DEFENSE NUCLEAR FACILITIES SAFETY BOARD

February 16, 2024

TO: Katherine R. Herrera, Acting Technical Director
FROM: Frank Harshman and Clinton Jones, Resident Inspectors
SUBJECT: Oak Ridge Activity Report for Week Ending February 16, 2024

Staff Activities: Mark Sautman, the Associate Technical Director for Field Operations (ATD-FO), traveled to Oak Ridge this week. Walkdowns were conducted in Buildings 9995 and 9204-4. In Building 9995, the plant lab, the walkdown was led by the resident inspector. During the walkdown, the ATD-FO noticed a tear in the Tyvek® suit of a worker while observing the clean out of a lab hood. The resident inspector (RI) informed the supervisor who paused the work until a radiological technician could address the issue. The ATD-FO and RI also reviewed the location of a fire event that occurred in the building and discussed the actions CNS completed as a result (see 04/21/23 report). In Building 9204-4, the walkdown was led by the section manager for legacy facilities accompanied by portions of his team. Building 9204-4 was built in 1945 as part of the Manhattan Project and is currently awaiting turnover to Oak Ridge Environmental Management for final disposition. CNS has completed a significant amount of work in removing legacy waste and excess equipment in preparation for the turnover. While on the walkdown, the RI noticed a coiled-up extension cord was sitting in standing water. The RI alerted the legacy facility section manager who had the cord disconnected thereby removing the hazard. In addition to walkdowns, the ATD-FO and RI attended the final qualification board of a Building 9212 shift manager. The ATF-FO and RI provided feedback on possible enhancements for future boards but found the overall conduct of the board satisfactory.

Building 9215: The RI attended a pre-job briefing for the replacement of two machine coolant pumps. This was the third briefing performed for the work due to additional questions that were raised about nuclear criticality safety controls and the lock-out/tag-out of the equipment. During a previous machine coolant inventory, personnel working on the system violated a criticality safety evaluation when they carried parts of the system across the room to a radiological airborne boundary (see 10/13/2023 report). As follow-up to a question the RI asked during that critique, the RI asked the criticality safety officers and criticality safety engineers if they planned to wear respirators to observe the maintenance activity from within the posted airborne radiological area. The RI discovered that none of the criticality safety personnel who attended the pre-job briefing were qualified on the specific respirator used in Building 9215. This would have made response to a criticality safety issue difficult if one had occurred during the replacement of the pumps. The RI observed electricians perform the electrical connection of the pumps. The CNS electrical safety manual requires the verification of the absence of voltage if a system under a lock-out/tag-out is left unattended. During the verification of the absence of voltage, one electrician fully dressed in arc flash protective equipment reached behind a second electrician who was not wearing any arc flash rated personal protective equipment to verify the absence of voltage on exposed conductors. The RI asked a supervisor on the jobsite if that was the appropriate action. The supervisor spoke to the electricians who assured him they were allowed to work in close proximity when the voltage checks were performed. Through review of the CNS procedure and discussions with CNS and NPO electrical subject matter experts, the RI determined this was not the appropriate use of an arc flash boundary even though an electrical lock-out was in place.