**DEFENSE NUCLEAR FACILITIES SAFETY BOARD**

April 19, 2024

**TO:** Timothy J. Dwyer, Technical Director
**FROM:** Clinton Jones, Resident Inspector
**SUBJECT:** Oak Ridge Activity Report for Week Ending April 19, 2024

**Building 9720-5:** The resident inspector (RI) reviewed safety basis documents and walked down the lightning protection system (LPS) for the facility. While reviewing the current revision of the design analysis and calculation (DAC) for natural phenomena hazard evaluations for Building 9720-5, the RI found that the section titled "Lightning" contained the statement "There is no lightning protection provided for this facility." CNS originally issued this DAC in June 1997 and subsequently revised the contents four different times as recently as September 2014 without revising the lightning section. CNS installed the LPS for this building in 1998 per NFPA 780, *Standard for the Installation of Lightning Protection Systems*, and actively credit the system in the hazard evaluation study, safety analysis report, and technical safety requirements to reduce the likelihood of lightning-induced building fire. The RI notified the system engineer, facility operations management staff, and the Y-12 Field Office (YFO) nuclear safety systems engineer of the discrepancy. A CNS facility safety engineer replied to the RI and stated the DAC would be updated.

During the walkdown of the system, the RI noted a strap that connects the LPS to a 2-inch vent pipe was missing. The RI reviewed the latest annual preventative maintenance inspection workorder for the system, dated May 9, 2023, that identified the same missing strap in the "Follow Up Work Required" section. The RI looked for a follow-up workorder and discovered that one had not been created. Due to the LPS being a safety significant system credited in the safety analysis, this missing strap could potentially allow an exposed vulnerability in the coverage of the LPS. This creates a question as to the effectiveness of the system to mitigate or prevent the analyzed accident scenario in the hazard evaluation study. CNS created a work order to correct the missing strap based on the RI's observation.

**Building 9204-2E:** CNS closed out the potential nuclear criticality safety issue (PNI) of having a questionable technical basis for the go/no-go assay check performed on uranium chips (see 11/17/2023 report). CNS based this closure on incorporating existing compensatory measures established during the PNI process into a new revision of the criticality safety evaluation (CSE). The revision of the CSE will allow production personnel to work through the backlog of depleted uranium chips that are being stored on the production floor in racks and disposition them appropriately.

**Waste Management:** CNS filed an occurrence report due to a deviation in which the conditions of approval in the Certificate of Compliance (CoC) were not performed in making a waste shipment. Specifically, CNS waste management failed to meet the CoC requirement to ship and have the packages received at the disposal facility within 180 days of closure of the inner 30-gallon drum. During a Nevada National Security Site (NNSS) radioactive waste acceptance program audit, NNSS personnel asked CNS how they were tracking this CoC requirement. CNS discovered they had no formal process and determined they had violated the CoC on two different shipments containing a total of 14 drums. The CNS Waste Management Director suspended all shipments of the container in question.