

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

January 1, 2021

TO: Christopher J. Roscetti, Technical Director
FROM: Miranda McCoy, Resident Inspector
SUBJECT: Pantex Plant Activity Report for Week Ending January 1, 2021

Technical Safety Requirements (TSR): The Pantex TSR requires that hose whip controls be implemented for specific configurations of nearly every weapon program; the hose whip controls ensure that pressurized air hoses are restrained and therefore precluded from potentially impacting units or weapon components. While performing disassembly operations on one unit, technicians determined that the unit failed a gas sample step, requiring that technicians enter an infrequently used procedure appendix in order to transport the unit to a vacuum chamber facility and continue operations. CNS technicians completed vacuum chamber operations and the unit was returned to its nuclear explosive disassembly bay. However, approximately a week later during a review of procedure changes, CNS process engineers received comments from production technicians requesting hose restraint steps be added to the procedure appendix. Process engineers subsequently determined that hose restraint controls were necessary for the operations laid out in the appendix, and should have been present for the recent disposition of the failed gas sample unit. CNS declared a TSR violation in response to the event. During the event investigation, participants were able to trace the procedure omission back to 2013. At that time, CNS published a justification for continued operations (JCO) that required the implementation of hose restraint controls; however, the procedure in question was not identified as an implementing document for those controls. Event investigation participants further determined that one additional unit had been processed through the appendix since the publication of the JCO

2020 Year in Review:

- The Pantex Plant continued to experience a high number of conduct of operations events (see 8/26/20 and 6/19/20 reports). In 2019, NPO identified an adverse trend in events and transmitted correspondence to CNS (see 12/27/19 report). This year, both Pantex and Y-12 personnel created a joint disciplined operations counsel in a long-term effort to reduce conduct of operations and conduct of engineering events at both sites.
- A working group composed of NNSA, CNS, and design agency personnel released phase one recommendations for long-term Pantex safety basis changes. The recommendations include development of a Pantex-specific alternate safety basis methodology, changes to the authorization basis approval process, modifications to facilities to prevent hazards, and engaging design agencies to preclude Pantex-specific hazards.
- CNS personnel noted abnormalities in dosimetry readings, eventually leading to placing Pantex dosimetry and dosimetry equipment out of service (see 9/11/20 report). Following several short term measures, including temporarily extending dosimetry replacement cycles, CNS was able to procure dosimetry from Y-12 this fall.
- CNS emergency management conducted two novel exercises this year; specifically, the first example of an exercise at a defense nuclear facility focused on an electromagnetic pulse event, and one of the first across the complex to test emergency response while implementing COVID-19 controls and limitations (see 8/21/20 and 1/10/20 reports).
- CNS and NPO completed readiness activities for two different first production capability unit options for one weapon program (see 7/31/20 report).