

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

May 2, 2025

TO: Technical Director
FROM: Pantex Plant Resident Inspectors
SUBJECT: Pantex Plant Activity Report for Week Ending May 2, 2025

Nuclear Explosive Safety (NES): This week, stakeholders in NES convened for the annual NES Technical Exchange Forum. The resident inspectors participated via teleconference at Pantex. Presentations included conclusions from recent NES evaluations, knowledge gained from high explosive testing, lessons learned from operational experience in other industries, and assessments of certain nuclear weapon safety components and failure mechanisms.

Also this week, representatives from NNSA headquarters and NES Senior Technical Advisors (STA) convened virtually for the Annual NES STA Comment Review, which the resident inspectors attended. As described in NNSA Supplemental Directive 452.2C, *Nuclear Explosive Safety Evaluation Processes*, STAs are individual consultants who reinforce the independence of NES study groups by stimulating a broader, more complete consideration of NES concepts and suggesting opportunities for improving the NES evaluation process. STA comments, typically documented during the NES evaluation process, are intended as constructive input to NNSA management. The purpose of the annual review is to update the STAs on the disposition status of their comments and to facilitate relevant dialogue between the STAs and NNSA managers. During this meeting, NNSA headquarters personnel discussed how certain STA comments were being actioned (e.g., electrical categorization of certain equipment interfacing with nuclear explosives).

Safety Basis: PXD safety analysis engineering previously declared a Potential Inadequacy of the Safety Analysis (PISA) after discovering the weight of certain nuclear explosives, when combined with special tooling, exceeded values weapon response documentation for select operations (see 4/4/2025 report). As a result, PXD implemented operational restrictions to prevent the associated nuclear explosives from being introduced into these facilities. After discussing this PISA with the associated design agency, PXD received updated weapon response for these scenarios. PXD reviewed the updated documentation and determined that the hazards associated with the PISA are bounded by the updated weapon response and do not require additional controls. Subsequently, PXD incorporated the new weapon response into the safety basis, declared that the PISA did not represent an Unreviewed Safety Question, and removed the operational restrictions.

Nuclear Explosive Operations: This week, during nuclear explosive disassembly operations, PXD production technicians identified a particular odor. Upon discovery, the technicians initiated immediate-action procedures, which are prescribed actions taken when certain unexpected conditions are encountered during operations. As part of these immediate actions, the technicians paused operations, established a safe and stable configuration of the nuclear explosive with concurrence from PXD NES and process engineering personnel, and exited the facility. Subsequently, a PXD facility representative secured the facility to prevent further personnel entry. PXD is planning to discuss this event with the associated design agency to determine the likely source of the odor and the required actions to resume normal nuclear explosive operations.