

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

September 1, 2017

**MEMO TO:** Steven Stokes, Technical Director  
**FROM:** Ramsey Arnold and Zachery Beauvais, Pantex Plant Resident Inspectors  
**SUBJECT:** Pantex Plant Report for Week Ending September 1, 2017

**DNFSB Activity:** DNFSB headquarters staff and the resident inspectors provided a briefing to the Board on the Pantex maintenance program and recent nuclear explosive safety studies.

**Radiation Exclusion Area Near Miss:** Subcontractor personnel installing new equipment in an explosives laboratory facility in Zone 11 entered a radiation exclusion area without approval. The radiation exclusion area is established outside a portion of the facility used to perform component non-destructive evaluation with a portable linear accelerator (LINAC). The area had been secured with a fence and locked gate to prevent entry prior to recent construction activities in the area, during which security personnel cut the lock. Warning signs with lights and horns are installed directly outside the facility. The outer fence was posted with radiation safety placards, stating that it is the boundary to a radiation area when the warning lights and horns are active, indicating that the LINAC is in use. Subcontractor personnel, accompanied by security personnel, entered through the outer fence before noticing the warning lights and horns. They turned back upon realizing the radiation hazard, with a total estimated exposure time of six minutes. The subcontractor and security personnel were not wearing dosimetry, but radiation safety estimated their doses to be less than one millirem based on previous measurements recorded in the area. CNS temporarily paused LINAC operations in this facility, conducted a fact finding and critique, and plans to perform a causal analysis.

**Missing Fire Barrier:** While performing a walkdown of a nuclear explosive vacuum chamber bay as part of an ongoing fire damper validation effort (see 1/24/2014, 8/28/2015, and 10/28/16 reports), fire protection engineering personnel noted missing dampers in two ducts extending between the bay and its associated mechanical room. The wall between these two areas is credited by the safety basis as a two-hour fire barrier, assuming the presence of dampers. The discrepant-as-found condition was determined by safety analysis engineering (SAE) to represent a potential inadequacy of the safety analysis. Upon discovery, fire protection engineering performed combustible sweeps and controlled access to the affected areas.

**Emergency Management Agreement-in-Principle (AIP):** The resident inspectors attended an emergency management AIP meeting in Armstrong County between officials from NPO, CNS, neighboring counties, the City of Amarillo, and State of Texas agencies. The AIP meeting serves as a forum for Pantex emergency management personnel to update the AIP members on current emergency management priorities including progress on completing Implementation Plan actions for DNFSB Recommendation 2015-1, *Emergency Preparedness and Response at the Pantex Plant*. Participants discussed topics including the status of memoranda of understanding between Pantex and stakeholders, upcoming site and local activities, and funding and staffing plans. During the meeting, Pantex personnel introduced plans to update the current emergency planning zones, discussed progress on revising their emergency planning hazards assessment, and shared technical details of the hazards. Pantex plans to share additional technical details of the hazards and related protective actions to AIP members in the coming months.