

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

August 14, 2020

TO: Christopher J. Roscetti, Technical Director
FROM: Miranda McCoy, Resident Inspector
SUBJECT: Pantex Plant Activity Report for Week Ending August 14, 2020

Safety Basis: NPO reviewed and approved an evaluation of the safety of the situation (ESS) for an inadequate hazard analysis report (HAR) for one weapon program. In June, CNS safety analysis engineering determined that the omission of specific loading and unloading operations from the HAR constituted an unreviewed safety question (see 6/12/20 report). These operations were authorized and proceduralized in an appendix to a nuclear explosive operating procedure (NEOP). CNS removed the appendix from the NEOP, and the ESS confirms that the removal precludes the associated unanalyzed hazards and no compensatory measures are required. NPO additionally approved an updated facility roof snow loading analysis. The analysis constitutes the 10-year natural phenomena hazard update for snow load hazards and will be used to inform facility-specific calculations. Last year, NPO approved a justification for continued operations to address the ability of existing facilities to withstand snow loads (see 3/29/19 report).

Blast Door Interlock (BDI): While performing start-of-shift facility checks, a CNS facility representative (FR) noticed that a BDI override light was illuminated for a nuclear explosive bay. The FR determined that the BDI had failed, likely due to loss-of-power to the BDI control panel, and conservatively contacted the operations center to enter the limiting condition for operation (LCO) for an inoperable BDI system. The FR implemented the LCO by restricting the facility limit and keeping a facility key in his possession. In further investigation, the bay was found to have no material of concern, and therefore the facility was not in a mode that required remaining in the LCO.

Radiation Safety: Subcontractors performed work in a radioactive material area (RMA) without required dosimetry or general employee radiation training. Additionally, a CNS construction subcontract technical representative (STA) was present in the RMA without dosimetry. Prior to the incident, a STR had submitted a request to remove radioactive material and down-post the RMA to prepare the area for subcontractors to work in the vicinity. While addressing the request, a radiation safety supervisor discovered the subcontractors and STA already in the area. The area had appropriate RMA postings, and the pre-job brief involved a walkthrough of the activity hazard analysis, which included a general statement that dosimeters were required to be worn in designated areas. In order to allow work to proceed, radiation safety surveyed the area and reduced the size of the RMA. In March, due to ongoing issues with processing dosimetry at Pantex, radiation safety reduced the requirement to wear a dosimeter from anywhere in the material access area to just within RMAs or areas of greater risk.

Nuclear Explosive Safety: Pantex weapons quality personnel noted incorrect engravings on a joint test assembly unit during a quality hold point. Fact finding participants traced the error to late 2019; when performing the engraving, technicians omitted the word “inert” as required in the procedure. The subsequent step required verification of engraving depth and location, but not the engraving language itself. The incomplete engraving constitutes a violation of the nuclear explosive safety order requirements for nuclear-explosive-like assembly markings.