DEFENSE NUCLEAR FACILITIES SAFETY BOARD

February 11, 2022

TO: Christopher J. Roscetti, Technical Director
FROM: Brandon Weathers, Resident Inspector
SUBJECT: Oak Ridge Activity Report for Week Ending February 11, 2022

Transuranic Waste Processing Center (TWPC): Last week, North Wind Solutions (North Wind) reported a management concern under DOE Order 232.2A for programmatic weaknesses identified in the design, installation, testing and acceptance of an annunciator panel. The management concern dealt with issues associated with the annunciator panel that were documented in a root cause analysis that an independent contractor performed for North Wind in response to issues that OREM raised last year. The annunciator panel is a new safety significant piece of equipment that is credited to alert personnel of a low differential pressure condition in a glovebox. The annunciator panel was needed for a facility safety basis revision to allow TWPC to process oxide waste material that poses a potential deflagration hazard (see 10/29/21 report). During the Contractor Readiness Assessment last year, North Wind determined that the annunciator panel alarm was not audible in the area of the facility where the glovebox is located. North Wind encountered numerous issues while troubleshooting the annunciator panel and this ultimately led OREM to question whether North Wind understood the operation of the annunciator panel. The root cause team found programmatic issues with North Wind's Conduct of Operations Program, Integrated Safety Management Program, Design Program, and Readiness Determination Program. The team also identified safety culture weaknesses that indicated a programmatic issue. The abovementioned programmatic issues were a result of ineffective implementation and/or an insufficient level of detail to support design, installation, testing, and turnover processes for the annunciator panel. North Wind is working on several corrective actions to address the issues that the root cause analysis identified.

Building 9204-2E: CNS identified a secondary issue in responding to the January discovery that a portion of the criticality accident alarm system was not powered (see 1/21/22 report). When engineering and operations personnel inspected the system's power supply, they used a proximity meter to test for power at both the main power breaker and the secondary main power breaker. When they tested the secondary main power breaker, the proximity meter indicated that it was not powered. This result was expected since they found that the secondary main power breaker was open. However, when they increased the sensitivity of the proximity meter, they received a result that indicated the breaker was powered in the as-found condition (open). The proximity meter response called into question the adequacy of the weekly surveillance requirement to verify that power is supplied to the system, since the proximity meter alarmed based on detection of circuits in the area other than the breaker intended to be checked. CNS evaluated whether this scenario was a Potential Inadequacy of the Safety Analysis and determined that it was not. CNS removed the allowance to use a proximity meter to perform the weekly surveillance and confirmed that other facilities do not use a proximity meter for similar surveillances. CNS considered the issue of a false test result to be a Potential Inadequacy of the Technical Safety Requirements (PITSR) since the Technical Safety Requirements Bases has a note that listed a proximity meter as an acceptable method to test if the system was powered. CNS plans to update the Technical Safety Requirements Bases to remove the note. CNS implemented a process for evaluating and dispositioning PITSRs in 2019 (see 5/3/19 report).