DEFENSE NUCLEAR FACILITIES SAFETY BOARD

April 26, 2019

TO: Christopher J. Roscetti, Technical Director
FROM: Zachery S. Beauvais, Resident Inspector
SUBJECT: Pantex Plant Activity Report for Week Ending April 26, 2019

DNFSB Staff Activity: C. Berg provided oversight of an emergency exercise (see below).

Emergency Exercise: NNSA conducted a nuclear weapon accident/incident exercise at Pantex, involving the participation of several offsite agencies including the NNSA Office of Secure Transportation and the Federal Bureau of Investigation. CNS held a full participation emergency exercise in coordination with this effort. The exercise scenario involved an offsite security event in combination with a radiological release from a commercial vehicle fire. The incident scene was under the control of offsite agencies, but the exercise scenario required Pantex emergency response organizations to respond. The exercise provided an opportunity for Pantex and these offsite agencies to further understand the response protocols of each group to the situation, providing lessons learned regarding establishment of early communication between the various responding parties. The CNS and NPO emergency managers within the Pantex emergency operations center noted the need for various technical authorities (e.g., nuclear explosive safety and safety analysis engineering personnel) to fully evaluate the risk posed by the proposed response actions. Notably, the CNS portion of the exercise extended over two days and required the emergency response organization to conduct multiple shift turnovers.

Nuclear Explosive Operating Procedures (NEOP): CNS process engineering released a NEOP for production use that listed the wrong revision of two pieces of special tooling. As standard practice, the NEOP specifies steps to verify that the tooling used in the bay matches the listed revision. Production technicians began using the procedure last month during operations to gather parts for an upcoming alteration and processed multiple units before discovering the discrepancy, despite the required verification steps. One affected piece of tooling, a fixture used to hold components during inspection, was issued to support this specific operation. The other piece of tooling, a plastic protector for a weapon component, has been in use for a number of years. Neither piece of tooling is credited to perform a safety-related function. The recent revisions do not appear to impact the ability of the tools to perform their designated functions. Production personnel reviewed the NEOP in question and intend to perform a full review of cell tooling on this program to verify that all tooling revisions that are currently in-use match the procedure. CNS management categorized the issue as a NES violation, as the specific tooling revisions have not been explicitly reviewed by an NNSA nuclear explosive safety study group.

Hazard Identification: While completing the hazard analysis walkdowns to support a planned special nuclear explosive operation, CNS safety analysts identified additional hazards that are present during routine operations on that program and the misapplication of a variety of process parameters. The identified discrepancies include the use of inaccurate tooling and material electrical properties, additional hazards during a pressing step, and the use of individual component weights during steps where combined weights would be more appropriate. CNS safety analysis engineering declared a potential inadequacy of the safety analysis last week and later determined the condition represents an unreviewed safety question. CNS management has paused weapons operations on the impacted program.