

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

December 19, 2018

TO: Christopher J. Roscetti, Technical Director
FROM: Zachery S. Beauvais, Resident Inspector
SUBJECT: Pantex Plant Activity Report for Week Ending December 21, 2018

Safety Basis: This month, CNS engineering personnel identified a number of potential inadequacies of the safety analysis (PISA). The declared PISAs cover a range of subject matter areas and are described in greater detail below.

CNS safety analysis engineers (SAE) identified discrepancies between the currently implemented weapon response on one weapon program and the draft weapon response provided by the applicable design agencies. The design agencies developed the draft information to support deployment of a new electrical tester. Operations on this program are paused, awaiting implementation of specific operational restrictions.

As part of an extent of condition review of component weight discrepancies (see 9/7/18 report), CNS engineering and the weapon design agency determined that the weights of the firing system and various valve assemblies described in the safety analysis were not bounding. The higher component weights exceeded the bounds of the weapon response rules that were previously applied to hazards involving the components, raising the question of whether additional controls are necessary. CNS SAE determined that the discrepancy with the valve assemblies represented an unreviewed safety question, while the firing system weight discrepancy did not. Nuclear operations on the impacted weapon program are not currently authorized.

As part of an ongoing extent of condition review (see 11/9/18 report), CNS structural engineers determined that the snow loading analysis for the interlock portion of various special nuclear material bays did not include potential additional loading due to snow drifts. CNS management has specified that no additional nuclear material may be introduced to certain bays and that operations in other bays must be paused when snow may accumulate.

Falling Technician Hazards: This week, CNS implemented new compensatory measures designed to reduce the likelihood of falling technician impacts during nuclear explosive operations. CNS developed these measures in a recent safety basis supplement for legacy issues (see 9/21/18 and 9/26/18 reports) and a justification for continued operations generated to address a separate issue (see 2/23/18 report). The new measures include requirements, among others, that facilities personnel must mark tripping hazard exclusion zones and approach lines in each facility, and that production technicians must follow the approach lines. The compensatory measures are to be implemented with a level of rigor commensurate with specific administrative controls. The CNS readiness department completed an implementation verification review (IVR) and identified one prestart finding: the controls had not yet been implemented for bay operations. NPO and CNS agreed to proceed with cell implementation only at this time. Prior to implementation, all plant personnel with access to the Zone 12 material access area completed training on the controls, requiring them to read the text of the new control as written in the safety basis supplement. The IVR team conducted level of knowledge interviews with cell production technicians and found that they were knowledgeable of the control requirements.