

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

June 7, 2024

TO: Timothy J. Dwyer, Technical Director
FROM: A. Holloway and C. Stott, Resident Inspectors
SUBJECT: Pantex Plant Activity Report for Week Ending June 7, 2024

Training Use Material: Previously, CNS introduced material that was labeled *training use only* (TUO) into a special nuclear material facility for readiness verification demonstrations. After completing the readiness activities and returning the facility to operational status, CNS discovered remaining TUO material in the facility and subsequently removed it. During the event critique, CNS reported that no additional TUO material was discovered during an extent of condition review that included all nuclear explosive and special nuclear material facilities. CNS thoroughly discussed contributing factors that led to the event. It was noted that while procedures prohibit TUO items in operational facilities within the material access areas, certain Pantex documents suggest such an allowance (e.g., one form requires TUO material to be removed prior to returning facilities to operational status). CNS plans to conduct a causal analysis to reassess requirements for locations where TUO material is allowed. Meanwhile, CNS management stated that until procedural requirements are clarified, TUO material will not be allowed inside the material access areas.

Conduct of Maintenance: This week, CNS personnel performed maintenance activities within an explosive facility during active operations without proper authorization. CNS requires that maintenance personnel obtain facility representative authorization prior to commencing work to preclude affecting active operations in both explosive and defense nuclear facilities. This practice ensures that the facility and operations are suitable for safe conduct of maintenance. Due to lack of proper notification, CNS facility representatives and associated personnel had not placed the in-use vacuum system in the proper mode for maintenance, which caused an automated, safe pause of high explosive machining operations.

During the investigation, CNS noted that, prior to performing work, maintenance personnel had completed the appropriate documentation and indicated proper authorization was granted; however, the maintenance personnel completed the documentation—after only attempting to contact the CNS facility representative—assuming the task was “routine work.” As a result, CNS plans to provide retraining for the associated maintenance personnel on proper conduct of maintenance.

Safety Basis: This week, CNS Safety Analysis Engineering declared a potential inadequacy of the safety analysis (PISA) after receiving formal declaration of new information from the Chief Engineer from one design agency. This new information is related to the identification of nonconservative weapon response values previously provided for one weapon program, specifically the mechanical insult to a particular component under certain conditions. In response, CNS instituted an operational restriction for certain non-destructive evaluations of the nuclear explosives to preclude lifting of equipment and materials over the units, preventing mechanical insults of concern to the specific component. In the PISA notification, CNS states that, for all other nuclear explosive operations to include multi-unit operations, there are existing controls in place that adequately control the associated hazards.