**DEFENSE NUCLEAR FACILITIES SAFETY BOARD**

April 28, 2023

**TO:** Christopher J. Roscetti, Technical Director
**FROM:** C. Stott and C. Berg (acting), Resident Inspectors
**SUBJECT:** Pantex Plant Activity Report for Week Ending April 28, 2023

**Staff Activity:** C. Stott traveled to Washington, D.C. to brief the Board.

**Probabilistic Seismic Hazard Analysis (PSHA):** Over the past few years, Rizzo International, Inc. under contract with Pantex has been developing an updated PSHA for the site. In July 2022, Rizzo International, Inc. provided its final PSHA report to CNS, including updated design basis earthquake ground motions for Pantex. CNS evaluated the provided information and determined that ground motions at lower frequencies may exceed the current seismic hazard parameters utilized in development of the safety basis. Given the design basis seismic hazard within the safety basis may not be bounding at all frequencies, CNS conservatively declared a potential inadequacy of the safety analysis (PISA) this week.

CNS still plans to assess ground motion coupling into the facility structures, systems, and components. This significant effort is necessary to ascertain new seismic demands for the facility structure/equipment and determine whether its design still has sufficient margin to perform its safety function—e.g., to not impact or drop the nuclear explosive during an earthquake. Since these evaluations are necessary to fully understand any safety ramifications from the PSHA update, CNS determined that no operational restrictions were necessary at the current time. Per the PISA notification, CNS found its path forward to be consistent with NNSA's direction in December 2022 on the use of the PISA process during PSHA updates.

**Conduct of Operations:** Earlier this week, during downtime that exists when performing gas sampling operations, the production technicians within a nuclear explosive bay proactively conducted procedure reviews. At this time, the technicians identified that they had missed a section of the previous nuclear explosive operating procedure (NEOP), which included an electrical test on a certain component of the nuclear explosive. During the event investigation, CNS personnel noted that, when first entering the facility, the production technicians did not verify the last suite of operations completed on the previous day (i.e., whether they had completed all steps within the previous NEOP). The technicians assumed that the previous procedure had been completed and commenced the next NEOP, skipping those certain operations. Of note, CNS participants at the event critique also stated that multiple opportunities were missed during execution of the second procedure to expeditiously identify the error. Upon discovery of the issue, the production technicians and production section manager made appropriate notifications to NPO and CNS personnel. Production technicians reached a stopping point within the operating procedure, ensuring a safe and stable configuration for the unit.

At the event investigation and critique, CNS categorized the incident as a management concern. Furthermore, as corrective actions for the event, CNS will require all technicians on this weapon program to complete the computer-based *conservative decision-making refresher course* and will brief this same group on unit record requirements. Finally, Pantex will work with the responsible design agency to determine a path forward for the affected unit.