

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

March 9, 2018

MEMO TO: Steven Stokes, Technical Director
FROM: Ramsey Arnold and Zachery Beauvais, Pantex Plant Resident Inspectors
SUBJECT: Pantex Plant Report for Week Ending March 9, 2018

DNFSB Staff Activity: J. Anderson and C. Scheider observed and reviewed the warhead measurement campaign nuclear explosive safety study.

Procedure Adherence: Quality assurance technicians (QAT) paused nuclear explosive radiography operations following determination that the wrong film was used in a series of radiographs, resulting in a lighter than usual image. The operating procedure used to perform the radiograph is to be executed at the critical use level, the most stringent use category at the Pantex plant, requiring strict procedural adherence and placekeeping. The radiographs are used, in part, to implement a specific administrative control (SAC) to determine the position of sensitive components prior to disassembly operations. During the critique held to discuss the event, the QATs informed the resident inspectors that the images, despite being lighter, could have allowed successful implementation of the SAC steps, completed later in the process.

Qualified Containers: The issue resolution team established to investigate the causes and determine the extent of condition for corrosion on AL-R8 containers (see 5/19/17 report) released their final report last week, culminating six months of evaluation, inspection, research and analysis. The team concluded that the operating life of the external containers used for the two highest thermal output category items is significantly lower than originally estimated, however, there are no indications that the design life of the sealed insert or outer containers for other items is adversely impacted. Based on their conclusions regarding the viability of the external containers, the team recommended accelerated repackaging of the highest risk groups of containers, combined with a parallel effort to design a new container for long-term use. In coming to their recommendations, the team evaluated the risks associated with radiation exposure to technicians and additional handling of the nuclear material as well as throughput challenges in the broader special nuclear material storage mission. The team plans to collaborate with the design agencies to revise the surveillance protocol used for these containers. The recommendations of the team are not final and will be considered by NNSA decision makers when determining a long-term strategy.

Electrostatic Discharge (ESD) Hazards: Following the failure of plastic cable ties used to secure air hoses supplying facility hoists (see 3/2/18 report), CNS safety analysis engineering (SAE) declared a potential inadequacy of the safety analysis, as the cable ties are part of the facility crane assembly design feature. Following further evaluation, SAE determined that the new information represented a positive unreviewed safety question and developed an evaluation of the safety of the situation (ESS) to address the new hazard. The ESS, supported by an engineering evaluation, concludes that the potential hazards due to cable ties will be effectively precluded by rerouting the air hoses. The ESS does not distinguish hazards based on weapon program. NPO is reviewing the ESS.