

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

TO: Steven Stokes, Technical Director
FROM: William Linzau and Rory Rauch, Site Representatives
SUBJECT: Oak Ridge Activity Report for Week Ending March 27, 2015

Staff members B. Caleca, M. Forsbacka, E. Gibson, and F. Sutherland were at Y-12 to review the safety documents associated with the Critical Decision-1 milestone for the electrorefining project.

Work Planning and Control: During the last two weeks, Y-12 Utilities Management encountered two issues that resulted from workers failing to perform work in accordance with applicable work control documentation. The first issue occurred during an activity to repair the tower water system. While implementing a lockout/tagout (LO/TO) in preparation for maintenance on the system, the authorized employee opened a valve that should have been closed as part of the isolation boundary specified on the LO/TO permit. Further, the individual designated to independently verify the valve lineup did not inspect the valve position closely enough to catch the discrepancy. The work crew discovered the discrepancy during the post work test when the system did not operate as expected. The second issue occurred during an activity to prepare for maintenance on a portion of the site electrical power distribution system (PDS). The authorized electrical dispatcher was following the instructions on a switching order to place the PDS in the proper configuration for the maintenance activity and found one switch in the “closed” position when the switching order indicated the switch was to be “verified open.” The dispatcher assumed the switching order was incorrect and directed the switching supervisor to open the breaker. This caused an unplanned loss of electrical power to the site steam plant. One contributing factor to the second issue was the fact that the maintenance activity had been delayed approximately six weeks, creating a discrepancy between the actual starting configuration of the PDS and the starting configuration assumed in the switching order. Y-12 Utilities Management personnel are evaluating the power operations procedure for process improvements. In addition, the CNS Senior Director for Nuclear Operations Support plans to hold a critique to evaluate several of the recent Y-12 LO/TO issues (see 3/13/15 report) for common causes and broader corrective actions.

Uranium Processing Facility (UPF): The CNS Director of UPF Engineering Oversight & Authorization has requested that NPO gain a formal interpretation and guidance from the NNSA Central Technical Authority (CTA) related to application of DOE standards to the design of UPF. The Director’s letter requests that the NNSA CTA provide:

- a formal interpretation of DOE-STD-1020, section 2.3.7, in support of the project’s determination of the natural phenomena hazard design category (NDC) for structures whose failure could potentially lead to an accidental nuclear criticality;
- guidance on whether the project’s approach to restrict or eliminate sprinkler coverage in certain moderation controlled areas to satisfy nuclear criticality safety (NCS) requirements can meet DOE Order 420.1C requirements through an equivalency or whether the project’s approach will require an exemption;
- guidance on whether the project’s interpretation is correct that assessments of NCS components will focus on single contingency vulnerabilities during evaluations of the natural phenomena hazards; and
- confirm that the project’s position that active confinement ventilation systems that only provide defense-in-depth safety functions are not required to meet more severe NDC normally associated with safety class and safety significant systems.