

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

December 26, 2017

TO: Steven Stokes, Technical Director  
FROM: Jennifer Meszaros and Rory Rauch, Resident Inspectors  
SUBJECT: Oak Ridge Activity Report for Week Ending December 22, 2017

**9201-5 Complex:** Last week, CNS completed an effort to categorize the 9201-5 Complex as a non-nuclear facility. The complex is functionally divided into two separate areas, Buildings 9201-5/5E and 9201-5N/5W. CNS currently performs a variety of depleted uranium machining operations in Building 9201-5N/5W and is preparing Building 9201-5/5E for demolition. Previously, NNSA Headquarters approved an exemption from the 10 CFR 830 requirement mandating that contractors assign hazard categorizations to nuclear facilities (see 8/21/09 and 2/26/10 reports). As such, the previous Y-12 contractor was able to operate the 9201-5 Complex as a non-nuclear facility provided, in part, that it limited the inventory of radioactive materials and maintained the fire suppression systems in accordance with industry standards.

In 2015, CNS utilized new, experimental depleted uranium dispersion data to evaluate the hazard categorization of the 9201-5 Complex in accordance with DOE-STD-1027-92 and associated NNSA supplemental guidance. Based on this evaluation, they submitted a request to downgrade the complex to a non-nuclear facility. In September 2017, NPO approved this request. Prior to implementing the facility downgrade, CNS production and operations management reorganized facility staffing and reassigned facility management responsibilities (e.g., work start approval). Upon implementation of the downgrade, CNS retired the exemption to the 10 CFR 830 requirement.

**Aging Infrastructure:** CNS engineers recently completed a report that summarizes their inspections of a representative sample of Y-12 exhaust stacks. CNS engineers performed this review after maintenance personnel identified a significant crack in a Building 9995 stack that required emergency repair (see 7/21/17 report). As a part of this extent of condition review, the engineers inspected a total of 18 different stacks. They identified one Building 9202 stack that is missing multiple anchor bolts at its base. The engineers also noted that many guy-wires, when used for lateral stability, exhibited signs of degradation and/or improper installation. The engineers recommended immediate action to address the Building 9202 stack and suggested further evaluation of lateral support guy-wires, where utilized. Additionally, they suggested that the extent of condition review be expanded to include all stacks on site and recommended that CNS establish a periodic stack inspection program. CNS management is currently considering these recommendations.

**Building 9215:** Last week, CNS engineers cancelled a Justification for Continued Operation (JCO) that applied to machine chip pan overflow drains (see 7/28/17 report). These drains are nuclear criticality safety controls that are credited in the facility technical safety requirements to limit the depth of coolant that can accumulate in the pans. Last year, CNS reported a positive unreviewed safety question after personnel discovered throttled coolant valves that prevented six chip pans from being tested at full coolant flow (see 9/2/16 report). The JCO was cancelled after five of the six pans successfully passed a full coolant flow test (see 7/2/17 report) and engineering personnel evaluated the sixth pan in order to demonstrate that it successfully meets criteria established in the applicable nuclear criticality safety evaluation. Additionally, maintenance personnel recently repaired a degraded machine coolant pump that also prevented the chip pans from being tested at full flow (see 11/24/17 report). Operations personnel returned the pump to service after workers successfully performed the applicable chip pan flow surveillance with all coolant pumps running.