

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

December 16, 2022

TO: Katherine R. Herrera, Acting Technical Director
FROM: J. Anderson and C. Berg, Acting Resident Inspectors
SUBJECT: Pantex Plant Activity Report for Week Ending December 16, 2022

Nuclear Explosive Safety (NES): While conducting disassembly operations within a cell, production technicians encountered a stuck component on one unit that could not be removed using the currently approved process (see 12/2/22 report). This week, a NES study group convened to evaluate proposed operations that use an assortment of materials (e.g., orange sticks and shims) to aid in the removal of the stuck component. The study group concluded the NES change evaluation (NCE) with zero findings and three deliberation topics. Shortly thereafter, technicians successfully executed the procedure and continued further disassembly of the unit.

Additionally, a study group commenced two other NCEs for the same weapon program. The first NCE assessed transporting the ultimate user configuration within its handling gear in Zone 12 ramps and corridors during lightning warnings. The second NCE examined a proposed change to a NES rule related to crediting container tamper-indicating devices—similar to other weapon programs—for two-person control of a certain weapon component. This last NCE resulted in part from a previous event where two-person control of the component was lost during delivery from Production Stores (see 9/16/22 report). The resident inspectors attended both NCEs and observed that the project team provided considerable technical justification to support the proposals. The study group plans to complete both these NCEs next week.

Conduct of Operations: Earlier this month, when exiting a nuclear explosive cell but not securing it—to provide support to a nearby facility—two production technicians lost line of sight with each other (i.e., when one technician attempted to enter the nearby facility and the other remained by the cell equipment interlock door). The event resulted in a loss of two-person control of the facility (see 12/9/22 report). As no material of concern was present in the cell at that time, CNS categorized the incident as a management concern. Specifically, the cell did contain some programmatic materials (e.g., an explosive charge) but did not include anything requiring two-person control, such as a nuclear explosive or category one electrical equipment. This week, CNS reassessed the event categorization but conservatively maintained the above decision given the procedure violation and potential for a more serious incident.

Facility Inventory Limits: This week, CNS personnel moved a unit into a staging facility within Zone 12 under the incorrect part number and exceeded the facility's high explosive limit. CNS utilizes a software program during material moves to ensure limits are not exceeded; however, in this case, the program allowed the material move due to the incorrectly assigned part number not having an associated explosive quantity. Upon discovering the issue, production technicians notified the appropriate organizations, and these groups moved the unit back to the originating facility. At the investigation, participants also noted that transfer checks prior to the material move failed to detect the discrepancy between the item moved and the assigned part number. In addition, both CNS safety analysis engineering and explosive safety determined that the event did not constitute a technical safety requirement violation due to no nuclear material limits being exceeded. As a result, CNS categorized the incident as a management concern.