valve that, when closed, will effectively isolate all water supply to a nuclear facility, including water required for safety significant fire suppression systems. In 2014, YFO fire protection engineering wrote a finding on the lack of configuration control for utilities and problems with isolating water supply to different facilities. In 2020, CNS issued a report on the underground potable water distribution system valve classification and cycling requirements, detailing 62 sectional control valves that had an undetermined position. Since that review, CNS has not performed flow testing to confirm the positions of those valves. During a recent routine valve cycling review, a CNS fire protection engineer (FPE) discovered the potential for a new SPF valve on the supply lines to Building 9720-05. The CNS FPE notified his supervisor of this vulnerability, yet no further notification to the facility was made until after the routine valve cycling validated the FPE's discovery several weeks later. Once notified, the facility shift manager entered the appropriate limiting condition for operation, established fire patrols, and contacted the fire department to schedule a surveillance to prove operability. The CNS FPE also identified that the highest risk and concentration of unidentified sectional control valves were around Building 9720-5. CNS implemented compensatory measures on all identified potential SPF valves to ensure controls are in place to prevent cycling prior to flow tests that would confirm they do not pose a vulnerability to isolating fire water supply to existing nuclear facilities.