

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 May 27, 2011

Potential Inadequacy in the Safety Analysis (PISA): This week, B&W authorization basis (AB) personnel determined that the new information associated with the discovery of a damaged light tower (see last week's report) was sufficiently mature and applicable to declare a PISA. They concluded that the failure of the suspension cables that supported the lighting assembly is an accident initiator that has not been analyzed in the documented safety analysis. B&W determined that no compensatory measures are required because the assembly would not fall or fragment within a hazardous proximity of any nuclear explosive facilities or nuclear explosive transportation routes.

The B&W unreviewed safety question (USQ) procedure allows AB personnel 10 business days to determine whether new information is sufficiently mature and applicable to declare a PISA. The site reps recognize that the determination of the *potential* for an inadequacy in the safety analysis is highly subjective and involves a delicate balance between avoiding spurious PISA declarations and ensuring that adequate compensatory measures are implemented in a timely manner. In certain instances in the past, B&W has used the 10 days afforded by the new information process to gather evidence for why compensatory measures are not necessary (as was the case with this light tower PISA). In these cases, B&W has in effect acknowledged the potential for an issue without a formal determination of whether compensatory measures are necessary. To ensure that B&W documents the rationale for why it is safe to continue operations in these situations, the site reps believe it would be beneficial for B&W to incorporate a formal determination of whether compensatory measures are necessary into its new information process.

Nuclear Explosive Safety (NES) Post-start Findings: B&W recently issued a memo to PXSO requesting closure of several lightning-related NES post-start findings that have remained open for several years. The findings capture a variety of NES deficiencies, such as the concern that lightning may reach lightning-sensitive components through non-surge suppressed "alternate pathways," or the hazard presented by lightning-induced common-mode voltage during radio frequency testing. In each case, B&W addressed the immediate safety issue (typically through administrative controls, such as suspending the subject operation during lightning warnings). B&W believes the remaining efforts to develop engineered controls to address these findings constitute process improvements rather than the correction of a NES deficiency. Therefore, B&W is requesting that these findings be closed in the NES post-start tracking system and managed through the Lightning Protection Project Plan. PXSO has yet to respond to the memo.

W87 Operational Safety Review (OSR): B&W issued a response this week to PXSO's request to address several draft findings from the ongoing W87 OSR (see 4/29/11 report). In response to the draft pre-start finding that involves the hazard created by the manual lifting of insensitive high explosives, B&W plans to evaluate the elimination of manual lifts during W87 operations as part of the tooling modernization plan. In the meantime, the W87 process engineer will revise the applicable procedure to instruct the technicians to minimize the IHE lift height and manipulation during its removal from the unit. Of additional note, tooling engineers are in the process of designing stabilizers in response to the draft post-start finding involving the hazard created by the lack of stability of the primary in the work stand (this issue was also declared a PISA and positive USQ, see 4/22/11 report). When this tooling has been implemented and PXSO has approved the associated AB change, B&W will resume W87 in situ mechanical safe and arm detonator operations.