

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

MEMO TO: J. Kent Fortenberry, Technical Director
FROM: Timothy Hunt, Dave Kupferer, and Rory Rauch, Pantex Site Representatives
DATE: 8 February 2008
SUBJECT: Pantex Plant Weekly Report

DNFSB Staff Activity: D. Kupferer completed his assignment as Pantex Site Representative this week. K. Fortenberry and B. Laake were on-site attending the lightning committee meeting. A. Matteucci and C. Martin observed the first week of the transportation and staging nuclear explosive safety master study.

Lightning and Electrostatic Discharge (ESD) Safety: The Nuclear Weapons Complex Lightning Committee held its monthly meeting this week. In general, the committee is making progress towards resolving several lightning safety concerns. This meeting was primarily focused on evaluating the use of time domain reflectometry (TDR) as a means of demonstrating intrinsic bonding of facility penetrations to the facility faraday cage. Intrinsic bonding would prevent penetration bonds from accumulating voltages that could compromise facility lightning standoff. At this time, the TDR technique is unrefined and the committee was unable to determine the long-term viability of this approach for use in the Pantex production environment. This decision will be revisited at the meeting next month after subject matter experts (SMEs) have had additional time to interpret the data and refine data collection techniques. The committee is in agreement that a decision regarding the viability of this approach should take months, not years, and that alternate means of evaluating this hazard should be pursued in the meantime. PXSO has added a permanent member to the committee to aid in planning and decision-making.

Of additional note, the lightning committee has merged with the ESD task team. The merger was driven by the significant overlap of SMEs on both committees. The new committee should help coordinate mutually compatible solutions to lightning and ESD safety concerns. The committee is currently working to establish a consensus on an appropriate definition for the Pantex ESD voltage environment.

Conduct of Operations: Both B&W Pantex and PXSO have become aware of a significant increase in the number of human performance and management weaknesses as they relate to operational events. An evaluation by Manufacturing Division management of 10 conduct of operations events that occurred during a recent six week period indicates that intervention activities need to be executed to restore the program to its previous rigor. The majority of the events can be attributed to human performance error and communication deficiencies. Management believes that external distractions such as ongoing union negotiations, potential reductions in the workforce, perceived time pressures, and the zone coverage investigation with its accompanying disciplinary actions are possible precursors contributing to recent errors. Short and longer term actions being implemented to anticipate and prevent future errors include increased senior management oversight, possible organizational changes, postponement of graveyard shift operations, and operational awareness briefings to the technicians and management. Most of the perceived causal factors should be resolved in the next month so performance improvements should be evident soon.

Procedure Deficiency: During execution of a W76 disassembly procedure, a production technician discovered that a safety-related step had been omitted. Prior to connecting a compressed air hose to a pump used to facilitate midcase removal, the technician looked ahead in the procedure and recognized that there was not a step to deenergize or restrain the hose once a sensitive material became exposed. Authorization basis personnel determined that a technical safety requirement violation existed due to the failure to proceduralize the administrative control. This hose whip scenario is being addressed via a revision to the procedure by the process engineer.