

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

September 15, 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 15, 2017

DNFSB Activity: D. Andersen and M. McCoy were onsite to attend Pantex safety systems training. C. Berg was onsite to attend training for an upcoming nuclear explosive safety study of the modular vacuum chamber facility.

Qualified Containers: The resident inspectors observed quality assurance technicians (QATs) perform inspection and surveillance of the first AL-R8 sealed insert container sampled as part of an extent of condition review following the discovery of corrosion on multiple containers (see 5/19/17 report). The extent of condition inspections are being performed outside the normal surveillance cycle dictated by the pit quality sampling program, and include additional steps to photograph all container surfaces. The first containers sampled as part of this campaign contain the lowest thermal output pit types, although containers with each pit type will be inspected as part of the campaign. QATs found no evidence of corrosion or damage on the first inspected container. The extent of condition surveillances will continue for the next several months.

Vacuum Chamber Fire Protection: The resident inspectors attended a critique to discuss the recent identification of missing fire dampers in nuclear explosive vacuum chamber bay ducts (see 9/1/17 report). Pantex personnel presented a timeline of events showing that fire protection engineering (FPE) personnel had previously identified the missing dampers as part of a 2013 evaluation to identify missing or discrepant fire penetration seals. FPE modified the fire hazards analysis to move the credited fire barrier to a separate wall, but the fire barrier control owner and local change control reviews of the FHA revision failed to identify that the missing barrier invalidated the safety basis control strategy for specific fire scenarios.

This week, FPE identified that the wet pipe fire suppression system (FSS) installed in the control room area of the vacuum chamber bay is not served by the safety-class water supply. The safety basis relies on the control room FSS to perform a safety-class function to prevent the spread of fires from the control room to the operating bay. Safety analysis engineering determined the discrepant-as-found condition represents a potential inadequacy of the safety analysis. Facilities management is maintaining the supply control valve in the open position during normal operations, and will address impairments of the control room FSS using the existing limiting conditions for operation actions specified for the operating bay. Operations continue in the facility under restrictions for the control room FSS and the missing dampers.

Severe Weather Recovery: Personnel from various plant organizations have returned all nuclear facilities, save for one linear accelerator (LINAC) bay, to operations following recent flooding (see 8/18/17 report). The safety-class electrostatic dissipative floor coating installed in this LINAC bay failed resistance testing performed as part of the recovery. Engineering personnel hypothesize that moisture from the flooding may have caused the floor coating to expand, increasing its resistance outside an acceptable range. Maintenance and facilities personnel have installed dehumidifiers in the area. Maintenance electrical workers retested the floor this week, and continue to receive unacceptable readings. They will continue to run the dehumidifiers and plan to retest the floors.