

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

September 22, 2023

TO: Timothy J. Dwyer, Acting Technical Director
FROM: A. Holloway, C. Stott, and C. Berg (acting), Resident Inspectors
SUBJECT: Pantex Plant Activity Report for Week Ending September 22, 2023

Power Outage: This week, CNS investigated the cause of an electrical power outage of several facilities across the site and discovered a degraded underground cable butt splice. Electrical power was restored when CNS electricians manually switched the electrical load to a redundant distribution circuit. During the investigation, CNS infrastructure personnel explained that automatic transfer switches would normally transfer to the other distribution circuit automatically, but the switches were tagged out of service due to planned maintenance that was occurring. As for corrective actions, CNS committed to repair the damaged cable and then reenergize the circuit. When the resident inspectors questioned the adequacy of the cable splice and post-installation testing, CNS engineering stated that this splice had never seen electrical loads until the day that it failed and that the acceptance testing was adequate.

Major Modification Determination: NPO responded to the determination that CNS previously transmitted concerning changes that would allow an existing non-nuclear facility to be used for nuclear explosive operations (see 9/8/23 report). While NPO agreed with CNS that the proposed infrastructure upgrades do not constitute a major modification—and therefore do not require the development of a safety design strategy—NPO directed that these upgrades will be designed to the code of record within the current CNS contract, including certain recently revised National Fire Protection Association and electrical safety codes.

Technical Safety Requirement (TSR) Violation: Early this week, during the graveyard shift, the Emergency Services Dispatch Center received a trouble signal associated with the battery charger for the deluge fire suppression systems in three nuclear explosive cells, resulting in these systems being declared inoperable. Given two facilities contained material of concern, the on-duty CNS Facility Representative entered the appropriate limiting condition for operations (LCO) for these facilities, requiring all nuclear explosives to be placed into a safe and stable configuration, a fire watch established, and the facility to be placed into maintenance mode. However, the CNS Facility Representative did not follow established site processes to prohibit material of concern from entering the other facility (e.g., placing the facility in maintenance mode or placing a hold in the material move software). Subsequently, production technicians—unaware of the inoperable fire suppression—completed pre-operational checks, during which the CNS Facility Representative did not note any restrictions for this facility, and received material of concern. During the following day shift, a separate CNS Facility Representative identified the discrepancy, declared a TSR violation due to the material move into the facility with a degraded safety class system, and entered the proper LCO for the facility. As a corrective action, CNS briefed Facility Representatives on the event, generic LCOs, and expectations on prohibiting material moves in this situation. Furthermore, during the investigation, participants identified gaps within the CNS Facility Representative shift turnover process related to relaying current LCO entries, which hindered the earlier identification of the discrepancy. As a result, CNS Facility Operations Management plan to increase the rigor of the turnover process. Finally, CNS plans to conduct a causal analysis on the incident to prevent future recurrence.