

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

July 4, 2025

TO: Technical Director
FROM: Pantex Plant Resident Inspectors
SUBJECT: Pantex Plant Activity Report for Week Ending July 4, 2025

Unauthorized Material: Previously, PXD discovered a contaminant in samples of a particular 35-account material that had been used to clean certain nuclear explosive components. The term *35-account material* refers to commercial material that is authorized for use during or in support of nuclear explosive operations. PXD declared a potential inadequacy of the safety analysis, determined that it represented an unreviewed safety question, and restricted operations in a certain nuclear explosive facility (see 5/30/2025 and 6/6/2025 reports). During an extent of condition review, PXD discovered a different contaminant in other samples of this 35-account material and subsequently expanded the ongoing extent-of-condition review (see 6/13/2025 report). Following this review, PXD resumed operations with this type of 35-account material.

Last week, PXD discovered another bottle of this 35-account material containing the first contaminant type. Upon further evaluation, PXD determined that this material with the contaminant had been used as recently as the week before discovery. In response, PXD suspended use of this type of 35-account material in that facility and collected all remaining containers. The level of contaminant in this particular sample of 35-account material was significantly lower than in previous discoveries. PXD determined this level to be acceptable based on their assessment of product requirements from the design agency. PXD plans to finalize a causal analysis for this series of events to prevent recurrence.

Contractor Readiness Assessment (CRA): Last week, the PXD CRA team concluded its review of new nuclear explosive operations on a certain weapon program (see 5/30/2025 report). After observing operational demonstrations and conducting interviews with associated personnel, the CRA team identified three pre-start findings, including (1) a hose whip hazard that was not properly controlled as required by a technical safety requirement, (2) multiple special tooling utilized during demonstrations that did not have all required documentation for use in a nuclear explosive facility, and (3) Category Two electrical equipment that did not have visual markings to denote it had successfully completed all required testing prior to use in a nuclear explosive area. Of note, the term *Category Two* refers to electrical equipment that is not intended to connect to nuclear explosive electrical circuitry but may make a mechanical connection or come into physical contact with a unit. Per the CRA report, PXD plans to address these findings through causal analysis meetings prior to commencing the Federal Readiness Assessment (FRA).

Additionally, for issues that do not rise to the level of a pre-start finding, the CRA team identified two weaknesses in the areas of procedural adequacy—due to setup instructions within a procedure not including required Category Two electrical equipment that is utilized in the operations—and verbatim compliance by the production, radiation safety, and industrial hygiene technicians. PXD only requires that a corrective action plan be developed for each weakness prior to commencing the FRA. Currently, PFO plans to conduct the FRA later this month.