

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

April 26, 2024

TO: Timothy J. Dwyer, Technical Director
FROM: Frank Harshman, Resident Inspector
SUBJECT: Oak Ridge Activity Report for Week Ending April 26, 2024

Raschig Ring Drum: CNS continues to process the previously discovered legacy drum that contains Raschig rings and an unknown uranium-bearing material. The resident inspector observed the initial processing of the drum and observed that some material had been ejected. The resident inspector alerted CNS personnel, who had not anticipated material ejecting out of the drum (see 04/12/2024). As a result of the resident inspector's observations, CNS evaluated if a procedure revision or change in processing methods would be required for continued processing of the drum. CNS determined that there is sufficient procedural guidance for the evolution, however they did institute the use of a plastic cover when using the powered hammer to ensure all the material remains within the drum. CNS successfully utilized the additional cover during the most recent processing of the legacy drum, thereby preventing the issue from reoccurring.

Building 9212: CNS completed a site wide maintenance outage the previous week that required the use of a temporary power source for the Building 9212 criticality accident alarm system (CAAS). Entry into a limiting condition for operation (LCO) is required prior to restoring the CAAS from a temporary power source to a normal power source. A partial loss of power requires the facility to perform actions for loss of power to CAAS annunciation only. Instead, actions performed by CNS personnel were for a loss of CAAS detection. The facility personnel completed actions for loss of detection, which also contained the required actions for loss of annunciation, thereby avoiding a TSR violation. Building 9212 informed Building 9995 that they entered their CAAS LCO due to loss of detection, which resulted in Building 9995 entering its LCO for detection as required by the TSR. This was an unexpected condition as Building 9995 is not required to enter their LCO when Building 9212 loses annunciation only. CNS later determined there was no degradation to CAAS detection and ultimately cancelled the initial occurrence categorization. The resident inspector observed the critique of the event investigation. The resident inspector provided an observation during the critique that the action to revise the building's utilities outage and recovery plan to include a review of past lessons learned could be of benefit to other facilities. CNS is evaluating the incorporation of this action into other facilities' outage plans as a result.

Emergency Management: The resident inspector observed CNS perform a full-scale emergency exercise that was designated as the site's annual exercise. The exercise scenario involved a simulated criticality accident involving enriched uranium. A worker suffering from a medical emergency dropped an item onto another item. This caused the criticality event, which led to the simulated injury and contamination of several workers. CNS categorized the event as a site area emergency. The resident inspector reviewed the emergency action levels after the exercise and found the categorization appropriate given the scenario. CNS conducted a post-exercise hotwash and critique. After CNS has graded the exercise, CNS will produce an after-action report to identify corrective actions. The resident inspector discussed the event with the Y-12 field office (YFO) emergency management program manager and found his evaluation of CNS's performance was consistent with the resident inspector's observations.