

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

August 25, 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 August 25, 2023

Staff Activity: M. Sautman was on-site to support resident inspector activities, including assessment of multiple nuclear explosive safety (NES) change evaluations (NCE), evaluation of nuclear explosive operations, and walkdown of the Special Tooling Warehouse.

Nuclear Explosive Safety: Last week, CNS declared a Stop Work Event due to emerging concerns surrounding two weapon safety components on two programs (see 8/18/23 report). A NES study group convened to assess the safety implications of these emerging concerns.

For the first weapon program, the study group identified one opportunity for enhancement and three deliberation topics. The opportunity for enhancement focused on ensuring that NES representatives are cognizant of emergent information that could impact nuclear explosive safety (e.g., production waivers or change documentation released between the design agencies and Pantex). The resident inspectors note that a formal communication plan for NES representatives across Pantex and the design agencies could mitigate this concern. Additionally, while the study group did not identify any NES concerns with the emerging information on the safety component, the study group requested in one deliberation topic to be notified of results from future component testing to ensure critical safety attributes are not affected.

For the second weapon program, the study group identified two opportunities for enhancement and three deliberation topics. The study group did not document any NES concerns with the emergent information on the safety component and provided similar commentary as specified above. The additional opportunity for enhancement focused on the need to better understand any reduction in safety from the multiple recent NCEs conducted for this program. The NCEs examined issues on various weapon safety components and the study group questioned the potential for compounding issues.

NPO transmitted the NES evaluation results to CNS management and did not direct any required actions. However, NPO recommended that NNSA headquarters “review the production waiver process to ensure it cannot circumvent or impact NES” and “investigate the need for a study to understand any reduction in safety from the multiple individual NCEs conducted on the [second weapon program].” CNS has since resumed nuclear explosive operations on both programs.

Project Quality: Earlier this month, CNS Project Quality Engineering identified that a subcontractor had procured anchor bolts—from a vendor not on the Pantex Quality Approved Supplier List—and installed them within three nuclear explosive bays (see 8/18/23 report). These bolts serve a safety class function to ensure the installed equipment will remain in place during and after a design basis seismic event without failure. CNS recently tested the anchor bolts to confirm they met all critical characteristics (e.g., required strength). Testing results indicate the bolts can perform their safety function, allowing their acceptance and continued use. As a result, CNS removed the safety basis noncompliance categorization for this event.