

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

December 10, 2021

TO: Christopher J. Roscetti, Technical Director
FROM: Matthew Duncan and Brandon Weathers, Resident Inspectors
SUBJECT: Oak Ridge Activity Report for Week Ending December 10, 2021

Nuclear Criticality Safety: CNS held the investigation and critique meetings for the uranium accumulation discovery noted in last week's report (see 12/3/21 report). In addition to corrective actions to clean out the affected equipment, CNS also developed actions to evaluate the other Building 9212 out-of-service systems that were part of a 2019 nuclear criticality safety risk evaluation (see 10/25/19 report) for areas of complex geometry or hidden cavities. The recent non-destructive assay (NDA) measurements were able to detect the presence of more uranium holdup because the enclosure panels were removed to gain better access to the equipment relative to the previous NDA measurements from 2004. CNS discussed the need to perform a similar evaluation of Building 9215 out-of-service systems to identify complex geometry or hidden cavities.

On Monday, an NPO facility representative walked down the affected equipment and found that water had collected on the floor around the enclosure of the equipment. CNS personnel responded appropriately by making the required notifications and establishing administrative control of the area. They identified two areas where rainwater appeared to have leaked from the roof. No water was visible on the surface of the enclosure and there was no evidence that water had leaked into the enclosure. CNS had previously covered the points of potential water ingress into the enclosure with a tarp as a precaution.

Highly Enriched Uranium Materials Facility: Last week, CNS processed the incident involving a drum that was not compliant with the temporary staging area time limit through the event investigation and issues management processes (see 11/26/21 report). Facility personnel had originally discovered the noncompliance with the documented safety analysis key assumption on November 4. The event determination questionnaire has at least one potentially relevant question: "Did the event...result in a violation of the Documented Safety Analysis (DSA)...or reveal an inadequacy in the DSA..." CNS did not believe that either condition applied and determined an event investigation and critique were not required. CNS entered the issue into the issues management process. This week, based on the significance level determined by the Issues Management Board and screening performed by Enforcement Coordination personnel, no causal analysis was deemed necessary. CNS's process still requires an action plan, but an extent-of-condition or effectiveness review is not required.

Building 9212: This week, CNS performed an operational drill that involved chemical operators noticing that bagged items in a fissile storage area contained wet material. This condition represented a violation of the nuclear criticality safety loading limits for the plastic bag. The chemical operators responded appropriately per the applicable abnormal operating procedure. Nuclear criticality safety personnel developed guidance and coordinated their plans with radiological control personnel. The resident inspectors observed the drill and did not note any significant issues. In November there was a real event where operators found wet material in a container. Conducting this drill was one of the corrective actions from that event.