

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

MEMO TO: Timothy Dwyer, Technical Director
FROM: Matthew Duncan and Rory Rauch, Pantex Site Representatives
SUBJECT: Pantex Plant Report for Week Ending October 8, 2010

Technical Safety Requirement (TSR) Interpretation Document: On several occasions in the past, B&W safety basis analysts have spent an inordinate amount of time and effort answering questions associated with the implementation or execution of administrative controls (see 5/15/09 report for an example). To aid users of the Pantex documented safety analysis (DSA) in future situations of this nature, B&W has prepared a TSR interpretation guide. For every administrative control in the TSRs document, the guide contains a consolidated summary of information relevant to the control, including some of the content from chapter 4 of the applicable DSA and a description of the control's intent (as interpreted by the B&W authorization basis department). This document is intended to be a living document and may be revised significantly as B&W progresses in its effort to evaluate all administrative controls for potential reclassification to a label (e.g., specific or programmatic administrative control) commensurate with its application in the DSA.

Positive Unreviewed Safety Question (USQ): B&W declared a potential inadequacy of the safety analysis (PISA) approximately 11 months ago when authorization basis personnel reassessed certain drop scenarios and determined that two Hazard Analysis Reports (HARs) do not consider the hazard of vacuum lifting fixture failures prior to the complete engagement of safety catches (see 11/6/09 report). The PISA notification to PXSO cited the fact that a different weapon program with a similar component has a bounding weapon response rule that screens this accident scenario in its HAR; thus, no compensatory measures were required for continued operation of the affected weapon programs.

On July 10, B&W received the weapon response it needed from the design agency to process the USQ determination associated with this PISA. The weapon response screened all consequences except a mechanical release of special nuclear material (SNM), which had not been previously analyzed in the subject HARs for two configurations. After several meetings with the design agency to confirm the legitimacy of the scenario, B&W declared a positive USQ. B&W submitted the evaluation of the safety of the situation (ESS) associated with the USQ to PXSO this week. The ESS establishes no new controls; instead, B&W will credit the radiation protection program for the subject scenario. Per the radiation protection program, workers are trained to evacuate the facility within five minutes of a potential mechanical release involving SNM.

Authorization Basis (AB) Manual: An assessor from the NNSA Service Center performed an independent assessment of B&W's AB manual and its implementation. The assessor determined that there were four deficiencies and one observation. The deficiencies were: (1) the manual contains numerical screening guidelines and applications of probability contrary to the guidance in DOE-STD-3009, (2) the list of references includes DOE Order 5480.7A, *Fire Protection*, which was superseded by the facility safety order in 1995, (3) a revision of the manual was issued for use prior to training analysts on the changes, and (4) the manual does not contain a feedback and improvement process to promulgate lessons learned from conditions of approval (CoAs), technical review comments (TRCs), and other guidance received from PXSO during their review of AB documents. The assessor's observation was that PXSO and B&W should jointly review the production and review history of the two authorization basis change packages that accounted for approximately one half of the CoAs and TRCs over a period of 21 months.