

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

February 21, 2014

MEMO TO: Steven Stokes, Technical Director
FROM: Thomas Spatz, Pantex Site Representative
SUBJECT: Pantex Plant Report for Week Ending February 21, 2014

DNFSB Staff on Site: J. Anderson and J. McComb were at the Pantex Plant this week to observe the W78 Nuclear Explosive Safety Study.

On-Site Transportation Configuration Technical Safety Requirement (TSR) Violation: Babcock & Wilcox Technical Services Pantex, LLC (B&W) declared the TSR violation because Production Technicians (PTs) had placed a unit into an Enhanced Transportation Cart-1 (ETC-1) and sent the unit to the mass properties facility without installing a metallic protective cap on the unit's electrical connector. The cap is credited as part of the faraday cage in the on-site transportation configuration to protect the unit from an electrical insult. B&W categorized this event as having an adverse effect on nuclear explosive safety because it resulted in the on-site transportation of a unit in an unauthorized configuration. B&W PTs installed the protective cap onto the unit while it was in the ETC-1 in the mass properties facility, to place the unit in a safe and stable configuration.

At the event critique, the B&W PTs involved in the event described the circumstances that led to the step in the nuclear explosive operating procedure (NEOP) not being performed. Shortly after reading the step to install the protective cap, the phone rang in the facility. When the PTs performing the work returned to the unit, they asked the reader for the next step. The applicable B&W work instruction specifically requires that the reader monitor the work, as reasonably as possible, to assure the operation is being performed correctly. The worker acknowledges step completion by stating "Check" and the reader verifies worker(s) has completed step when worker has verbally stated "Check". The reader then stamps-off, or checks-off, that the step has been completed. B&W reviewed the NEOP and noted that the step had been checked-off as complete. B&W will be holding a causal analysis/mistake proofing meeting in the near future.

Suspect Fire Penetration Seals: B&W Fire Protection personnel discovered a suspect fire penetration seal that contained two steel pipes and one polyvinyl chloride (PVC) pipe in the outer wall of a special nuclear material staging facility. The seal was certified as having three steel pipes during the latest fire penetration seal replacement effort. (See reports identified below.) B&W's subcontractor can certify a PVC pipe as long as there is enough caulking material in the seal to expand and fill the gap produced by the melting of the PVC pipe during a fire.

B&W has entered this discrepant as-found condition into their new information process. There have been three positive Unreviewed Safety Question determinations for suspect fire penetration seals (see reports for 11/11/2011, 8/17/2012, and 11/30/2012). A Technical Safety Requirement (TSR) violation was declared the last time newly installed penetration seals were discovered to be suspect (see report for 8/16/2013). B&W has recently revised their TSR document such that discovery of a discrepant as-found design feature is no longer a TSR violation. The NNSA Production Office-approved USQ process does not require B&W to declare a Potential Inadequacy in the Documented Safety Analysis if they either remedy the discrepant as-found penetration seal, or remove the nuclear material from the facility, within three days.