

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

May 9, 2025

TO: Technical Director
FROM: Pantex Plant Resident Inspectors
SUBJECT: Pantex Plant Activity Report for Week Ending May 9, 2025

Safety Basis: Last week, PXD safety analysis engineering submitted a safety basis supplement (SBS) to PFO for upcoming construction and upgrades within a diesel fire pump house. The purpose of an SBS is for PXD to receive approval from PFO for some action, defined as a compensatory measure, that has either not been analyzed or otherwise approved in the safety analysis. Currently, the high-pressure fire loop (HPFL) limiting condition for operations requires at least two operable diesel fire pumps with independent water supplies for system operability. During the construction activities, PXD will only have two diesel fire pumps available. PXD proposed a compensatory measure within the SBS stating that the HPFL system can be considered operable with only one operable diesel fire pump and an available electric maintenance pump. Of note, one of the diesel fire pumps that will remain available during the construction activities shares a water supply with the electric maintenance pump. The electric power supply for this pump is not safety credited, and PXD fire protection engineering will have to prohibit operations in several facilities with this HPFL configuration, as the maintenance pump cannot supply enough water to support all the facilities within the material access area. PXD will also have to perform a hydraulic analysis to determine which facilities would be supported by this HPFL configuration. PFO is currently reviewing the contents of this SBS for approval.

Nuclear Explosive Operations: This week, the resident inspectors attended the event critique for a recent initiation of immediate-action procedures (IAP) after PXD production technicians identified a particular odor during nuclear explosive disassembly operations (see 5/2/2025 report). In the critique, PXD senior managers noted concerns with the implementation of the IAPs. Specifically, the IAPs include general instructions stating, “[o]nly the minimum number of nuclear explosive duty personnel required to accomplish the immediate-action procedures should remain in the work area.” After initiating the IAPs, all present technicians remained in the facility and were joined by a production section manager and process engineer for approximately an hour before exiting. During the critique, PFO personnel noted that responders stood directly in front of the facility blast doors during the IAP response, subjecting themselves to an unnecessary potential hazard. Additionally, PFO questioned the lack of procedural guidance to direct personnel in nearby facilities to either shelter in place or evacuate the area until the IAPs were exited. PXD nuclear explosive safety (NES) management discussed plans to evaluate the adequacy of the IAPs and the response from various organizations to this event. PXD is also continuing discussions with the associated design agency regarding the likely source of the odor, as well as whether this nuclear explosive meets the definition of an anomalous unit that is no longer bounded by the current NES evaluation.

NES Process Validation: This week, the resident inspectors observed a NES study group perform a validation of multi-application transportation attachment device operations for a specific weapon program. NES validations ensure actual operations are consistent with those demonstrated during the previously completed NES evaluation (see 7/28/2023 report). The study group did not identify any findings or opportunities for enhancement during the validation.