

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

June 13, 2025

TO: Technical Director
FROM: Oak Ridge Resident Inspectors
SUBJECT: Oak Ridge Activity Report for Week Ending June 13, 2025

Building 9212: The Air Emissions Control (AEC) system exhausts process off-gases and removes uranium particulates from the off-gases of enriched uranium processes in Building 9212. The system contains a number of high-efficiency particulate air (HEPA) filters, which require aerosol testing every two years to confirm proper functionality. Last month, CNS determined that scheduled HEPA filter testing could not be completed as planned. Facility operations management (FOM) approved the use of a schedule grace period typically allowed when completing preventive maintenance (PM) items. FOM later determined that standards governing HEPA filter aerosol testing did not permit a grace period. By approving the grace period, the software used to check if work start approval could be granted showed the AEC system to be within all specifications. As a result, FOM did not place the system out of service but granted work start and operated the system past the test due date. Contributing to this, FOM discovered the PM scheduling software that assigns the due date was coded to automatically apply a grace period once the schedule date had been exceeded. CNS held an event investigation and conducted a review of the due dates for other HEPA filter aerosol testing in the facility to ensure that any HEPA filter outside of the required periodicity was out of service. CNS assigned a formal action to remove the automated grace period assigned for all of the HEPA filter aerosol testing across the site to prevent reoccurrence.

Building 9204-2E: The criticality accident alarm system (CAAS) detector stations are arranged such that two detectors are collocated and require both to detect a high radiation field to actuate the evacuation alarm. On Saturday, the on-duty shift manager (SM) received an after-hours call from the operations center about a high radiation alarm notification on the non-credited data monitoring system for the CAAS. Based on the available information—specifically that the indication came from a single detector—the SM requested to speak to the CAAS subject matter expert to determine whether the system should be declared inoperable or how to verify functionality. CNS dispatched a security police officer (SPO) to the detector to check for alarm indicator lights or an audible bell. Since no alarm indications were reported by the SPO, the SM, with guidance from the operations manager (OM), decided to return to the site and perform the weekly surveillance on all the detector stations. After satisfactorily performing the surveillances, the OM declared the system operable and wrote a forward-looking operability determination acknowledging the non-credited signal as spurious—unless any other abnormal signal is detected on the non-credited monitoring system. The detector stations are configured to perform overlapping coverage and, since there were no indications of a high radiation signal on any of the adjacent or overlapping CAAS stations, the safety risk is minimal. CNS is planning to perform troubleshooting and issue a repair work order to address the issue of faulty notifications.