

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

April 20, 2018

TO: Steven A. Stokes, Technical Director
FROM: Ramsey P. Arnold and Zachery S. Beauvais, Resident Inspectors
SUBJECT: Pantex Plant Activity Report for Week Ending April 20, 2018

DNFSB Staff Activity: C. Berg and A. Hutain observed an emergency management exercise and observed nuclear explosive operations.

Emergency Exercise: CNS conducted a full participation exercise. The scenario simulated a severe weather event that resulted in damage to a loading dock facility and a loss of power to areas of the plant. The scenario assumed that the damage to the loading dock facility initiated a nuclear explosive handling accident, resulting in a high explosive violent reaction. The exercise demonstrated fire department, security protective force and radiation safety response to the event scene and radiation field monitoring team (FMT) contamination measurements offsite. Personnel from the NNSA Office of Emergency Operations and the State of Texas Department of State Health Services observed the exercise. Overall, the resident inspectors and members of the Board's staff found the exercise scenario to be a challenging and complicated test of the Pantex emergency response capabilities. Additionally, they noted improvements in the FMT response actions since the last exercise when it was tested (see 1/19/18 report).

Qualified Containers: CNS safety analysis engineering (SAE) determined that, based on the results on an NPO qualified containers assessment, the currently defined functional requirements of qualified special nuclear material containers may not provide the assumed level of protection for fire accidents. Based on this conclusion, SAE declared a potential inadequacy of the safety analysis. No new operational restrictions were put into place, as the compensatory measures enacted following the discovery of degraded AL-R8 containers (see 5/19/17 report), address these new concerns. In February, NPO extended the duration of the justification for continued operations (JCO) that specifies these compensatory measures. In their approval of that extension, NPO specified a condition of approval (COA) directing CNS to evaluate whether additional compensatory measures are required for container staging, in addition to transportation. CNS completed their analysis and concluded that no additional measures are necessary for staging, however, the sealed inserts and specific forklifts used in the area will be considered for inclusion as design features in future safety basis changes.

Nuclear Explosive Operations: The resident inspectors and members of the Board's staff observed nuclear explosive assembly and disassembly operations conducted in the cell facilities. The Board's staff discussed with production personnel procedural expectations for routing of air hoses, procedural allowances for the use of air wrenches to raise and lower the workstand trunnions, expectations of the "falling man protocol," and solicited suggestions from the production technicians (PT) on potential process safety improvements to reduce the falling technician hazard. During these discussions, the PTs and the production section manager noted differences in how specific steps are executed when the operations team is at minimum staffing compared to when additional PTs are available to support the process. For example, in the minimum staffing arrangement, the PT performing the reader function is more involved in performing operations steps and running tooling to and from the workstand. The resident inspectors have shared specific observations with CNS engineering and operations personnel.