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 January 6, 2012

Unreviewed Safety Question (USQ) Process: PXSO recently reviewed and approved a B&W proposal to modify its USQ process. The first of two notable changes is that the USQ process is no longer required for changes to security operations. B&W determined that the only changes to security activities that could affect nuclear operations are changes to equipment, weapons, vehicles, ammunition storage, and firing ranges. Such changes would require a revision to the site safeguards and security plan and possibly to the security safety analysis appendix of the sitewide safety analysis report, which require PXSO approval anyway.

The second change attempted to clarify the applicability of the USQ process to certain situations in which it is obvious that the USQ determination would be positive and PXSO approval would be required prior to the restart or initiation of the affected operation. The examples cited include a damaged component of a nuclear explosive or an overdue in-service inspection for a technical safety requirement-level design feature. Shortly after approving the new USQ procedure, PXSO and B&W recognized some inadequacies with this aspect of the new process and are working to address the inadequacies through another procedure revision.

Conduct of Operations: This week, technicians could not complete the assembly of a high-fidelity joint test assembly (i.e., live main charge high explosive and mock pit) because of a tooling interference issue. The first line supervisor for the operation determined the technicians had created the interference by failing to align a lifting fixture in accordance with the procedure. The responsible process engineer issued a recovery procedure to return to the alignment step and technicians successfully executed the recovery procedure and returned to normal operations this week.

Hoist Replacements: By the end of fiscal year 2011, B&W had installed the last of its inventory of seismically-qualified hoists. This left 15 hoists in nuclear facilities that are not seismically qualified. Shortly thereafter, B&W issued a purchase order for an additional eight seismically-qualified hoists. These hoists should arrive by the end of the fiscal year. B&W continues to seek funding to replace the 7 remaining legacy hoists and 4 spares.

Material Quantity Discrepancy: B&W uses the Pantex Material Move System (PMMS) to authorize all movements of nuclear explosives, nuclear material, certain types of nuclear explosive-like assemblies, and certain types of explosives. A software-based electronic material move system called Move Right serves a critical role in PMMS authorization as it helps to ensure that all moves comply with the material limits specified in the documented safety analysis. B&W recently identified a discrepancy between the quantity of plutonium listed in the Move Right system and the quantity listed in an electronic thermal monitoring system for a particular facility. The discrepancy existed for approximately one week before transportation personnel evaluated the physical configuration of the facility and confirmed that the quantity in the thermal monitoring software was correct and the material was in the correct location. Upon further evaluation, information technology (IT) personnel discovered that a B&W software subroutine that should have updated the Move Right system to reflect the quantities in the thermal monitoring system had not initiated. B&W plans to conduct a cause analysis of the event. IT personnel are performing daily checks to validate the proper function of any software that transfers information between systems that track accountable material.