DEFENSE NUCLEAR FACILITIES SAFETY BOARD

April 14, 2023

TO: Christopher J. Roscetti, Technical Director
FROM: Frank Harshman and Clinton Jones, Resident Inspectors
SUBJECT: Oak Ridge Activity Report for Week Ending April 14, 2023

Building 9720-05: CNS entered a limiting condition for operations (LCO) for the criticality accident alarm system due to a planned electrical power outage. CNS conducted the outage to repair a defective light on one of the building's lightning protection system electrical surge suppressors. The resident inspectors reviewed the shift logbook, operational limit status sheet, and discussed the LCO entry with the NPO facility representative (FR) with no issues identified.

Emergency Operations Center (EOC): The resident inspectors continue to review the transition of operations for the newly constructed EOC. CNS intends to declare the EOC fully operational after the completion of an operational trial run scheduled later this month.

Conduct of Operations: An NPO FR performed a routine observation of maintenance work and upon review of the completed work package identified workers did not wear the required personal protective equipment (PPE). The required PPE had been copied from a job hazard analysis into the work package details when the work package had been originally created. However, when the requirements on the applicable job hazard analysis were updated by the industrial safety reviewer to include a requirement for both chemical resistant gloves and a chemical resistant apron to be worn while handling nitric acid, the applicable work package was not updated. This issue remained unnoticed for approximately 10 months, allowing this maintenance to be performed at least twice with the incorrect level of PPE.

A centrifuge used to remove impurities in the machine coolant system of Building 9215 was observed sparking and smoking during startup. The chemical operators immediately shut down the centrifuge and proceeded to attempt startup of another centrifuge without adequately reporting the issue to production management or the shift manager. The chemical operators were unsuccessful in starting up the second centrifuge as it has problems running for any length of time. The chemical operators reported the problems to their supervisor and were directed to place the equipment in a safe and secure condition. When the problems were reported to the production manager, he was not made aware of the centrifuge generating smoke, only that it generated metal to metal sparks. The personnel involved did not report these issues to the shift manager as required so that the procedure could be properly suspended, or the equipment tagged out. During the event investigation, details about the cause of the second centrifuge running into problems were identified. Maintenance personnel had recently worked on the second centrifuge under a troubleshoot and repair work order where it was determined that the centrifuge was tripping the thermal overload protection device due to a suspected bad motor. These results were not reported to the shift manager. The resident inspector discussed the issue with the shift manager who stated that if the maintenance personnel or the system engineer had communicated the results of the troubleshooting, a caution or out of service tag would have been placed on the equipment.