DEFENSE NUCLEAR FACILITIES SAFETY BOARD

November 15, 2024

TO: Timothy J. Dwyer, Technical Director
FROM: A. Holloway and C. Stott, Resident Inspectors
SUBJECT: Pantex Plant Activity Report for Week Ending November 15, 2024

Nuclear Explosive Safety: Last week, a nuclear explosive safety (NES) study group convened to evaluate the proposed removal of requirements for a high explosive (HE) move window during loading and unloading of any insensitive high explosive (IHE) main charge configuration into HE transportation carts (HETC) in the ramps. The resident inspectors were in attendance for the evaluation.

The HE window restricts movement of high explosives to time periods when nuclear explosives (i.e., high explosives collocated with special nuclear material) are not being moved through the ramps at Pantex. By separating movement of HE and nuclear explosives, the HE window eliminates hazards from potential impacts between configurations.

This week, the NES study group transmitted the results of the NES evaluation to PFO. As stated in the memo, the NES study group documented one opportunity for enhancement, one deliberation topic, and no minority opinions. The study group determined the NES standards and other NES requirements continue to be satisfied.

In the documented opportunity for enhancement, the study group noted that the HE window eliminated potential hazard scenarios. The project team asserted that two existing administrative controls—walker/spotters and move authorization from the operations center—which were previously evaluated as defense-in-depth, are adequate positive measures to prevent relevant hazard scenarios.

Ultimately, the NES study group "determined the introduction of [IHE main charge configurations] outside of the HETC during [nuclear explosive] transportation introduces a new hazard with less robust safety case." While the NES study group did not identify a scenario that leads to NES consequences, they determined removal of the HE window and allowing loading and unloading of these configurations within the ramps during nuclear explosive transportation weakens positive measures relied upon for nuclear explosive safety.

Last week, the same NES study group also evaluated proposed changes to immediate action procedures (IAP), which are prescribed actions taken when an unexpected condition is encountered during operations. The proposed changes included clarifying roles and responsibilities for experts when evaluating actions required to achieve a safe and stable configuration during IAP situations.

The study group documented no deficiencies, four deliberation topics, no minority opinions, and determined the NES standards and other NES requirements continue to be satisfied. According to the memo, the study group endorses the proposed IAP changes and has no concerns with the proposed implementation plan.