

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

December 30, 2022

TO: Katherine R. Herrera, Acting Technical Director
FROM: C. Berg, Acting Resident Inspector
SUBJECT: Pantex Plant Activity Report for Week Ending December 30, 2022

Year in Review: A summary of some important activities at Pantex in 2022.

- Pantex completed the contractor and federal readiness assessments (FRA) associated with plutonium metal repackaging operations, which involves production technicians repackaging 3013 cans into new, certified Type B 9975 containers in preparation for offsite shipment. CNS is currently working to resolve pre-start findings stemming from the FRA, prior to commencement of operations.
- Nuclear explosive disassembly operations had been paused on one weapon program since 2019 because of internal charge generation hazards. In February 2022, NPO concluded that findings from the FRA to restart these operations had been satisfactorily resolved. Subsequently, CNS recommenced these disassembly activities.
- CNS successfully dispositioned various off-normal units in 2022, including two nuclear explosives found in a configuration—i.e., the position of an indicator—that differed from the expected condition and a unit stuck in a cell workstand with a broken rotation mechanism.
- As part of its implementation plan for Board Recommendation 2019-1, NNSA committed to replace wood-framed false ceilings in two nuclear explosive cells. CNS has completed construction activities in one of the cells—replacing the wood-framed false ceiling with one fabricated of metal—and returned the facility to an operational status. In October 2022, CNS started the replacement project within the second facility.
- As part of an improvement initiative to establish bounding special tooling weights, the CNS Production Tooling Department analyzed actual tooling weights and reported this data to CNS Safety Analysis Engineering. CNS completed the collection of actual tooling weights in 2022 and declared multiple potential inadequacies of the safety analysis when finding tooling with discrepant as-found weights as compared to the safety basis values.
- CNS completed various high pressure fire loop lead-in replacement projects, including within multiple nuclear explosive bays, two nuclear explosive cells, and a nuclear material facility. Additionally, CNS successfully completed a planned, extended power outage for a significant portion of the site, using the outage to perform necessary maintenance and upgrades on the electrical distribution system.
- CNS established a Production Optimization initiative to help recover from production delays resulting from challenges with facilities, staffing, and tooling. One CNS proposal sought to allow new operations on a weapon program containing conventional high explosive main charges. Specifically, the proposal would permit operations on one nuclear explosive in a bay while a second nuclear weapon is also staged in the facility in its handling gear. Pantex has delayed further evaluation of this proposal until 2023.
- Due to a contamination event over three decades ago, one facility at Pantex—previously used for nuclear explosive operations—has remained inactive. CNS is considering facility modifications in order to again use this facility as a nuclear explosive cell. At the current time, CNS is assessing whether these upgrades would constitute a major modification per DOE Standard 1189.