

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

June 9, 2023

TO: Katherine R. Herrera, Acting Technical Director
FROM: C. Stott and C. Berg (acting), Resident Inspectors
SUBJECT: Pantex Plant Activity Report for Week Ending June 9, 2023

Safety Basis: The Technical Safety Requirements (TSR) state that pneumatic hoses for the facility crane assembly within nuclear explosive cells shall be located or restrained to prevent impact to the unit during a hose whip scenario. The TSR further specifies a force to which the hose restraint is required to be qualified to withstand the hose whip scenario. This week, NPO personnel identified a discrepancy with this provided value. The TSRs included a less conservative value associated with a smaller diameter pneumatic hose. Consequently, CNS Safety Analysis Engineering declared a potential inadequacy of the safety analysis. As an operational restriction, CNS has verified that all restraints installed within applicable facilities can withstand this larger hose whip insult and thereby prevent an impact to the nuclear explosive.

Conduct of Operations: During an Operational Safety Review (OSR), the study group and CNS Process Engineering recognized that technicians had obtained gas sampling equipment with an incorrect gas cylinder installed for this program. The technicians had connected the equipment but did not introduce the improper gas into the nuclear explosive. During the critique, CNS noted that the technicians did not verify the gas cylinder contents or identification number as required by the operating procedure. After discovering this discrepancy, the technicians contacted the appropriate personnel who directed the technicians to disconnect the gas sampling equipment from the nuclear explosive utilizing an authorized appendix of the procedure. As an immediate action, production management briefed all technicians on this program regarding expectations associated with procedural adherence. Additionally, CNS held a departmental standdown to brief technicians on procedural compliance expectations and potential consequences. CNS also plans to have a production section manager or disciplined operations specialist present during all OSR operations. Finally, CNS will conduct a causal analysis to determine other opportunities for improvement (e.g., better distinguishing gas cylinder types).

Technical Safety Requirement Violation: CNS previously discovered that a required internal pipe assessment was not performed for a wet-pipe fire suppression system (FSS) within its required periodicity (see 6/2/23 report). CNS determined during the investigation that the TSR surveillance requirement for this assessment had expired while the facility was out of service to support the lead-in replacement and deluge FSS upgrade project. Before project completion, the subcontractor performed functional testing of the wet-pipe FSS; however, at that time, CNS did not identify that the acceptance test procedures failed to include the required internal pipe surveillance. Due to miscommunication, a CNS Facility Representative also believed that all required maintenance and surveillance activities were completed. The individual updated the Facility Status Board, noting all required surveillances were complete and allowing the nuclear explosive cell to return to an operational status. In response, CNS performed an extent of condition review to ensure other facilities with similar upgrades have not resulted in a missed surveillance requirement. Additionally, CNS Facility Management and Facility Engineering will disseminate lessons learned from the event. CNS also plans to conduct a causal analysis and determine any further corrective actions.