

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

August 16, 2024

TO: Timothy J. Dwyer, Technical Director
FROM: Frank Harshman and Clinton Jones, Resident Inspectors
SUBJECT: Oak Ridge Activity Report for Week Ending August 16, 2024

Building 9212: A resident inspector observed the on-the-job (OJT) training of a chemical operator performing pour-up operations in B-1 wing. The purpose of this activity is to transfer solutions from safe bottles, beakers, and other containers into the wet chemistry process. The chemical operator demonstrated the recirculation process, sampling actions, transfer of solutions, and removal of organics by simulating valve operations in the system. At the conclusion of the OJT, the RI provided suggestions on possible enhancements to the OJT, such as having the trainee provide more details on the actions they simulated. For example, having the chemical operator simulate making a required radio call instead of them merely stating that they would inform the receiving party. The OJT trainers were receptive to the feedback and stated that they would evaluate the inclusion of the feedback into the OJT guide.

Building 9215: CNS declared a Technical Safety Requirements (TSR) violation and filed an occurrence report based on not completing a surveillance requirement within the allowed time. The surveillance requirement, which is supposed to be performed every five years, was to perform an internal piping inspection of a credited fire suppression system in the building. The CNS fire department performs a five-year preventive maintenance (PM) procedure in addition to the TSR credited surveillance, and both were combined on the same maintenance plan in the surveillance tracking system. After performing the fire department-required PM in 2021, the due dates for both the PM and TSR internal pipe inspection were reset. CNS discovered the TSR violation during a review of the five-year surveillances. The RIs are following the corrective actions proposed by CNS to further evaluate the tracking capability and accuracy of the data within the surveillance system and ensure that errors are identified in a timely manner.

Building 9204-2E: CNS filed an occurrence report based on an inadequate nuclear criticality analysis and control of the flooding scenario for the gloveboxes. During an operational review of work being performed in a glovebox, nuclear criticality safety (NCS) engineers asked questions about fissile items stacked on plastic fixtures. As a result of the questions, CNS entered the potential NCS issue (PNI) process. NCS engineers continued investigating concerns with glovebox flooding scenarios in the criticality safety evaluation (CSE) and revised the PNI to also include specific containers and additional capacity for the glovebox in follow up revisions. Finally, NCS engineering determined that controls would need to be added to the CSE to ensure subcriticality during a flooding scenario in the gloveboxes. As a corrective action to this event, CNS is revising the CSE for the affected gloveboxes in the facility. In the resident inspector's opinion, the operational reviews by NCS engineering continue to provide new and valuable insight into CSEs developed and implemented for complex nuclear work.

Field Activity: The RI observed a weekly criticality accident alarm system surveillance in Building 9204-2E with an employee of NNSA's Nuclear Safety Operations Division. The NNSA employee was visiting Y-12 to work on qualifications for his new position and wanted to shadow the RIs on routine observations and engagement with the contractor on issues.