DEFENSE NUCLEAR FACILITIES SAFETY BOARD

March 12, 2021

TO: Christopher J. Roscetti, Technical Director
FROM: Miranda McCoy, Resident Inspector
SUBJECT: Pantex Plant Activity Report for Week Ending March 12, 2021

Staff Activity: M. McCoy concluded her assignment as a Pantex resident inspector.

Conduct of Operations: Over the weekend, production technicians (PT) performing disassembly operations in a nuclear explosive cell skipped an appendix in their nuclear explosive operating procedure (NEOP). The PTs were performing operations per their NEOP until they reached a step that required entering an appendix and checking off that step. The PTs checked off the step but continued without entering the appendix. The PTs noticed the error after performing twenty additional procedure steps. At that point, they were unable to continue due to a tool in place—that should have been removed per the appendix—precluding further operations. The PTs then called their first line supervisors, who contacted CNS nuclear explosive safety, process engineering, and safety analysis engineering personnel to determine a path to safe and stable the unit. The PTs placed the unit in a safe and stable configuration later that day.

Safety Basis: CNS declared two potential inadequacies of the safety analysis (PISA) recently.

- Last week, CNS declared a PISA regarding discrepant weights used in the hazards analysis for specific transfer carts and transfer cart inserts. The weight discrepancy only applies to one weapon program. No operational restrictions were initially implemented based on the determination that the weight discrepancy was small and the current weapon response was bounding. CNS subsequently revised the PISA, noting a control applied to certain hazards may not be adequate, and implemented an operational restriction that requires two technicians to operate the transfer cart when it contains high explosives.
- This week, CNS declared a PISA due to new information on a separate weapon program. CNS identified that hazard parameters for special tooling used for operations in the vacuum bay were not complete. In response, CNS implemented an operational restriction to disallow use of three tooling items during the affected operations. CNS safety analysis engineering personnel were able to screen other hazards from needing operational restrictions due to the safety basis already including adequate controls.

Technical Safety Requirements (TSR): CNS process engineering and safety analysis engineering personnel noted a procedure allowance permitting trashcans within 6.5 feet of units in a work stand, which constitutes a TSR violation. They identified the issue while performing restart efforts for the weapon program. The event investigation group was able to identify the approximate period of time during which the TSR violation occurred as between 2012 (when the procedure was published) and June 2019 (when operations were halted). The trashcan was brought close to the unit to reduce the potential for contamination spread. The bay layout specific administrative control precludes any freestanding equipment, unless directed by procedure, from being placed within 6.5 feet of any unit in a work stand; PTs also must verify this layout requirement per their procedures. One of two layouts, as well as the 6.5 foot requirement itself, were not captured in the applicable procedures.