

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

September 13, 2024

TO: Timothy J. Dwyer, Technical Director
FROM: A. Holloway and C. Stott, Resident Inspectors
SUBJECT: Pantex Plant Activity Report for Week Ending September 13, 2024

Nuclear Explosive Safety Master Study (NESMS): This week, the resident inspectors attended a portion of the Facilities NESMS being conducted at Pantex, including attending presentations on and walkdowns of facility structures, systems, and components.

Nuclear Explosive Facilities: This week, a small piece of concrete landed on the work boot of a production technician who was standing by the equipment interlock door within a nuclear explosive bay. CNS facility engineering personnel did not identify any evidence of concrete spalling on the bay walls and ceiling in the vicinity of the debris. Due to other similar debris found in the area, CNS suspects the piece of concrete is left over from previous construction work performed in the facility that included drilling holes in the concrete for anchor installation.

Special Tooling: This week, while preparing to place a nuclear explosive into an enhanced transportation cart inside a special purpose facility, CNS quality assurance technicians encountered one locking mechanism that detached from the cart during handling. These particular carts are used to transport nuclear explosives—in a nearly fully assembled state—and these locking mechanisms are designed to help restrain the unit when inside the cart. Upon closer examination, the technicians noticed that the fasteners for the other locking mechanism were loose. After notification from the technicians, the CNS Special Tooling Program manager declared a stop work event for all operations utilizing the carts. Furthermore, CNS initiated an extent of condition review and discovered several carts with loose locking mechanism fasteners that will require repair. Currently, CNS has not indicated plans to change the design of the cart.

Additionally, CNS also discovered that a bomb stand in use within a nuclear explosive bay has become difficult to operate and has developed an intermittent sound during use. CNS plans to develop a nuclear explosive engineering procedure to permit removal of the item from the trunnions of the bomb stand so that CNS tooling personnel can investigate the cause.

On the same style bomb stand in a different nuclear explosive facility, CNS discovered that certain special tooling (i.e., a load spreader) has been damaged after colliding with a different portion of the stand during normal use. This tool is used to help spread the load of the bomb stand feet over the electrostatic dissipative floor tiles that were installed earlier this year, while still maintaining an electrical connection with the flooring (see 5/24/24 report). At the current time, CNS has indicated there may be a need to redesign the tool to avoid this interference.

Nuclear Explosive Safety: This week, within a bay, CNS radiation safety technicians utilized a calculator without the necessary reviews to designate it as Category Two electrical equipment. While this equipment does not connect to nuclear explosive electrical circuitry, it is required to undergo reviews and approvals to assert it does not impact nuclear explosive safety. CNS has currently reported this event as resulting in an adverse effect on nuclear explosive safety due to use of unanalyzed equipment and plans to perform an event investigation next week.