

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

March 10, 2017

MEMO TO: Steven Stokes, Technical Director
FROM: Ramsey Arnold and Zachery Beauvais
SUBJECT: Pantex Plant Report for Week Ending March 10, 2017

Grass Fire: The Pantex fire department responded to a grass fire located outside the northwest corner of the plant property, approximately three to four miles from the nearest nuclear facilities in Zone 4 and Zone 12, respectively. Sustained wind speeds exceeded 30 mph and gusts exceeded 50 mph at the time of the fire, allowing flame fronts to move quickly, complicating fire-fighting efforts. The fast moving flames overtook a fire truck, causing damage to the equipment. In addition to the fire department response, the Pantex operations center activated a Senior Management Advisory Response Team (SMART) and the fire department support team to assist with the response. A SMART is deployed for operational events with limited scope and severity, where ERO activation would not be appropriate. The fire did reach Pantex property, but did not burn grass or reach the area inside the property protection fence-line. The fire was fully contained and extinguished by the following morning. One firefighter sustained burns during the response, requiring brief hospitalization. Pantex emergency services plans to investigate the injury and determine the factors contributing to the equipment damage.

High Pressure Fire Loop (HPFL): Following questions raised during a walkdown performed by NPO and DNFSB personnel last week (see 3/3/17 report), CNS determined that weekly HPFL pump house temperature surveillances, as required by the documented safety analysis (DSA), had not been previously performed with a calibrated thermometer. Due to the possibility for uncertainties in temperature measurements made with uncalibrated equipment, CNS determined previous surveillances had not been properly completed. Maintenance personnel subsequently performed temperature measurements with calibrated equipment and determined that the pump houses met the specific operability requirements. NPO raised additional questions regarding the completion of a shiftly surveillance, relied upon as a compensatory measure to address a recent positive unreviewed safety question related to the HPFL (see 2/24/17 report). The compensatory measure, which carries the same weight as a technical safety requirement (TSR), requires utilities personnel to verify pump house temperatures every eight hours when the system is in a state of limited operability. CNS determined that the surveillance was being completed every 12 to 24 hours when the condition applied, violating the standing order and the TSR.

Ceiling-Mounted Appurtenances: During field inspections performed to address NPO questions on a recent engineering evaluation of ceiling mounted appurtenances (see 2/3/17 report), CNS system engineers discovered sound dampeners with degraded connection points. The dampeners, acoustic cylinders weighing approximately six pounds, are attached to the ceiling with course steel wire, looped through eyebolts attached to the dampener body. Analyses performed to demonstrate that these items will remain in place, and not impact a unit, following a design basis seismic event assume the mounting wire is twisted closed. Dampeners were found in multiple nuclear explosive bays to have fully untwisted wires, representing a noncompliance with the DSA. The dampeners have been installed since the facility was built, over thirty years ago, and CNS engineering determined the wires had likely never been fully closed. System engineers first evaluated the seismic response of these items approximately ten years ago. A full, field validation of the installed configuration was not performed at that time. The affected dampeners have been removed, allowing CNS management to resume operations.