

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

November 3, 2023

**TO:** Timothy J. Dwyer, Acting Technical Director  
**FROM:** Frank Harshman and Clinton Jones, Resident Inspectors  
**SUBJECT:** Oak Ridge Activity Report for Week Ending November 3, 2023

**Building 9212:** The resident inspectors conducted a walkdown of the E-wing of Building 9212. The walkdown included a review of the efforts being undertaken in the E-wing basement to improve housekeeping in the area. The resident inspectors noted an improvement in the housekeeping in the area, however, it was confined to one end of the basement and additional work is needed to bring the remaining E-wing basement area to an acceptable level. During the walkdown, the resident inspectors identified a nuclear criticality safety sign on a horizontal surface that had inadvertently been covered with a miscellaneous metal plate. The issue was brought to the attention of building personal and was corrected.

In August, a chemical spill due to a leaking line caused chemical operators to evacuate a room. CNS performed an event investigation and determined that the job hazard analysis (JHA) for the work performed did not appropriately identify the potential hazard. As a result, the operators were not wearing the correct personal protective equipment (PPE) for the area, including incorrect filters for their powered air purifying respirators (PAPR). Corrective actions for this event were to evaluate the job hazard analysis, procure the correct filters for the chemical in question, evaluate the spill response training for the operators, evaluate other JHAs in the building, and evaluate the spill response procedure. On October 12, a large spill occurred during the transfer of a dilute uranyl nitrate solution between storage tanks. Industrial hygiene (IH) representatives were notified of the spill and responded to the area to advise the chemical operators on the proper PPE per the spill response procedure. IH technicians entered the spill area with a monitor and determined it was safe to utilize the existing PAPR filter but advised personnel to leave the area if they detected any smell coming through their PAPRs. Again, CNS did not have the appropriate filters for the PAPRs. The spill response procedure requires supplied breathing air or a self-contained breathing apparatus if there is a spill of uranyl nitrate due to it being treated the same as nitric acid. During the event investigation for the uranyl nitrate spill, CNS learned that there are very few chemical operators that maintain a current qualification that allows them to use either supplied breathing air or a self-contained breathing apparatus. The resident inspectors are reviewing the corrective actions, including the revision of the spill response procedure and procurement of appropriate PPE for the chemicals that are utilized in the building processes.

**Building 9215:** An NPO facility representative identified that operations personnel did not adequately track the status of a maintenance work order and the follow-on post maintenance testing of the machine coolant system following the replacement of two valves in the system. Using a standalone procedure, the operators refilled the coolant trays in the system despite the system being controlled under a lock out/tag out. The coordination of maintenance work with operations and other craft organizations is a long-standing issue that has been identified by NPO as a management concern. In the resident inspector's opinion, previous corrective actions such as inserting hold points in the work order, ensuring all personnel involved in a maintenance evolution attend a common pre-job briefing, and overall work control were not effectively implemented for this activity.