DEFENSE NUCLEAR FACILITIES SAFETY BOARD

TO:Technical DirectorFROM:Pantex Plant Resident InspectorsSUBJECT:Pantex Plant Activity Report for Week Ending February 21, 2025

Nuclear Explosive Safety: The resident inspectors have attended portions of the ongoing nuclear explosive safety (NES) study for a certain weapon program, including technical briefings, observations of operations in a training bay, and deliberation of relevant topics that affect safety of nuclear explosive operations at Pantex.

This week, the resident inspectors attended the first portion of a NES change evaluation (NCE) related to recently discovered issues with the electrostatic dissipative (ESD) floor tiles installed in certain facilities late last year. After discovering the ESD tile issues (see 1/10/2025 report), PXD has completed several actions, which include issuing a stop work event to prevent all operations on electrostatic discharge sensitive weapon configurations from being performed in facilities with ESD tiles (see 2/7/2025 report). During this first portion of the NCE, PXD project team members presented an overview of recent preliminary tests that PXD has conducted to begin assessing the dissipative properties of the ESD tiles. The NCE will reconvene when the project team completes analysis for the specific operations that PXD plans to perform in facilities containing the ESD tiles. The resident inspectors note that the PXD electromagnetics group has invested significant effort in developing new test methods to specifically characterize the dissipative interface between the ESD tiles and grounding straps used on certain nuclear explosive transportation carts at Pantex.

Fire Protection: PXD special mechanical inspectors (SMI) opened three fire protection sectional valves without proper fire protection engineering approval. While these particular sectional valves do not supply water directly to defense nuclear facilities, Pantex personnel are required to obtain prior approval before manipulation of all fire protection sectional valves. PXD fire protection engineering grants approval for valve positions to ensure there is enough water supply across all the supported facilities, including defense nuclear facilities, to combat all potential facility fires. The SMIs originally shut the sectional valves after receiving proper approval, but subsequently opened the valves after the authorization had expired. During the event investigation, PXD personnel noted that the valves were intentionally left in a shut position for an extended period because keeping the downstream pipes empty of water offered freeze protection during especially cold weather. Following the cold weather protection period, personnel from the SMI group did not validate work authorization status prior to reopening the valves. PXD discussed plans to perform a causal analysis to prevent recurrence of this event.

Conduct of Operations: Earlier this month, PXD production technicians utilized an enhanced transportation cart after the prescribed preventive maintenance due date as indicated on the affixed sticker. The technicians acknowledged during the investigation that they misread the due date on the sticker prior to using the cart. PXD noted that prior to the expiration date, other technicians on previous shifts had prepared to use the cart but other issues occurred in the facility that delayed the operations. Currently, PXD plans to conduct a causal analysis, during which they will develop actions to prevent recurrence.