

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

January 21, 2022

TO: Christopher J. Roscetti, Technical Director
FROM: Brandon Weathers, Resident Inspector
SUBJECT: Oak Ridge Activity Report for Week Ending January 21, 2022

Oak Ridge Environmental Management: Isotek began the Contractor Operational Readiness Review for the Initial Processing Campaign (see 6/28/19 report). The resident inspector observed demonstrations during the week. The readiness activities continue next week.

Nuclear Criticality Safety: CNS recently developed a preliminary U-235 mass estimate for the contents of a legacy drum that a walkdown team identified last year (see 4/9/21 and 5/21/21 reports). At that time, personnel placed the drum under administrative control and covered it with plastic. The drum contains Raschig rings and a uranium-bearing material. The makeup of the uranium-bearing material has not been verified. CNS plans to sample the material to identify what it is and develop an appropriate disposition path. Based on the mass estimate and the lack of documented nuclear criticality controls, CNS filed an occurrence report.

Building 9204-2E: Last week, CNS held a critique meeting for the discovery of an emergency notification system breaker that was out of position. The emergency notification system is credited with providing audible and visual indications that the criticality accident alarm system (CAAS) has alarmed. During the last week of December, CNS implemented a temporary modification to supply power to the CAAS during a planned switchgear outage. The secondary main power breaker for the emergency notification system horns and lights was not closed after completing the outage. The engineering instructions for the outage did not include manipulation of this breaker, but nevertheless it was opened. During the investigation of this event, CNS was not able to identify who opened the breaker or why it was opened. Y-12 operations center personnel remotely monitor the emergency notification system status. After the switchgear outage, the normal power supply was restored, and operations center personnel received and acknowledged an expected alarm associated with the loss of power during the transfer. However, they did not confirm that the alarm cleared. Since the secondary main power breaker was open, the loss of power alarm remained active and silenced (due to the previous alarm acknowledgement). One week later, an emergency services employee ran an alarm report and noticed that the alarm for loss of power to the emergency notification system horns and lights was still active. He contacted the responsible system engineers, and they notified the shift manager of the potential loss of CAAS annunciation capability. The shift manager entered the appropriate limiting condition of operation. Engineering and operations personnel inspected the system's power supply and found that the secondary main power breaker was open. They closed the secondary main power breaker to restore power to the equipment and verified that the operations center alarm cleared. CNS filed an occurrence report for the performance degradation of a credited system when it was required to be operable.

NNSA: NNSA staff held the kickoff meeting for the Chief of Defense Nuclear Safety biennial review of NPO. The review is planned to occur between January and April. The review team's baseline scope includes nuclear criticality safety, fire protection, safety basis, quality assurance, readiness, oversight, and integrated safety management.