

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

October 6, 2023

TO: Timothy J. Dwyer, Acting Technical Director
FROM: A. Holloway, C. Stott, and C. Berg (acting), Resident Inspectors
SUBJECT: Pantex Plant Activity Report for Week Ending October 6, 2023

Staff Activity: K. Deutsch and T. Koshy attended the second week of the Approved Equipment Program Volume I Nuclear Explosive Safety (NES) Master Study (see 9/29/23 report). Also, the resident inspectors observed a drill conducted at the alternate emergency operations center.

Conduct of Operations: Last month, within a nuclear explosive cell, production technicians identified that multiple shifts had used the incorrect revision of a procedure to disassemble two nuclear explosives. The technicians realized the error prior to commencing operations on a third unit, when noting the procedure revision was different from that previously used. During the investigation, CNS participants identified that this incident reflected multiple instances where technicians did not correctly perform pre-operational checks, which include verification of the correct procedure revision. CNS participants also noted that the production section manager should ensure current procedure revisions are provided to the technicians during receipt of the unit. Per the timeline developed during the investigation, this incident occurred right after the site conducted an operational standdown to strengthen awareness on verbatim compliance.

Upon further examination after event discovery, the production section manager confirmed that the production technicians had used the previous revision of the nuclear explosive operating procedure. The new procedure revision only modified humidity requirements that were coincidentally met per current work practices. As a corrective action, CNS will brief all production technicians and quality assurance technicians on the requirement to verify procedure revision prior to commencing operations. CNS also plans to conduct a causal analysis to develop any further actions necessary to prevent event recurrence. Additionally, based on feedback from the Pantex Operations Process Improvement Team, the site is developing procedure validation software that should be implemented in the coming months.

Nuclear Explosive Operations: Last month, while conducting operations within a nuclear explosive cell, production technicians inadvertently struck and damaged a cable with equipment used during the process. In response, the technicians placed tape on the torn section of cable to establish a safe and stable configuration with concurrence from CNS process engineering, safety analysis engineering, and NES organizations. CNS is working with the applicable design agency to develop a path forward, including whether weapon response values remain applicable.

Special Tooling: While performing operations within a mass properties facility per the approved procedure, the technicians found that the Mass Properties Transfer Cart had malfunctioned during use. The transfer cart continued to support the unit; however, the trunnions would no longer move as designed. Site personnel appropriately paused operations and confirmed that the unit was in a safe and stable configuration. CNS is developing a nuclear explosive engineering procedure—involving the hoisting of the unit from the degraded special tooling and installing it on a functional transfer cart—along with the associated safety basis supplement. A NES evaluation will be conducted to assess the proposed recovery process.