DEFENSE NUCLEAR FACILITIES SAFETY BOARD

TO:Technical DirectorFROM:Oak Ridge Resident InspectorsSUBJECT:Oak Ridge Activity Report for Week Ending April 4, 2025

Building 9206: CNS recently submitted a request to YFO for the approval of the facility classification document for the downgrade of Building 9206 from a hazard category two nuclear facility to a less than hazard category three facility. The facility classification document references a supporting nuclear criticality safety determination (NCSD), which states an inadvertent criticality event is not credible due to a nature of process argument. The NCSD relies upon three initial conditions and an inventory control to ensure no fissile material is received into Building 9206. The three conditions are as follow: (1) all fissile containers, drums, and safe bottles have been removed; (2) a surveillance and maintenance plan is in place; and (3) waste boxes and drums outside of the building owned by the facility management conform to specific fissile mass requirements. YFO reviewed the documentation and walked down the facility to verify there was no fissile material, excluding holdup, present. However, CNS has not implemented the NCSD inventory control to ensure no new fissile material is brought into the facility.

YFO determined that before Building 9206 is downgraded to a less than hazard category three facility classification, CNS must implement the NCSD inventory control and verify the initial conditions. The resident inspectors (RIs) performed a walk down of the building last week to independently verify the absence of fissile material and to determine if the general condition of the facility supported the request to downgrade. After walking through the building, the RIs discussed the timeline of the NCSD implementation and overall plan for completion of the downgrade of the facility with the operations manager. After the downgrade is approved, CNS plans to continue using the building in other capacities until it can be formally turned over for decommissioning by a DOE environmental management contractor. Building 9206 was built in 1944 as part of the Manhattan Project and utilized for various missions until 1993.

Utilities Infrastructure: Previously, CNS conducted an event investigation into the discovery of a newly identified potable water system single point failure (SPF) valve that supplies firesuppression systems (see 3/14/2025 report). CNS assigned follow-up actions to fire protection engineering (FPE) and utilities to evaluate the potential impact of broken valves on other nuclear facilities following the discovery of the unidentified SPF valve. FPE and utilities identified additional broken valves that could potentially impact the water supply to Building 9204-2E and the 9215 Complex. The FPE determined that if the broken valves in question failed in the closed position, they would result in blocking water flow through redundant lines to the facilities, leaving only a single unobstructed flow path to each of the facilities' fire suppression systems. In this case, the remaining valves leading to Building 9204-2E and the 9215 Complex would be considered SPF valves. Utilities is undertaking efforts to determine if broken valves have failed in the open or closed position. The Y-12 fire department has successfully completed the required credited fire suppression system surveillances since the last time the water supply may have inadvertently been impaired by cycling the potential SPF valves, which demonstrates the systems are currently operable. Utilities Support Senior Manager approval is required for all potable water valve operations until all suspect valve positions can be verified.