

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

May 2, 2025

**TO:** Technical Director  
**FROM:** Oak Ridge Resident Inspectors  
**SUBJECT:** Oak Ridge Activity Report for Week Ending May 2, 2025

**Staff Activity:** The Oak Ridge cognizant engineer traveled to the Y-12 National Security Complex this week. The resident inspectors (RIs) led walkdowns and observed operations at Buildings 9204-2E, 9212, 9215, and 9720-5. The cognizant engineer and RIs met separately with CNS, YFO, and OREM personnel to discuss various safety topics.

**Building 9720-5:** In 2017, the first shipment of 14 drums of depleted uranium chips were received in Building 9720-5. In 2018, a Potential Inadequacy of the Safety Analysis (PISA) was declared due to a discrepant as-found condition involving containers of uranium alloys in the form of chips, turnings, cuttings, and fines in the storage vaults. CNS declared a PISA because accidents involving these material forms in the storage vaults were not evaluated in the hazard analysis, as these materials were not initially in scope for the facility mission (see 8/9/2018 and 11/16/2018 reports). In 2020, CNS implemented changes to the Building 9720-5 safety basis to allow storage of chips, turnings, and fines, in the storage vaults; however, this change did not include material storage of pyrophoric material. Building 9720-5 continued to receive and ship drums of depleted uranium chips as the existing processes for evaluating incoming shipments of depleted uranium chips were not adequately identifying which material form codes could potentially lead to an event of concern. A material review board (MRB) consisting of personnel from nuclear weapons material operations (NWMO), facility safety engineering (FSE), and facility operations management identified the issue and denied an upcoming material shipment request based on that the material was pyrophoric. The MRB also identified that drums of depleted uranium chips had already been received by the facility.

NWMO performed a detailed search for other drums identifying an additional 53 drums in total stored throughout the facility. FSE declared a PISA, determined a positive Unreviewed Safety Question (USQ) exists, and instituted operational restrictions based on the presence of drums containing pyrophoric materials. NWMO segregated the drums from other material stored in the facility, ensuring the drums were staged under the building's credited fire suppression system. CNS filed an occurrence report for the event, later upgrading its classification because of the positive USQ. The RIs and the DNFSB Oak Ridge cognizant engineer, accompanied by an YFO facility representative, performed a walkdown of the area where the drums are being staged and did not identify any discrepancies with the drums or storage location.

An RI attended the event investigation that CNS convened in response to this occurrence. During the investigation, the RI identified that a training course created to resolve an unrelated, but similar, event had only been implemented in one facility (see 07/15/2022 report). CNS committed to evaluating the applicability of the training course to other facilities and assigned a formal action to a CNS senior manager. CNS is investigating why the extent of condition review that was performed after the 2018 event did not identify the material that caused the current event. CNS is currently evaluating alternate storage locations and possible risks associated with handling of the drums to determine the safest storage location until the material can be ultimately dispositioned.