

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

June 25, 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 June 25, 2004

DNFSB Staff Activities: Board member R. Matthews was at Pantex this week discussing various issues and observing operations. C. Goff, D. Gutowski, and C. Martin were on-site reviewing issues associated with cell leak paths, nuclear material, and potential for breached pits.

Cell Leak Paths. The staff performed a follow-on review of cell leak paths and associated dose consequence calculations (refer to February 20, 2004 weekly report). The cell leak path areas are openings around equipment doors and penetrations, and through sheared piping and blast valves. In the event of a high explosive violent reaction in the cell, radiological material could be dispersed off-site. BWXT has taken credit for reducing the leak path area by use of a commercial sealant on structural joints. Several cells were repaired with the sealant, and the staff noticed considerable deterioration of the sealant around one of the cell doors. The staff also has concerns that BWXT has incorporated reduction factors in their accident calculations that do not have a sound technical basis. Without these reductions, the dose consequences from some of the cells for accidents involving a single unit could challenge the site boundary administrative dose limit. [I, W3]

Unauthorized Operations. Unauthorized mechanical disassembly operations were performed on a weapon this week. The unit on which work was performed was in an administrative hold pending resolution of an anomalous radiograph. The work instruction used had been issued for operations on another unit. Production personnel failed to verify the serial number of the unit being worked and removed some components before plant processes identified that the parts removed did not match the serial number of the unit authorized for disassembly. Although there were no immediate safety concerns with the unauthorized work that was performed, processes to ensure proper control of work merit reevaluation. [I, P3]

Nuclear Material Storage. BWXT and Pantex Site Office personnel updated the Board's staff on progress made to reconfigure and upgrade the storage location of plutonium-238 radioisotopic thermoelectric generators (RTGs). There are currently hundreds of RTG units stored in a vault without fire suppression or ventilation. The number of RTGs at Pantex is expected to double in the near future, with new units beginning to arrive in approximately two years. In order to store these units, BWXT is upgrading the storage vault to be capable of handling the increased inventory. These upgrades include fire suppression, ventilation capable of handling the thermal loading of the RTGs, and seismically qualified storage shelves. During these upgrades, the RTGs will be temporarily relocated to a pit storage vault. Final disposition of the RTGs is still uncertain. Los Alamos National Laboratory is designated as the disposition location, but does not have the storage or processing capacity to accept and dispose of the RTGs in the near future. Therefore, RTGs will most likely remain at Pantex indefinitely and will benefit from the safety improvements being planned for the storage vault. [I, W3]

12-64 Upgrade Project. Verbal authorization to proceed with Critical Decision 2 on the 12-64 bays upgrade project was granted Thursday by NNSA. One of the conditions of approval that must be closed before the formal written authorization is accorded is an NNSA brief to the Board on resolution of seismic and other upgrade issues identified in the October 10, 2003 Board letter and report to NNSA. [III, NA]