

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

January 24, 2025

TO: R.T. Davis, Acting Technical Director
FROM: A. Holloway and C. Stott, Resident Inspectors
SUBJECT: Pantex Plant Activity Report for Week Ending January 24, 2025

Qualification Board: The resident inspectors attended an oral board for a candidate PFO facility representative. This examination focused on various fields of knowledge required for this position. The board administered a thorough and rigorous examination.

Emergency Management: Earlier this month, the resident inspectors attended the quarterly Agreement in Principle emergency management meeting. The Agreement in Principle between the State of Texas and DOE improves communication and collaboration between Pantex, state agencies, and local organizations, which enhances the protection of the citizens in the surrounding area and the State of Texas should an emergency occur at Pantex. Discussion topics included emergency exercise planning, acquisition of equipment with new capabilities, incorporation of additional local resources, opportunities for training and collaboration, and forecast of upcoming seasonal hazards. The resident inspectors noted an impressive level of coordination and communication between the various entities.

Nuclear Explosive Facilities: Earlier this month, PXD facility engineering determined that two calculations used to analyze the effects of surface vehicle impacts on certain nuclear explosive facilities were inadequate due to a nonconservative methodology. PXD paused transportation operations in the vicinity of the affected facilities and declared a potential inadequacy of the safety analysis (PISA) for this issue. PXD safety analysis engineering (SAE) later determined that the PISA represented an unreviewed safety question due to the potential increase in the probability and consequence of impact scenarios evaluated in the safety basis. Subsequently, PXD implemented an operational restriction that requires maintaining a small standoff distance for certain site vehicles from the affected facilities. The resident inspectors have not seen evidence that the standoff distance would preclude postulated impact scenarios resulting from driver error or vehicle malfunction.

Safety Basis: Last week, PXD declared a violation of a Technical Safety Requirement (TSR) after SAE personnel discovered that a nuclear explosive operating procedure did not include steps to perform required vacuum fixture leak checks. The TSR requires verification of adequate vacuum fixture performance by measuring the equipment leak rate when affixed to the unit. Normally, prior to performing unit manipulation, the procedure specifies connecting the vacuum lifting fixture to the facility vacuum system to draw an initial vacuum and then removing the vacuum hose to assess the fixture leak rate over a prescribed period.

The site contractor included this required leak check in other sections of the operational procedure but did not prescribe a similar requirement after a step permitting optional repositioning of the fixture that could break the vacuum seal. Upon discovery, PXD removed the procedure from active status until it could be revised to include the proper TSR requirement implementation. PXD plans to conduct a causal analysis and perform an extent of condition review that includes operating procedures for all weapon programs that utilize vacuum fixtures.