

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

March 15, 2024

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

Safety Basis: Last week, while performing operations within a nuclear explosive facility, CNS production technicians noticed that a packaging insert—i.e., the top liner—was missing from a high explosive container. Per the Technical Safety Requirements (TSR), the high explosive container shall be equipped with a liner when transporting certain quantities of high explosives within the material access area ramps and corridors. Due to the discovery that a high explosive main charge had been transported without the complete container liner, CNS declared a TSR violation, paused operations, and established a safe and stable configuration.

At the event investigation, CNS personnel noted that explosives technology engineering technicians had packaged the high explosive container but inadvertently removed the top liner when reopening the container to verify the liner serial number. Furthermore, CNS personnel noted inadequate flow down of this specific requirement from the TSRs and identified that installation of the liner is not captured as a key step within the operating procedure. In response, CNS will brief explosive technology engineering technicians on TSR requirements associated with high explosive container packaging, as well as codify within the operating procedure the installation of the liner as a key step. Finally, CNS plans to conduct an extent of condition review to ensure appropriate implementation of this requirement within other procedures.

Nuclear Explosive Operations: This week, while performing an electrical resistance test on a unit, CNS production technicians obtained out-of-tolerance results when compared to the nuclear explosive operating procedure prescribed values. As directed by the procedure, the technicians initiated immediate-action steps, which included detaching the electrical tester and exiting the facility. Notably, the technicians, along with CNS process engineering and nuclear explosive safety personnel, reentered the facility to ensure application of a protective cover necessary to establish a safe and stable configuration. The resident inspectors discussed potential procedural enhancements following the event, including clarifying steps for protective cover installation.

Causal Analysis: This week, the resident inspectors attended a causal analysis meeting for a recent event where CNS production technicians inadvertently left special tooling inside of a nuclear explosive (see 12/29/23 report). The causal analysis process serves to identify event initiators and develop necessary corrective actions to prevent recurrence. Of note, during the meeting, CNS production technicians acknowledged that they were qualified for assembly operations while the executed nuclear explosive engineering procedure included some unit disassembly. Additionally, CNS personnel facilitating the causal analysis questioned whether including a tooling accountability requirement would have prevented this incident. Though this was the second occurrence of such an event (see 11/17/23 and 12/22/23 reports), CNS participants responded that they do not believe there is an ongoing, systemic issue and deemed that the suggested corrective action was not necessary. CNS concluded the causal analysis with one action to implement the reader-worker-checker process enhancement (see 1/12/24 report) to address the conduct of operations concern.