

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

June 9, 2023

**TO:** Katherine R. Herrera, Acting Technical Director  
**FROM:** Frank Harshman and Clinton Jones, Resident Inspectors  
**SUBJECT:** Oak Ridge Activity Report for Week Ending June 9, 2023

**Staff Activity:** D. Andersen, the Oak Ridge cognizant engineer, traveled to Y-12 National Security Complex and the Oak Ridge National Laboratory this week. At Y-12, the resident inspectors led walkdowns and observed operations in Buildings 9204-2E, 9212, 9215, 9995 and the new emergency operations center. In Building 9204-2E, the resident inspectors led a walkdown of the production areas and discussed the various hazards associated with processes. In Building 9215, the walkdown included machining operations, electrorefining, the machine coolant collection areas, and the area where equipment will be installed for the direct chip melt project. In Building 9212, the staff walkdown included casting and chemical recovery operations, with a focus on nuclear criticality safety controls and postings. In Building 9995, NPO fire protection engineering, accompanied by the building's facility representative (FR), led a walkdown of the various analytical labs to review the completion of corrective actions implemented after the fire event that occurred in the building (see 4/21/2023 report). Separately, CNS structural engineers provided an update on the re-analysis of Buildings 9204-2E and 9215 for seismic hazards in support of the Y-12 extended life program.

At Oak Ridge National Laboratory, the staff observed operations at the Transuranic Waste Processing Center (TWPC) and Building 2026. The EM FR led the walkdown of TWPC, which included a discussion on the operations at the facility, the various waste streams processed, and the status of current and future transuranic waste processing operations. The building's facility manager led the walkdown of Building 2026. The staff had discussions with Isotek management on the progress of the U-233 disposition campaign and the status of preparations for the next phase of processing. Lastly, the staff met with OREM leadership at OREM's headquarters to make staff introductions and support continued dialog moving forward.

**Criticality Safety:** CNS released a revision to the standing order that directed nuclear criticality safety (NCS) reviews of maintenance packages and increased oversight of maintenance activities within fissile control area boundaries. The standing order was in response to the recent NCS violations (see 5/5/2023 and 5/12/2023 reports) and applies to all maintenance packages and maintenance activities being performed within the following facilities fissile control areas: 9204-2E, 9206, 9212 Complex, 9215 Complex, 9720-5, 9720-82, and 9995. The revision extended the standing order beyond the scheduled cancellation date, and in doing so kept in place the enhanced oversight and maintenance package NCS reviews.

**Building 9206:** CNS entered a limiting condition for operation (LCO) and filed an occurrence report for performance degradation of a safety significant system when a detector in the building's criticality accident alarm system failed. The detector had been replaced and tested satisfactorily a month prior as part of routine detector change out. This week, CNS exited the LCO once the failed detector was replaced, and the required testing was performed to demonstrate operability. CNS is investigating the cause of the detector failure.