

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

November 27, 2017

TO: Steven Stokes, Technical Director
FROM: Jennifer Meszaros and Rory Rauch, Resident Inspectors
SUBJECT: Oak Ridge Activity Report for Week Ending November 24, 2017

The operational tempo of Y-12 nuclear facilities was significantly reduced due to the holiday. R. Rauch was out of the office this week and J. Meszaros was in on Monday.

Building 9215: Machine coolant pumps are not credited in the Building 9215 Technical Safety Requirements (TSR), however a credited chip pan overflow drain surveillance requires that the surveillance be performed at full flow (i.e., with all four machine coolant pumps operating). The surveillance tests whether the overflow drains adequately limit the depth of coolant that can accumulate in the pans (see 7/28/17 and 8/11/17 reports).

In September, observations from an NPO facility representative drove maintenance personnel to test the output of the four pumps. They identified one pump that was degraded significantly even though the indicator light typically used during the surveillance to determine pump operability was illuminated. As such, CNS personnel concluded that the most recent chip pan overflow drain surveillance performed in July may have been inadequate, given that they do not have evidence to conclude that all four machine coolant pumps were operating as required. Safety analysis engineers evaluated the issue as part of the potential inadequacy of the safety analysis (PISA) process and ultimately determined that the issue was not a PISA but called into question the operability of the credited chip pans. Operations personnel subsequently tagged the degraded pump out of service, and will not return the pump to service until after they have retested the overflow drains with all four pumps running. Additionally, CNS is modifying the chip pan overflow drain surveillance to require positive indication of flow from each pump before and after surveillance performance.

Transuranic Waste Processing Center (TWPC): Last week, the OREM manager approved revisions to the facility Documented Safety Analysis (DSA) and TSR that resolve a previous positive unreviewed safety question (USQ). North Wind personnel declared the positive USQ after they identified unexpected deformation in the inner lids of macro-encapsulated waste boxes. Such deformation challenged penetration depths assumed in the DSA; these penetration depths were used to design credited tools that prevent inadvertent puncture of the unvented waste drums located within the boxes (see 10/6/17 report). The new DSA and TSR revisions include updated descriptions of the waste boxes and modified credited tooling. Macro-encapsulated waste box remediation at TWPC remains suspended, pending implementation of the new DSA and TSR revisions.