

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

December 29, 2023

TO: Katherine R. Herrera, Acting Technical Director
FROM: Frank Harshman and Clinton Jones, Resident Inspectors
SUBJECT: Oak Ridge Activity Report for Week Ending December 29, 2023

Lock Out/Tag Out: NPO completed a site integrated assessment of the implementation of the Lock Out/Tag Out (LOTO) program at Y-12 against the requirements contained in DOE Order 422.1, *Conduct of Operations*. NPO identified four performance problems, including:

- Quarterly checks of the issuing authority's logbook/permit index were not being done in a consistent manner or in a timely basis,
- No process exists for determining qualification of a technical resource on a system or process,
- Power Operations system locks do not provide non-qualified personnel with control when they are performing work under a power distribution work permit, and
- An event where batteries exceeding 1000 watts were manipulated without hazardous energy control in violation of the CNS procedure highlighted a fundamental lack of understanding which potentially results in inconsistent implementation sitewide.

NPO also identified four observations and one noteworthy practice. Specifically, the observation of note was the responsible technical resource did not have drawings available during LOTO walkdowns for hazardous energy per LOTO procedures. CNS issued a standing order in response to the performance problems to improve worker safety by implementing an independent review of lockout points in addition to the technical resource function described in the LOTO procedure.

The resident inspectors (RI) attended a pre-job briefing for the ongoing work to replace a seal in a glovebox. The seal replacement requires LOTOs to be in place on multiple electrical connections as well as the overhead crane powered intermittently throughout the evolution. As part of the briefing, an alternate technical resource employee briefed the crew on the new standing order and how he performed second check validations on the existing LOTOs in place. The RIs consider the second check validation on the LOTOs to be a positive improvement in the LOTO program based on the recent events that have occurred.

Calciner Project: The RIs and the Building 9212 assistant operations manager (AOM) walked down the calciner project currently under construction. The calciner converts dilute solutions to stable solid oxide forms. CNS is installing the calciner as part of its strategy to reduce overall risk in its aging facilities by replacing processes with new technologies. CNS expects this project will result in the reduction of the material-at-risk in the facility as legacy processes are transitioned (see 05/13/2022 report). During the walkdown, the RIs discussed several topics with the AOM relating to safety. Discussion topics included the remaining construction tasks needed to tie the new systems into the existing building systems, the risks associated with the potential for material passing into the new systems, and the actions CNS is taking to maintain the separation of the two sets of systems. The RIs will continue to shadow construction and readiness activities associated with this project to independently assess both the safety aspects associated with the project and risks associated with operating legacy systems longer than originally planned due to the delays the project has experienced to date.