DEFENSE NUCLEAR FACILITIES SAFETY BOARD

December 9, 2022

TO: Katherine R. Herrera, Acting Technical Director
FROM: C. Berg, Acting Resident Inspector
SUBJECT: Pantex Plant Activity Report for Week Ending December 9, 2022

Conduct of Operations: Last week, while working within a nuclear explosive cell, two production technicians—the only two persons within the cell—received a request for support from a nearby facility. Subsequently, both technicians departed the cell but did not secure it. One of the technicians remained at the cell equipment interlock door while the other individual attempted to enter the nearby facility. At this point, the technicians lost line of sight with each other, and the one technician by the equipment interlock door was momentarily left with sole custody of the cell. These events represented a loss of two-person control of the facility.

Initially, given available information, CNS categorized the event as a violation of the two-person concept, resulting in an adverse effect on nuclear explosive safety. Upon further investigation, CNS personnel identified that no material of concern was present in the facility at the time. Consequently, they recategorized the incident as a management concern. As a corrective action, CNS will brief all production technicians on expectations associated with two-person control.

Grassfire: This week, a small grassfire—caused by avian wildlife contacting an electrical power line—occurred within the site boundary. Of note, the event did not harm any personnel and did not threaten any defense nuclear facilities. The fire department quickly responded to the event scene and extinguished the fire.

Operations: While conducting disassembly operations on a nuclear explosive within a cell, the production technicians found that the workstand had become stuck and would no longer raise the unit. The technicians appropriately paused operations, placing the unit into a safe and stable configuration. CNS engineering personnel evaluated the workstand and determined it would still fulfill its safety function. Further, CNS process engineering developed a nuclear explosive engineering procedure to remove the unit from the workstand and place it into an enhanced transportation cart. This week, the technicians successfully executed this procedure and removed the workstand from the facility. The workstand has been delivered to the special tooling warehouse for further investigation into the cause of the issue.

Planned Improvements: Last fiscal year, the Board's staff conducted a review of legacy conditions of approval and planned improvements that have existed at Pantex for over a decade (see 12/17/21 and 2/18/22 reports). Certain planned improvements involved the application of weapon response rules to hazard scenarios within the documented safety analysis without design agency concurrence, which is inconsistent with DOE Standard 3016 expectations. At the current time, CNS has resolved the majority of these weapon-response-related planned improvements. In particular, last week, CNS submitted a safety basis change package to NPO to address such a planned improvement within the linear accelerator safety analysis report. In most cases, including in the above change package, CNS has conservatively assumed a worst-case weapon response value of one for the hazard scenarios—which does not require design agency confirmation—and applied an existing control to prevent or mitigate the events.