

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

January 17, 2020

TO: Christopher J. Roscetti, Technical Director
FROM: Zachery S. Beauvais and Miranda McCoy, Resident Inspectors
SUBJECT: Pantex Plant Activity Report for Week Ending January 17, 2020

DNFSB Staff Activity: C. Berg, D. Andersen, and Y. Li performed design and construction oversight including walkdowns of a high pressure fire loop lead-in replacement project, the Pantex concrete batch plant, and a recently upgraded loading dock used for nuclear explosive handling. The staff members also discussed lines of inquiry related to construction quality assurance and structural design with NPO and CNS personnel.

The resident inspectors attended ongoing meetings to support a potential redesign of the directives framework governing nuclear explosive operations and supported a site visit by the Government Accountability Office.

Electrical Distribution: Areas of the plant experienced a brief electrical interruption this weekend. CNS utilities personnel switched load from the affected circuit to a redundant circuit to restore power. During the interruption and switching, all automatic transfer switches worked as designed. Additionally, CNS fire department responded to, and reset, a number of trouble signals associated with affected fire detection and suppression control signal systems. During their investigation of the interruption, CNS engineering personnel discovered smoke coming out of an electrical manhole, indicating a likely component failure in that location. Based on past system performance and the age of components in-service, CNS engineering personnel suspect a failed connection led to the outage. They have thus far been unable to safely access the manhole to confirm. CNS utilities and engineering are planning an outage to perform further inspections and system maintenance. The power interruption follows a similar issue in December 2019 that was caused by a failed connection (see 12/20/19 report).

Conduct of Operations: The resident inspectors observed CNS personnel perform a critique on a series of procedure violations that occurred in a non-nuclear, explosives machining facility. The pre-operational checks for the facility require technicians to ensure that when any interlocked door is open, the remaining doors of the common system remain locked. The interlock in one bay failed this check early last week. The technicians noted this deficiency in the remarks section of their procedure but failed to note it in the facility logbook or notify their facility manager, as required by their operating procedure. Explosives machining personnel typically discuss facility deficiencies during their daily standup meeting. Discussion of interlock failure did not occur. The error was repeated for five days before operations and facility management discovered the issue, implemented administrative controls to prevent inadvertently opening corresponding blast doors, and initiated a work order to repair the interlocks. An explosive technology manager noted during the critique that the doors had not been inadvertently opened during the period of time where the interlocks remained out of service. While the incident occurred in a non-nuclear area, the explosive machining operations are subject to the requirements of the plant-wide conduct of operations manual and the pre-operational checks follow the same format as in nuclear explosive areas of the plant and include a similar check on blast door interlocks.