

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

MEMO TO: J. Kent Fortenberry, Technical Director
FROM: Timothy Hunt and Dave Kupferer, Pantex Site Representatives
DATE: 7 December 2007
SUBJECT: Pantex Plant Weekly Report

Recommendation 2004-2, *Active Confinement Systems*: B&W has completed its ventilation system evaluations related to the Recommendation. The four evaluations assessed the confinement ventilation strategies of Buildings 12-64, 12-86, 12-44 Cell 8, and 12-116, all of which are Hazard Category 2 nuclear facilities. None of the subject ventilation systems are credited to fulfill a safety function in the applicable safety analyses. In accordance with the directions contained in the Ventilation System Evaluation Guidance, B&W compared the existing ventilation systems against the performance criteria for safety significant ventilation systems and identified significant gaps. However, given that the ventilation systems are not credited to perform a safety function, B&W does not believe the costs associated with upgrading the ventilation systems to meet the safety significant criteria are justified.

W76-1 Operations: In August, NNSA decided that B&W would fabricate and disassemble several W76-1 prototype units during FY2008 to exercise the assembly and disassembly processes—the prototype units are also intended to be used for retrofit evaluation system test (REST) surveillance activities. Two months ago, B&W completed the first W76-1 prototype build (FPB). Subsequent prototype build operations have been waiting for the W76-1 disassembly and inspection (D&I) process to be reviewed and authorized. Last week, B&W completed its readiness assessment to determine if it is prepared to startup SS-21 W76-1 D&I operations. The review team identified 8 pre-start findings, 4 post-start findings, and 9 observations. The pre-start findings included a couple minor procedure errors, a few procedure configuration management issues, and two tools that did not function as designed. The B&W general manager is the startup authority for W76-1 D&I operations. B&W has closed the 8 pre-start findings and expects to startup D&I operations next week.

Warehouse Segmentation: In January 2007, PXSO identified that B&W had not developed a technical basis to demonstrate why a specific storage warehouse could be treated as three separate facilities. The subject warehouse is categorized as a radiological facility and comprises three bays that are separated by 3-hour fire walls and doors that are normally kept open. At the time of PXSO's review, the inventory in *each bay* was limited to the Hazard Category 3 nuclear facility threshold identified in DOE-STD-1027-92, *Hazard Categorization and Accident Analysis Techniques for Compliance with DOE Order 5480.23, Nuclear Safety Analysis Reports*. The Standard allows for facility segmentation but states that the independence of hazardous materials in each segment must be demonstrated and places the 'burden of proof' on the analyst. In April 2007, B&W submitted a basis for the segmentation, but did not include consideration of natural phenomena hazards and external events. In July, B&W committed to perform an engineering evaluation of the facilities ability to withstand a seismic event or aircraft crash. B&W recently informed PXSO that it has decided to forgo the engineering evaluation and to reduce the inventory limit of the *entire facility* to below the Hazard Category 3 thresholds.

Chief of Defense Nuclear Safety (CDNS) Review: This week, NNSA personnel conducted its second biennial review of PXSO. CDNS again concluded that PXSO's oversight and assessment processes are generally effective. However, the review team continues to have concerns regarding PXSO's implementation of the requirements from DOE Order 452.2C, *Nuclear Explosive Safety*, and DOE Order 425.1C, *Startup and Restart of Nuclear Facilities*.