

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

MEMO TO: J. Kent Fortenberry, Technical Director
FROM: Timothy Hunt and Dave Kupferer, Pantex Site Representatives
DATE: 5 January 2007
SUBJECT: Pantex Plant Weekly Report

W88 Cell Operations: On 8 December, production technicians encountered an unexpected component separation while disassembling the first W88 unit that is in the scope of the cell operations restart project. On 13 December, BWXT developed and performed a recovery procedure to adjust the unit into a configuration that reduced the stress between components. Subsequently, BWXT has developed an additional recovery procedure, and one associated tooling modification, that is very similar to the normal operating procedure. This week, NNSA convened a Nuclear Explosive Safety (NES) change evaluation to assess BWXT's proposed recovery process. The NES review team plans to evaluate whether the proposed recovery process provides for safe handling of the components of interest in the subject unit and if a process change is needed prior to using the normal operating procedure to disassemble the other units that are within the scope of the W88 cell operations restart project. Los Alamos National Laboratory (LANL) has issued weapons response information to support the proposed process and has made determination regarding the condition of components of interest in the subject unit.

High Pressure Fire Loop (HPFL): NNSA recently approved Critical Decision-2, *Approve Performance Baseline*, for the HPFL upgrade project. The project scope includes replacing 16,000 feet of deteriorating ductile iron piping, valves, and hydrants, which will enhance the reliability of sitewide safety-class fire suppression systems. The new equipment is expected to minimize the risk of unplanned facility system outages and reduce maintenance requirements. The project is scheduled to be completed in 2012.

Blast Door Interlocks (BDIs): The nuclear explosive bay structure is credited to minimize the risk associated with external events and natural phenomena. The BDIs are a critical component of the bay structure in that the BDIs help to ensure that at least one set of blast doors is normally closed. The safety basis considers bay BDIs to be a secondary safety control; the primary control is for personnel to administratively ensure that one set of doors normally remains closed. There have been several recent failures of the BDIs in nuclear explosive bays. The manufacturer's specifications for power supply are not being met, a time delay control circuit on BDI magnets was not adequately understood, and the programmable logic controllers have a mixed record of performance. It appears that the system was not designed to achieve the degree of reliability BWXT believes this safety system warrants. BWXT has initiated a formal root cause assessment of the BDI failures and is developing a corrective action plan to upgrade the BDI systems.

Criticality Training: Recently, PXS0 granted BWXT an equivalency to the criticality training requirements in DOE Standard 1135-99, *Guidance for Nuclear Criticality Safety Engineer Training and Qualification*. The equivalency will allow BWXT's criticality safety engineers to take the 4-day course taught at Lawrence Livermore National Laboratory in lieu of the 5-day course that was previously taught at LANL, but is no longer available.