DEFENSE NUCLEAR FACILITIES SAFETY BOARD

March14, 2003

MEMORANDUM FOR: J. K. Fortenberry, Technical Director
FROM: W. White, Pantex Site Representative
SUBJECT: Pantex Plant Activity Report for Week Ending March 14, 2003

DNFSB Activity Summary: W. White was on site all the week. B. Quirk and M. Piccarreta were on site Tuesday through Thursday to observe operations involving the Move Right system and to review the software quality assurance program at Pantex. C. Martin was on site Thursday to participate in the review of software quality assurance.

Software Quality Assurance: Staff members held discussions this week with BWXT and NNSA personnel concerning software quality assurance for safety-related software at the Pantex Plant. Of particular concern were the Move Right system and the Interactive Electronic Procedure (IEP) system. The Move Right system is a safety-related system that implements several administrative controls in the *Technical Safety Requirements for Pantex Facilities*. The IEP system will eventually replace paper procedures for nuclear explosive operations.

For the Move Right system, the staff identified concerns with the lack of detail contained in test plans and potential system interactions with other non-safety-related software. An example of the potential problem with system interactions was identified when a unit was noted as being in one location in the Move Right system, but was physically in a different location. One of the safety functions of the Move Right system is to prevent personnel from exceeding facility material limits. This function is compromised if the inventory database used by the Move Right system is inaccurate. For the incident discussed above, the apparent cause of the discrepancy was an error made in a non-safety-related production software system which automatically propagated into the Move Right database.

The inventory discrepancy was identified by BWXT personnel on Wednesday. The staff raised concerns about this continuing discrepancy to BWXT and PXSO on Thursday afternoon. Immediate actions to correct the discrepancy and prevent future problems were not initiated until Friday morning. Actions being taken include administrative restrictions to prevent system changes to the non-safety-related software that could impact the ability of the Move Right system to carry out its safety functions. A root cause analysis will be conducted next week.

The staff reviewed the development status of the IEP system. However, most of the significant documentation for software quality assurance was draft. BWXT did not consider the documentation sufficiently developed for staff review. The development of an adequate software quality assurance program for the IEP system appears to be lagging well behind system development and implementation. [II.A]

W88 Accelerated Tooling: In discussions with the site representative this week, BWXT indicated that the expected slip in the W88 accelerated tooling schedule, discussed in last week's report, will not exceed a couple of weeks. BWXT will ask PXSO for a change in the schedule to reflect the unavailability of an engineer due to circumstances outside their control. This schedule will be in jeopardy, however, if necessary changes to the W88 safety basis, procedures, or tooling require weapon response information from the design agency. [II.A]