

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

December 6, 2024

TO: Timothy J. Dwyer, Technical Director
FROM: Frank Harshman and Clinton Jones, Resident Inspectors
SUBJECT: Oak Ridge Activity Report for Week Ending December 6, 2024

Nuclear Criticality Safety (NCS): CNS entered Building 9212's legacy oxide conversion facility out of service hydro-fluorination fluid bed enclosure located in B-1 wing and observed significant quantities of yellow colored dust on the floor. The area supervisor entered the CNS procedure for abnormal conditions involving fissile material and established an NCS administratively controlled boundary. When NCS personnel arrived, they observed a thin layer of bright yellow dust on the floor of the enclosure directly under a large exhaust duct. NCS personnel also identified splash stains with a similar color on the lower panels of the enclosure around the material. No clear indication of the source or timeline of the accumulation is currently known. The color and location suggest it to be dried uranyl nitrate or uranium trioxide powder. CNS is currently investigating the source of the material and plans to conduct non-destructive assay measurements of the area to determine the amount of fissile material within the substance.

Building 9212: CNS reported an occurrence for a credited fire suppression system due to piping surface temperature measurements indicating below freezing. The building's utility operator discovered the temperatures during a routine check of areas utilizing supplemental heating required by the building's cold weather procedure. Fire protection engineering determined that freezing within the system is possible given the temperatures. The facility entered the appropriate limiting conditions for operation (LCO) and performed all required LCO actions. The utility operator placed additional heating within the space and observed temperatures increasing. CNS personnel did not observe any visible indication of piping damage, performed the required surveillances once temperatures were restored, and returned the system to operation.

YFO Oversight: YFO completed an assessment of the contractor assurance system (CAS) to evaluate FY 2024 CAS effectiveness. YFO observed and shadowed multiple activities over FY 2024 such as the integrated plan of the day, issues management boards, organizational health reviews, CNS self-assessments, independent assessments, and the parent organization functional management review of the CAS. YFO also conducted multiple interviews with personnel in the CNS enterprise performance assurance, enterprise risk management, performance management, and performance improvement groups including senior directors. YFO identified five noteworthy practices, three observations, four performance problems, and three findings. The findings were for the performance and consistency of the CNS issues management board, CNS's ability to adequately characterize and recognize the severity of events, and the current restricted documents process. The resident inspectors have made similar observations of the CAS and recently provided feedback to CNS and YFO on the restricted document process that limits access to certain categories of information. Restricted documents uploaded to the CAS require approval from **the document owner** to access. Requests can either go unanswered or result in delays to access, interfering with the ability to assess the adequacy of CAS corrective actions. CNS is required to submit a formal corrective action plan to address the YFO report.