DEFENSE NUCLEAR FACILITIES SAFETY BOARD

April 30, 2004

MEMORANDUM FOR: J. K. Fortenberry, Technical Director
FROM: T. Hunt and W. White, Pantex Site Representatives
SUBJECT: Pantex Plant Activity Report for Week Ending April 30, 2004

DNFSB Activity Summary: T. Hunt was on site all week. W. White supported a staff review off-site on Tuesday and Wednesday and was on site for the remainder of the week.

Electrostatic Discharge. Early this week, Los Alamos National Laboratory (LANL) provided a response to a BWXT request to evaluate component reaction to electrostatic discharge (ESD). The lower energy threshold specified by LANL led Pantex to suspend operations on LANL programs. BWXT has identified a potentially inadequate safety analysis and plans to develop a justification for continued operations (JCO). A team of experts, including design agency personnel, has convened at Pantex to develop an approach to resolving the issue. [I, M6]

Combustible Loading. There was an occurrence in a bay this week where unanalyzed combustibles were left unattended closer to a unit than allowed. This resulted in an authorization basis violation of combustible stand-off controls in unoccupied facilities. After a helium alarm sounded during unit operations, personnel evacuated the bay with no procedural direction to disconnect and remove the vacuum which contained combustible components. Initial indications are that the alarm was spurious and actions have been completed to bring the activity back into compliance. [I, P3B]

Building 12-64 Upgrade Project: The staff met with PXSO and BWXT personnel and subcontractors in San Antonio this week to discuss recently completed analysis to calculate the maximum explosive inventory for bays in Building 12-64 based on the potential effects of an internal explosion. Following the discussions, BWXT and NNSA agreed to a path forward that should lead to resolution of this issue. BWXT will use data from tests conducted in the early 1980s to calculate capacity of the roof in the event of an internal explosion. BWXT will also quantify the conservatism inherent in its calculation of the demand on the roof during an internal explosion by comparing the calculation for blast loading to the measured pressure data from the tests. An explosive limit will be derived utilizing the upper confidence bound for demand and the lower confidence bound for capacity.

On Thursday, the staff met with BWXT and PXSO personnel at the Pantex Plant to discuss the scope and preliminary design information for the overall upgrade project for Building12-64. The project is to upgrade Building 12-64 to a level similar to newer facilities. However, the project does not appear to be addressing known deficiencies with newer facilities or replacing administrative controls with engineered controls when possible. The staff intends to follow up with a more detailed review to evaluate whether identified safety systems for Building 12-64 meet the design and functional requirements in DOE directives for the design of a major modification to an existing facility. [III, NA]

Recommendation 99-1: BWXT continues to make substantial progress towards repackaging plutonium pits into an improved container for interim storage, as requested by the Board in Recommendation 99-1. BWXT expects to repackage more than 250 pits into sealed-insert containers in the month of April. This will be the second consecutive month in which BWXT has set a monthly record for repackaging. [I, NA]