DEFENSE NUCLEAR FACILITIES SAFETY BOARD

October 22, 2021

TO: Christopher J. Roscetti, Technical Director
FROM: Matthew Duncan and Brandon Weathers, Resident Inspectors
SUBJECT: Oak Ridge Activity Report for Week Ending October 22, 2021

Nuclear Criticality Safety: An independent assessment team recently issued their report for several nuclear criticality safety topics at Y-12. The team included personnel from Sandia National Laboratories and the Savannah River Site. Among the topics that the team reviewed were front line worker/supervisor understanding of nuclear criticality safety controls, process drift, and container/material handling. The team identified two findings, three weaknesses, seven observations, fourteen opportunities for improvement, and four noteworthy practices. The first finding dealt with closure evidence used in the issues management system. The team found that some of the action items they reviewed were missing data (attendance sheets) or were closed while the action did not appear to be complete. The second finding was that the action plans developed to address criticality safety deficiencies did not include all elements to rectify the issue and significantly reduce the likelihood of recurrence. The team cited examples where an issue was closed in the issues management system, but the deficiency was still open pending additional actions. They also found cases where CNS did not load all actions into the issues management system. Among the weaknesses, the team found that CNS' process drift improvement actions have not been fully institutionalized due to these improvement actions not being anchored to a DOE contractual requirement. The assessment team concluded that the basic programs and processes are in place at Y-12 but additional improvements are needed.

CNS recently completed an effectiveness review of the actions taken to address the uranium accumulation issues and identified several instances in which the issues management system lacked closure evidence for some actions. The effectiveness review team made three recommendations to address the issues management system observations. The DNFSB sent a letter to DOE in July that noted Y-12 is not optimizing its issues management system, and lacks rigor in its requirements for closure of issues. The CNS effectiveness review team also made a recommendation that echoed another aspect of the DNFSB letter, that CNS ensure the uranium accumulation issues and associated corrective actions are effectively communicated during the upcoming contractor transition.

Building 2026: Last Tuesday, a technician alarmed a personnel contamination monitor after exiting a contamination area. Radiological control personnel detected 52,000 disintegrations per minute beta on the worker's boot. Isotek filed an occurrence report for this event based on the measured activity level. After the event, Isotek performed a radiological survey of the building and found a few areas with trace contamination. So far, they were able to retrieve a small particle from one of those areas with a piece of tape and determined that it is Cesium-137, which is not generated by any of the current work activities in the facility. Isotek is continuing to investigate this event to determine the source of the contamination.

Emergency Management: CNS issued the after action report for the September emergency management exercise and graded the performance as very good based on meeting all 93 of the performance objectives (see 9/10/21 report).