

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

January 7, 2022

TO: Christopher J. Roscetti, Technical Director
FROM: A. Gurevitch, M. Bradisse (acting), and C. Berg (acting), Resident Inspectors
SUBJECT: Pantex Plant Activity Report for Week Ending January 7, 2022

Staff Activity: This week, a nuclear explosive safety (NES) study group (NESSG) conducted a NES change evaluation for disassembly of a specific unit with a cracked component. CNS has attempted to disassemble this unit several times (see 8/6/21 and 11/19/21 reports). The proposed process will involve a brief hand lift of the cracked component; this lift is typically accomplished with special tooling in the normal disassembly process. The NESSG evaluated the new hazards and associated controls, including the potential drop height of the cracked component. The resident inspectors have no safety concerns with the proposed approach. NPO's authorization of this operation is contingent on the NESSG summary memo and CNS's safety basis supplement.

Safety Basis: As part of an improvement initiative to weigh all special tooling and provide safety analysis engineering (SAE) with bounding weights, the CNS production tooling department continues to analyze actual tooling weights (see 10/29/21 report). As a result of these activities, CNS SAE declared two potential inadequacies of the safety analysis (PISA)—each affecting a different weapon program—when three special tools were found to have a discrepant as-found weight when compared to the value recorded in the safety basis (i.e., the actual weight was higher). For the recorded weights, the safety basis states that impact scenarios involving two of these tools do not require additional controls to prevent adverse consequences. However, since the actual weights are higher than the recorded weights, it is unclear whether the weapon response for these scenarios is still bounded by the existing analyses. As operational restrictions while the design agency confirms the adequacy of the weapon response analyses, CNS has implemented a specific administrative control requiring two technicians to install and/or remove these two tools (see 12/17/21 report). For use of the third special tool, SAE indicated that no operational restrictions are necessary due to existing controls adequately mitigating the hazards. Furthermore, due to the increase in the probability and consequences of these accident scenarios, SAE determined both PISAs represented unreviewed safety questions.

This week, during review of a safety basis change package on a different weapon program, CNS SAE determined that the currently credited control set did not address a specific hazard scenario (i.e., an electrical insult to a weapon component). Consequently, CNS declared a PISA and a Stop Work Event for the associated assembly operations. As an operational restriction, CNS instituted the personnel evacuation specific administrative control to mitigate the hazard scenario. Subsequently, on Friday, CNS authorized resumption of operations.

Conduct of Operations: Last month, while building a joint test assembly (JTA), technicians used an incorrect torque wrench to install a specific part. While the part was torqued to the correct value, the wrench used was different from the one specifically called out in the pre-shift setup section of the procedure. This procedural non-compliance was caught several weeks after build activities were completed, when a quality assurance inspection technician identified the mistake; subsequently, the assembly was flagged as a non-conforming item. This is the second time an incorrect torque wrench was used in a JTA build in 2021.