

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

March 7, 2014

MEMO TO: Steven Stokes, Technical Director
FROM: Thomas Spatz, Pantex Site Representative
SUBJECT: Pantex Plant Report for Week Ending March 7, 2014

DNFSB Staff on Site: R. Arnold and K. Deutsch were at the Pantex Plant this week to perform a review of the fire protection system.

Ultra-Violet (UV) Flame Detector Sensitivity Setting: Babcock & Wilcox Technical Services Pantex, LLC (B&W) held an event critique this week after they discovered that the alarm sensitivity of a UV flame detector was not set at the required level. B&W discovered this issue while investigating concerns identified in the agenda for the DNFSB staff's on-site review (see above). The body of the configuration drawing for the UV detector indicated that the correct sensitivity setting was 16 counts-per-second (cps), but a note on the drawing indicated a setting of 24 cps. B&W engineers established that the sensitivity of the UV detector was set to 16 cps when they were first installed. B&W Authorization Basis personnel determined this discovery was not a violation of the safety basis since the safety basis is based on the UV detector alarming at 50 cps, which is a larger fire than the fire that will set off the alarm for either the 16 cps or 24 cps settings. B&W has entered this discovery into their Problem Evaluation Request system.

Fire Protection Safety Concerns: The NNSA Production Office (NPO) sent a letter to B&W expressing concern with B&W's implementation of DOE-STD-1189-2008, *Integration of Safety into the Design Process*, for fire protection system modifications. NPO identified three examples in the letter. The first was the High Pressure Fire Loop (HPFL) project to bring additional pumps online. NPO stated, "as the HPFL project evolved, the Safety Strategy was not revised accordingly." NPO also noted that although B&W showed a true sense of urgency to achieve Critical Decision 4 (CD-4), there seems to be no urgency towards actually bringing the pumps online. NPO approved CD-4 in December 2013, and the system has not yet been placed online. (See report for 12/27/2013.) The second example is the Det-Tronics Infra-Red (IR) Detection Replacement Project. NPO stated the project team determined that this was a Simple Modification through the DOE-STD-1189-2008 Screening Process, yet NPO's review of the available documentation has determined that the evaluation was inadequate. Finally, NPO identified the continued declaration of Potential Inadequacy in the Documented Safety Analysis due to fire penetration seal as the third example. The letter expresses NPO's position that B&W performs less than adequate extent of condition reviews. NPO suggested another method to eliminate the fire penetrations seal issue might be to evaluate the nature of the fire accident scenario and how the controls are developed in the Documented Safety Analysis (DSA). NPO directed B&W to provide a letter within 45 days with a schedule for a review and update of the external fire accident scenario.

Suspect Fire Penetration Seals: B&W has discovered a Cell facility with an aluminum conduit in a fire penetrations seal that was assumed to be steel in the design drawing. B&W is continuing with the extent of condition review and has not yet sent a Justification for Continued Operation (JCO) to NPO.