

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

June 23, 2023

TO: Katherine R. Herrera, Acting Technical Director
FROM: C. Stott and C. Berg (acting), Resident Inspectors
SUBJECT: Pantex Plant Activity Report for Week Ending June 23, 2023

Staff Activity: Vice Chairman T. Summers and staff members A. Hutain, R. Oberreuter, Z. Demeke, and J. Anderson visited Pantex to observe a site emergency exercise. The visit also included tours of the Emergency Operations Center, Fire Department, nuclear explosive and special nuclear material staging and operating facilities, and high explosive production facilities.

Emergency Exercise: Pantex conducted a sitewide emergency exercise, which consisted of a simulated tritium release in a nuclear explosive bay due to a confrontation between production technicians. Exercise participants suffered simulated injuries and contamination, which required responses from multiple groups including radiation safety and security. The resident inspectors and visiting headquarters staff observed emergency response activities from the field, the Emergency Operations Center, and the incident command post.

Improper Exemption Selection: Earlier this year, CNS Project Engineering staff prepared a plan for a lift near nuclear explosive facilities. As part of the preparations, they completed Unreviewed Safety Question (USQ) documentation for the work but improperly selected a “routine maintenance” exemption. The USQ process provides the contractor a means to ensure that changes to, or work performed at, DOE facilities does not undermine the safety basis. In selecting this exemption, CNS bypassed a Safety Analysis Engineering review, which would have assessed the scope of the work against the safety basis. During the investigation, participants discovered that work packages for other aspects of the same project had used the same improper USQ exemption. Additionally, CNS determined that the work packages were not appropriately submitted through centralized review, which would have required other supporting organizations—e.g., Explosive Safety, Industrial Hygiene, Nuclear Explosive Safety, Facility Engineering, and Security—to evaluate the documentation. As a result, CNS initiated a pause of work for the project, conducted an extent-of-condition review for improper USQ exemptions, and established a standing order to pause the use of the “routine maintenance” exemption on USQ forms unless written concurrence from a qualified USQ screener has been provided.

Rainwater: Earlier this month, water leaked into a nuclear explosive facility through the roof during a heavy rain event. Due to experience with rainwater leaks in this location, CNS has discovered that presence of water could negatively affect the engineered electrostatic dissipative (ESD) properties of the floor. Immediately, for this facility, CNS issued a stop work event for operations that required a credited ESD environment. CNS then issued a restart authorization after testing the dissipative properties of the flooring and obtaining satisfactory results. Without Fire Protection Engineering approval, a Production Section Manager directed personnel to place a plastic bucket to capture the rainwater in order to protect the flooring and a computer cabinet from further water damage. NPO personnel questioned if this is a technical safety requirement violation due to the presence of a transient combustible not being properly controlled. CNS conducted an investigation and determined that the bucket was permissible per fire protection documentation but indicated that additional clarification within procedures may be warranted.