

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

October 16, 2020

TO: Christopher J. Roscetti, Technical Director
FROM: Miranda McCoy, Resident Inspector
SUBJECT: Pantex Plant Activity Report for Week Ending October 16, 2020

Compressed Air Supply: While performing a material condition walkdown of the facility compressed air supply, CNS system engineers identified two auxiliary air compressors that were not appropriately isolated from the safety class facility compressed air system. The two compressors were discovered in an equipment room servicing a set of nuclear explosive cells. The compressors were connected to the facility air system such that they could provide additional pressure to the system and bypass the over-pressure controls. Pantex's technical safety requirements (TSR) require that the compressed air supply be designed and qualified to remain below a specified working pressure. CNS determined that the event constituted a documented safety analysis noncompliance. Additionally, CNS personnel determined that the two air compressors were not controlled under facility configuration management.

Event investigation participants were able to trace the installation date of the auxiliary air compressors to at least twenty years ago, predating the facility compressed air TSR; however, based on the age of the compressors, they were likely installed much earlier. The event investigation did not discover the installation date or any design or as-built drawings for the auxiliary air compressors. In response to the discovery, the facility representative locked the valve between the auxiliary compressors and facility compressed air system, decompressed the line, and removed power to the compressors. System engineers are performing an extent of condition review to identify any additional air compressors inappropriately tied into the facility compressed air supply, and have submitted a work order to permanently isolate the auxiliary compressors from the system. Last month, CNS engineers discovered an issue with a damaged compressed air line in the facility while performing the same material condition walkdown (see 9/4/20 report).

Onsite Construction: A subcontractor drilled into a wall within the material access area prior to receiving the required approved penetration permit. The subcontractor had been performing previous work in the area, and had discussed necessary changes to the penetration permit for upcoming drilling. Due to communication errors, the subcontractor drilled seven holes in the facility wall prior to receiving the permit. CNS and its subcontractors have experienced several similar incidents over the past year. CNS craft workers performed work without entering appropriate limiting conditions for operations or having an approved work order (see 8/28/20 report); and subcontractors damaged a structural I-beam using a winching approach that was not outlined in the permit but also not specifically disallowed (see 8/7/20 report). CNS is actively conducting a formal root cause analysis to address similar events, focusing on impacts to sources of energy during construction and excavation onsite (see 9/18/20 report).

Fire Detection and Suppression Control System: The Pantex Fire Department responded to an infrared (IR) flame detector fault over the weekend. CNS has experienced over a dozen faults with the newly installed IR detectors and Det-Tronics panels beginning approximately a year ago (see 7/10/20 report). CNS is currently working to troubleshoot the cause of the faults.