DEFENSE NUCLEAR FACILITIES SAFETY BOARD

March 19, 2021

TO: Christopher J. Roscetti, Technical Director
FROM: Christopher Berg, Acting Resident Inspector
SUBJECT: Pantex Plant Activity Report for Week Ending March 19, 2021

Charge Generation Hazards: Earlier this month, CNS transmitted to NPO a justification for continued operations (JCO) to allow resumption of disassembly operations on one weapon program where several additional internal charge generation hazards were identified (see 10/25/19 report). Proposed compensatory measures include a number of bonding controls, which must be removed during lightning warnings and when the unit will be left unattended, as well as an administrative control to remove certain components simultaneously. Based on the combination of compensatory measures and currently approved controls, NPO approved the JCO without any conditions of approval, noting that all hazardous events with unacceptable consequences had a viable control strategy. The design agencies will work to develop quantitative weapon response for these applicable hazard scenarios.

During the nuclear explosive safety change evaluation for these proposed operations, the nuclear explosive safety study group, CNS process engineer, and acting resident inspector identified several errors or missing steps in the nuclear explosive operating procedures (see 3/5/21 report). CNS determined that an additional readiness verification—planned to begin next week—is warranted prior to the start of the contractor and federal readiness assessments.

Potential Inadequacy in the Technical Safety Requirements (PITSR): The Pantex technical safety requirements (TSR) prohibit the concurrent transportation of certain explosives and nuclear explosives/material—depending on its transportation configuration—in certain areas of the plant. CNS implements the TSR by requiring a high explosive (HE) move window during these explosive transportation operations. However, last week, CNS declared a PITSR after identifying that the implementing procedure for this TSR only requires an HE move window during explosive transportation along one of two routes from a specific facility. Subsequently, CNS published a standing order requiring the move window during explosive transportation on either route. This standing order will remain in effect until the TSR language can be modified to permit movement of explosives on the one route without an HE move window.

Safety Basis: Last week, production technicians performing disassembly operations in a nuclear explosive cell skipped an appendix in their nuclear explosive operating procedure (see 3/12/21 report). CNS paused operations and placed the unit in a safe and stable configuration. The resulting unit configuration is not authorized by the documented safety analysis. As a result, CNS safety analysis engineering declared a potential inadequacy of the safety analysis (PISA), and, due to the increase in the probability of an accident, determined that this situation represented an unreviewed safety question.

Safety analysis engineering determined that two other recent PISAs—regarding (1) discrepant weights used in the hazards analysis for specific transfer carts and transfer cart inserts and (2) incomplete hazard parameters for special tooling (e.g., air hose and wrench) used for operations in a vacuum chamber bay (see 3/12/21 report)—also represented unreviewed safety questions.