

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

April 18, 2003

MEMORANDUM FOR: J. K. Fortenberry, Technical Director
FROM: W. White, Pantex Site Representative
SUBJECT: Pantex Plant Activity Report for Week Ending April 18, 2003

DNFSB Activity Summary: W. White was on site all week. The Pantex Plant was closed on Friday for the Good Friday holiday.

W56 Safety Basis: BWXT discovered that an assumption in the W56 hazard analysis regarding the number of units allowed in a cell was not being maintained. The hazard analysis states that “a conservative approach was adopted in respect to facility interfaces as is illustrated by seeking authorization for only one unit in the cell.” This assumption was never captured in specific technical safety requirements or in W56 procedures. Actual practice at Pantex has been to stage one unit in the cell while working on another unit. BWXT identified three other systems (W87, W76, and W88) whose hazard analyses predate current safety basis requirements and suspended operations on these programs, along with the W56, while an analysis was conducted to determine whether all assumptions made in the safety bases for these programs had been implemented. BWXT discovered additional flow down problems for all four programs. Although the analysis is not yet complete, in other cases evaluated so far, the control (or base assumption) has been implemented on the shop floor. [II.A]

Move Right System: Two incidents occurred this week with use of the Move Right System at Pantex. An item containing explosives was moved from the Zone 12 Material Access Area (MAA) to Zone 4 during a time period when the movement of explosives in the MAA was prohibited. An administrative control prohibits the movement of explosives in the MAA while nuclear explosives are being moved. This control is implemented by setting aside a time period for the movement of explosives. The Move Right System verifies that the time window for explosives is open before authorizing the movement of an explosive item. In this case, the facility from which the item was being moved had been incorrectly identified in the Move Right System database as a non-MAA facility. When prompted to authorize the move, the Move Right System assumed the move was outside the MAA and did not examine whether the window for explosive moves was open. The classification of facilities as MAA facilities or non-MAA facilities was not validated as part of the start-up testing for the Move Right System. Personnel doing the validation after the occurrence noted other facilities that were incorrectly classified.

In the second incident, personnel performing an inventory of explosives found the actual quantity of conventional high explosive in a nuclear explosive bay to be greater than the quantity identified in the Move Right System database. This error resulted from the manner in which the Move Right System handles the assembly of nuclear explosives. The Move Right System tracks both components and assemblies until an assembly reaches a certain level. At this point, the piece parts contained in the assembly are removed from the database. BWXT assumed this accounting would always lead to a conservative overstatement of the actual inventory. In this case, however, the higher level assembly definition assumed by the Move Right System did not include one of the conventional high explosive components. When individual components were eliminated from the database following completion of the assembly, the higher level assembly that remained (and thus the total facility inventory) did not include the weight of a conventional high explosive component. One of the safety-related functions of the Move Right System is to maintain facility explosive and nuclear material inventories below the maximum limits established in the *Technical Safety Requirements for Pantex Facilities*. BWXT suspended movement of nuclear material and explosives until compensatory measures (including physical verification of inventories) could be implemented for affected facilities. [II.A]