

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

November 3, 2017

**MEMO TO:** Steven Stokes, Technical Director  
**FROM:** Ramsey Arnold and Zachery Beauvais, Pantex Plant Resident Inspectors  
**SUBJECT:** Pantex Plant Report for Week Ending November 3, 2017

**DNFSB Staff Activity:** C. Berg and M. McCoy observed the W88 Nuclear Explosive Safety Study (NESS). NESSs on W88 and the modular vacuum chamber facility started this week.

**Safety Basis:** Following receipt of weapon response information from the design agency, CNS safety analysis engineering declared a potential inadequacy of the safety analysis on one weapon program. The information was further evaluated and determined to represent a positive unreviewed safety question. Process engineering has placed an administrative hold on the nuclear explosive operating procedure, restricting impacted operations.

NPO approved a safety basis change package addressing increased consequences from pneumatic hose whip impacts on two weapon programs, one with insensitive high explosive charges and the other with conventional high explosive charges (see 6/23/17 and 6/30/17 reports). The change package formalizes controls to restrain air hoses through use of credited plastic wraps, implemented via a specific administrative control. Additionally, NPO approved a justification for continued operations (JCO) in the existing vacuum chamber facility following the identification of discrepant fire barriers and fire suppression system (FSS) water supply (see 9/1/17 and 9/15/17 reports). The JCO requires removing transient combustible materials from affected areas and maintaining the FSS consistent with the requirements for credited systems.

**Fire Barrier System:** CNS maintenance personnel and construction subcontractors completed the installation of a fire damper in a heating, ventilation and air conditioning duct within the Special Nuclear Material (SNM) Component Requalification Facility (SNMCRF). The absence of a fire damper, needed as part of the credited fire barrier, was discovered in October 2016 (see 10/28/16 report). The facility has operated with compensatory measures, formalized as part of a JCO (see 11/10/16 report), since that time. During the installation of the fire dampers, subcontractor personnel cut through the ceiling of a non-nuclear storage area within the facility. Fire protection engineering and facilities personnel have removed and restricted combustible materials from this room, and the subcontractor plans to repair the affected area.

**SNM Staging:** Last week, the software system used by CNS to enforce facility material limits and authorize nuclear material movements, the Integrated Production Planning and Execution System (IPRO), disallowed transportation personnel from executing a movement of SNM containers. The movement was planned to support an ongoing surveillance of pit containers (see 9/15/17 report). Upon further evaluation, production integration personnel determined that the thermal output for the pit within the container was higher than indicated on the container label or assumed by transportation. To maintain an even thermal loading within SNM storage magazines, the plant restricts placement of containers with high thermal output pit types on the upper level of storage arrays. This restriction is not a credited safety control. IPRO disallowed the specific movement since it would have violated this restriction. Production integration personnel performed an immediate extent of condition review and determined that numerous containers are mislabeled with the wrong thermal code, and stored in restricted locations. CNS has placed a temporary hold on SNM movements in and out of impacted magazines.