

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

July 2, 2021

TO: Christopher J. Roscetti, Technical Director
FROM: Mark Bradisse and Christopher Berg, Acting Resident Inspectors
SUBJECT: Pantex Plant Activity Report for Week Ending July 2, 2021

Readiness Assessment: CNS continued the contractor readiness assessment for a certain weapon program (see 6/11/21 report). The resident inspector observed demonstrations of disassembly operations in a contamination area. During demonstrations, the resident inspector and assessment team members noted several interruptions due to fire alarm testing.

Nuclear Explosive Safety (NES): Last week, NPO transmitted to CNS the NES study group (NESSG) report on an operational safety review for a different weapon program (see 6/11/21 report). NPO requested that CNS take action on two of the NESSG's deliberation topics; specifically, these topics related to the routing of hoses and cables to remove tripping hazards, and updating the master tester list to preclude use of certain equipment with this program.

Blast Door Interlock (BDI) Failure: On Monday, while performing pre-operational checks in a nuclear explosive bay, production technicians (PT) experienced a problem with the BDI system; specifically, the mechanism did not prevent both the inner and outer personnel doors from opening simultaneously. The PTs notified the CNS facility representative (FR), who arrived at the bay within minutes, performed a BDI check—which passed—and confirmed the system was operable. As a result, the FR did not declare any limiting conditions for operation (LCO). On the same day, craft workers responded to a work order to ensure the system was functioning properly and performed a successful BDI check at the end of the maintenance activity.

On Tuesday, PTs again performed pre-operational checks in the facility and experienced a BDI failure when both doors opened concurrently. Technicians notified the FR, who entered the appropriate LCO for the facility—requiring administrative control of the doors to prevent simultaneous opening—and categorized the event as a performance degradation of a safety class structure, system, or component when required to be operable. CNS is investigating the BDI failure mechanism and, based on the results, will evaluate other BDI systems and their preventive maintenance (e.g., the inspection frequency for specific components).

Special Tooling Program: In response to DNFSB Recommendation 2019-1, Pantex is revising the special tooling program in the safety basis to require that all code welds are visually inspected and all welds in the credited load path are verified through either load testing or enhanced nondestructive examination techniques beyond visual examination (see 4/9/21 report). This week, CNS transmitted to NPO its plan to implement this new weld verification requirement. CNS evaluated all special tooling and identified approximately 60 designs—equating to roughly 300 individual tooling copies—that need to be brought into compliance with the requirement. The plan calls for a two-phased approach for these existing tools: (1) expeditious recalling and verification of welds for existing tools by next fiscal year and (2) longer term compliance efforts (e.g., update tooling documentation and procedures). Additionally, CNS has already revised the special tooling design manual to ensure all new special tooling meet this weld verification requirement.