

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

March 12, 2018

TO: Steven Stokes, Technical Director
FROM: Jennifer Meszaros, Resident Inspector
SUBJECT: Oak Ridge Activity Report for Week Ending March 9, 2018

Staff members N. George, D. Shrestha, S. Sircar, and B. Weathers were on site to conduct a review of the Transuranic Waste Processing Center Documented Safety Analysis.

Building 9212/Oxide Conversion Facility (OCF): Last week, while preparing to perform a preventive maintenance activity, workers found they were unable to lock a credited OCF hydrogen fluoride (HF) isolation valve. A lockout/tagout (LO/TO) device with a locking arm is permanently installed on certain OCF ball valve stems and can be used to connect the arm to a fixed mounting bracket in order to mechanically prevent the valve stem from rotating. In this case, workers found the device installed backwards and thus were unable to lock the valve closed as required. Work was appropriately paused; upon further investigation, workers found incorrectly installed LO/TO devices on three other OCF HF valves. They also identified an unrelated maintenance issue on the first valve, which was missing several screws that attach the valve actuator assembly to the valve stem mounting plate. In response to this event, facility management paused OCF operations. CNS also held a fact finding meeting, during which maintenance personnel noted that the LO/TO devices were most likely installed incorrectly when the valves were previously rebuilt in 2015 and 2017. They were unable to identify why the screws were missing from the valve actuator assembly, but noted that normal operation of the valves is not affected by either issue. During the meeting, maintenance personnel committed to developing a new LO/TO permit that will authorize an alternate locking methodology for valves with incorrectly installed locking devices. They also committed to installing the missing screws on the impacted valve before restarting operations. OCF operations have been on hold for most of fiscal year 2018, due to unrelated maintenance issues (see 10/27/17 report).

Building 9212/Conduct of Operations: This week, OCF operators performed a technical safety requirements (TSR) surveillance that evaluates whether HF isolation valves will automatically close as required in response to various dock scrubber system abnormal conditions (e.g., low tank level). Facility management previously declared a TSR violation after they identified that the system remained in an operable status even though operators performed this surveillance incorrectly on several occasions (see 1/19/18 report). The resident inspector observed surveillance performance and discussed procedure changes implemented to prevent reoccurrence with operators. She identified no issues.

Highly Enriched Uranium Materials Facility (HEUMF): NPO's Acting Assistant Manager for Nuclear Safety and Engineering issued a letter this week directing CNS to revise the HEUMF TSRs in order to improve the acceptance criteria associated with the fire protection system (FPS) main drain test. During the TSR main drain test, fire protection operations (FPO) personnel confirm an open system flow path by opening drain valves and verifying water flow from a system main drain. Currently, the facility TSRs list visual verification of flow during the test as an acceptance criterion, even though a partially blocked line or a partially closed valve may reduce, rather than stop, the flow of water from the main drain during the test. NPO concluded that this existing TSR main drain acceptance criterion is insufficient and directed CNS engineering to update the facility TSR and include a more quantitative acceptance criterion. Regardless of this deficiency, the existing FPO main drain surveillance procedure programmatically implements a quantitative criterion (i.e., system pressure change) that is evaluated during the test. As such, existing procedures sufficiently evaluate system operability.