DEFENSE NUCLEAR FACILITIES SAFETY BOARD

March 22, 2024

TO: Timothy J. Dwyer, Technical Director
FROM: Frank Harshman and Clinton Jones, Resident Inspectors
SUBJECT: Oak Ridge Activity Report for Week Ending March 22, 2024

Nuclear Criticality Safety (NCS): The resident inspector (RI) attended an event investigation and critique on the sampling of potential fissile material without NCS controls. An industrial hygiene (IH) technician, accompanied by chemical operators, obtained a sample to test for asbestos as part of clean out of a legacy carbon burner system in the Building 9212 headhouse. They took the sample due to a possible asbestos exposure that occurred in a previous event but did not recognize that the sample potentially contained fissile material (see 03/15/24 report). CNS determined in the event investigation that no formal process exists to evaluate if the samples being requested have the potential to contain fissile material. In addition, the current IH sample process permits the technicians to check in with the production supervisor instead of the shift manager (SM) which removed a possible barrier to prevent this event. CNS developed corrective actions to correct these lapses in process including evaluating the overall sampling processes. In the RI's opinion, the critique was sufficiently critical of the event investigation and resulted in additional corrective actions to those identified in the event investigation.

Building 9212: The RI, NPO NCS program manager, NPO facility representative, and CNS NCS engineers conducted a walkdown in a process wing in the building. The RI identified ties used to attach NCS signs to hand rails had degraded and were no longer performing their intended function. The RI provided that information to the CNS NCS personnel who made note of it for correction. The RI discussed NCS signage and the implemented NCS controls throughout the walkdown and found the answers sufficient.

Building 9204-2E: Production personnel were removing a material from a unit during the disassembly process when an IH technician monitoring the activity detected elevated levels of the material being removed in the area. The production personnel backed off from the area and notified the SM. The procedure addressed the potential for a spill and included instructions for cleaning it up, but the production personnel did not have the personal protective equipment or the training to clean the spill. The SM notified the spill response team who responded to clean the area. The operation resumed two days later without addressing the issue of the production personnel not being qualified to perform spill cleanup, which is an anticipated condition in the procedure. Upon resumption of the disassembly process, more material leaked out of the unit. The production personnel again notified the SM and a boundary was established around the area. IH technicians confirmed the area outside of the spill did not have elevated levels of the material. The SM called the spill response team who cleaned the area. Upon cleanup of the area, the production personnel were permitted to continue the disassembly. Within 30 minutes of the work restarting, another leak of the material occurred, resulting in another backoff and subsequent cleanup by the spill response team. In the RI's opinion, if a procedure covers a hazardous process with an anticipated condition, the personnel who are involved in the pre-job briefing to perform the work steps should be capable of completing the procedure as written. CNS should not rely on an external spill response team to complete work. The procedure should have been suspended pending having the production personnel obtain the proper qualifications and equipment to perform the tasks.