DEFENSE NUCLEAR FACILITIES SAFETY BOARD

October 7, 2022

TO: Christopher J. Roscetti, Technical Director
FROM: Frank Harshman, and Clinton Jones, Resident Inspectors
SUBJECT: Oak Ridge Activity Report for Week Ending October 7, 2022

Conduct of Operations: The resident inspectors (RIs) continued to shadow CNS personnel during the performance of safety related surveillances (see 9/30/22 report). During the completion of a weekly criticality accident alarm system surveillance, the RIs inquired about the required level of personal protective equipment (PPE) being used by the electricians performing a voltage measurement. The electricians were checking the voltage in multiple panels, some of which had a 240 volt potential. Per the Y-12 *Electrical Safety Manual* and the workorder to which the electricians were working, a dielectric hard hat with a face shield was part of the required PPE. The electricians were performing the measurement wearing heavy duty leather gloves and safety glasses. Several months prior, a NPO facility representative who thought the panel only contained 120 volt potential asked if the PPE being used was required. The electricians subsequently downgraded the level of PPE they were using for electrical checks after that. The electricians should have brought the question to their management, if they believed the PPE was inappropriate. In response to the RI's question, facility operations management paused the work start authorization on the recurring workorder until the electrical maintenance crews were briefed by their management on the expectations for performing work in accordance with the workorders.

Building 9212: Metal reduction operations were paused for a second time since August. During a process run to fire reactor vessels, the first reactor vessel fired had a peak pressure slightly higher than a previous anomalous run (see 8/19/22 report). As a corrective action to the previous pressure anomaly, the procedure was changed to notify the process engineer if the pressure during a reaction exceeded control limit values established in a new report of reduction furnace operating trends. Another corrective action was to have additional supervision present when firing reactor vessels. Even though the reactor vessel pressure was almost double the upper control limit, the process engineer and additional supervision approved the continued firing of the remaining eight reactor vessels. This was in direct contradiction to the intent of the recent corrective actions. The corrective actions were put in place to pause the work and evaluate the process if the pressures or temperatures were outside of the control limits established by the reduction furnace trends report. The safety of the process was not called into question due to the anomalous pressures being approximately 76% of the rated burst disc pressure of the reactor vessel. CNS plans to have an event investigation after gathering additional information on the suspected cause of the pressure anomaly.

Operator aids: The resident inspectors recently completed a review and walkdown of Buildings 9215, 9204-2E, and 9212 focusing on operator aids. Overall, 14 items between the facilities were questionable and brought to the different shift managers' attention. The RIs discussed each facility's operator aid program with the operations personnel to determine the status of their program. While the programs were conducted differently in each area, they were all compliant with the conduct of operations manual. Building 9215 had a dedicated operator aid coordinator (who was not the shift manager), which the RIs viewed as a good practice that provided an additional level of rigor to implement the program.