DEFENSE NUCLEAR FACILITIES SAFETY BOARD

December 29, 2017

MEMO TO: Steven Stokes, Technical Director
FROM: Ramsey Arnold and Zachery Beauvais, Pantex Plant Resident Inspectors
SUBJECT: Pantex Plant Report for Week Ending December 29, 2017

Fire Department Drills: The Pantex documented safety analysis (DSA) includes a specific administrative control (SAC) that requires the fire department to establish water flow or suppress a fire in a nuclear facility by other means in the event that the automatic fire suppression system fails to provide adequate water. In a 2016 assessment, the DOE Office of Enterprise Assessments concluded that the Pantex fire department had not previously demonstrated compliance with this SAC. The fire department conducted a series of drills to address this finding. The drills simulated the response to a fire in a computer cabinet in a nuclear explosive area, and simulated extinguishing the fire using portable fire extinguishers. The resident inspectors observed drills conducted for two separate fire department shifts. Fire department personnel demonstrated their ability to make entry to a nuclear explosive bay and a nuclear explosive cell in full turnout gear and self-contained breathing apparatuses, and walked through their expected actions.

Safety Basis: CNS safety analysis engineers (SAE) recently completed their evaluation of new information identifying hazard scenarios on one program where hazard scenarios with unscreened weapon responses for high order consequences lack preventive safety class controls (see 11/17/17 and 12/8/17 reports). SAE concluded that the situation did not represent a potential inadequacy of the safety analysis. The evaluation acknowledges that although there are no controls selected for certain hazards, new credited controls are not necessary because the DSA was approved and the hazard disposition methodology was approved at the time the hazard analysis report (HAR) was written. SAE is in the process of rewriting the HAR for this program.

2017 Year in Review: DOE and CNS completed the following accomplishments this year, related to safe nuclear and nuclear explosive operations at the Pantex Plant:

- DOE and the CNS Emergency Management Department submitted the final two quarters of planned deliverables as part of the implementation plan developed to address the issues communicated in Board Recommendation 2015-1.
- In late 2016 and early 2017, two separate components fell from facility crane assemblies, prompting a series of walkdowns, evaluations and assessments related to the hazards posed by ceiling mounted appurtenances (see 12/9/16, 1/27/17 and 2/17/17 reports). These reviews addressed hazards related to facility lighting and sound dampeners, as well as those related to facility cranes and hoists.
- CNS returned two bays to nuclear explosive operations following conversion of the legacy ultraviolet flame detection system to an infrared based system. These are the first bays where the technology has been implemented.
- Following the discovery of corrosion on the exterior drums of AL-R8 sealed insert containers (see 5/19/17 report), CNS initiated a significant extent of condition review to evaluate the causes and impacts of the degradation.
- NPO authorized CNS to perform nuclear explosive operations to support a repair campaign and an alteration on two separate programs.