DEFENSE NUCLEAR FACILITIES SAFETY BOARD

December 23, 2022

TO: Katherine R. Herrera, Acting Technical Director
FROM: Frank Harshman and Clinton Jones, Resident Inspectors
SUBJECT: Oak Ridge Activity Report for the Week Ending December 23, 2022

Building 9215: CNS submitted an occurrence report on a personnel contamination event due to a chemical operator discovering contamination on their forearm after cleaning a coolant tray. The chemical operator alarmed the personal monitor instrument during a self-frisk after discovering a discolored area on his anti-contamination clothing. A radiological control technician (RCT) responded, removed the operator's anti-contamination clothing, and frisked the operators arm in the suspect area. The RCT detected 70,000 disintegrations per minute alpha on the operator's arm and attempted to decontaminate him. After multiple attempts to decontaminate the operator, the RCT used a disposable razor to shave the operator's arm at the in-field location. Shaving of a person's skin, with the noted exception of a beard, is not an approved decontamination practice per the CNS Response to Personnel Contamination Events procedure. In addition, the RCT did not obtain approval for this method of decontamination from RADCON management as required by the procedure. In the resident inspector's (RI) judgment, utilization of a razor in the field carries an unacceptable level of risk for potentially damaging the skin. Skin damage increases the probability of compounding the contamination event by providing a pathway for the contamination to be driven internally, thereby increasing the dose consequences of the event to the operator. The RIs attended the event investigation to determine details of the issue. During the investigation, details of the inappropriate decontamination methods were being discussed and documented in the timeline. CNS senior management intervened as they did not feel that information being discussed addressed the cause of the contamination event. Subsequently, decontamination details were removed from the timeline. The RI's line of questioning drove CNS to add an action to the investigation to document the error in the decontamination effort with a follow-on corrective action of briefing the RCTs to prevent reoccurrence. To prevent contamination passing through the anti-contamination clothing again, waterproof PPE is being evaluated for this evolution. This was the 16th personnel contamination of 2022 and the only event that exceeded occurrence reporting limits.

Qualification Board: The resident inspectors attended final qualification oral boards for a Building 9212 shift technical advisor, a Building 9215 shift technical advisor, and a DOE facility representative. The resident inspectors provided feedback to the Building 9212 and Building 9215 oral board members on the content of the questions and recommendations on possible improvements for future boards. The resident inspectors had no comments or questions on the DOE facility representative board. All three oral boards were conducted and graded objectively.

Building 9212: During annual surveillance testing of the Building 9212 criticality accident alarm system (CAAS), the digital message recorder module failed to operate, rendering the emergency notification speakers inoperative (see report 11/18/22). CNS initially recommended, through the potential inadequacy of the safety analysis (PISA) process, for a reduction in the surveillance interval but no formal operational restrictions were required. CNS subsequently revised the PISA to formally establish an operational restriction to perform surveillances of the non-redundant aspects of the CAAS annunciation systems at a decreased interval of 6 months.