

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

MEMO TO: Timothy J. Dwyer, Technical Director
FROM: Timothy Hunt and Rory Rauch, Pantex Site Representatives
DATE: 19 September 2008
SUBJECT: Pantex Plant Weekly Report

DNFSB Staff Activity: D. Andersen was onsite to observe the second week of the nuclear explosive safety master study for special purpose facilities.

Lightning Detection and Warning System (LDWS) Operability: Last week, PXSO approved an authorization basis change to reduce the number of Lightning Location and Protection System (LLPS) sensors required for operability of the LDWS from four to two. Approval was based on the position that reductions in warning time and LLPS efficiency are offset by the requirement that the site maintain communication with the National Weather Service's NEXRAD system. With this change, B&W Pantex will not have to treat the loss of one or two sensors as a reportable event. In FY09, B&W Pantex plans to make several improvements to the LDWS, such as the implementation of an automated lightning warning system, the development of a reliable static potential monitoring system, and the addition of four LLPS sensors.

Formality of Operations: This week, technicians transferred a unit to a LINAC cart with expired preventive maintenance (PM) after misreading the date on the maintenance sticker. The PM had expired by two days. The technicians will verify that the PM dates on the maintenance stickers for the rest of the tooling in the LINAC facility have not expired.

Material Move Occurrence: Last week, material handlers failed to perform a material move in accordance with plant procedures when they selected the incorrect component for delivery to a nuclear explosive facility. Material move procedures dictated eight part number verifications at various points during the move, but each failed to capture the mismatch between the part number on the material move form (that contained the part number of the intended component) and the part number of the selected component. This mismatch was not identified until several days after the component reached its destination facility. It should be noted that the hazard class (1.4S explosive) of the intended and selected components was the same, no material limits were violated, and no material move window was required. B&W Pantex is finalizing a causal factor investigation report in response to 21 material move events during the last two fiscal years. The actions from this report will be cross-referenced for application to this event.

Electromagnetic Safety Theme Philosophy: Subject matter experts from Pantex and the design agencies have formed the Nuclear Weapons Complex Electromagnetic Committee to evaluate open lightning and electrostatic discharge (ESD) safety concerns. Since its inception, the committee has recognized the need to establish a consensus electromagnetic safety theme philosophy to improve the efficiency, effectiveness, and consistency with which outstanding lightning and ESD concerns are resolved. The committee has not finalized the nuances of the philosophy, but the general approach will favor fundamental isolation of sensitive components from electromagnetic energy through the use of air standoff or engineered dielectrics over less robust control schemes such as administrative measures or weapon response at the individual component level. To that end, the committee has drafted two preliminary recommendations: the implementation of an engineered feature to prevent multi-point grounding nuclear explosives during operations utilizing the task exhaust in facilities with static dissipative flooring and the implementation of static dissipative flooring for B53 SS-21 operations. The committee's plan is to present these recommendations, when finalized, to the proper decision-making authority.