

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

January 25, 2002

MEMORANDUM FOR: J. K. Fortenberry, Technical Director
FROM: H. Waugh and W. White, Pantex Site Representatives
SUBJECT: Pantex Plant Activity Report for Week Ending January 25, 2002

DNFSB Activity Summary: The DNFSB Pantex site office was closed on Monday for the Martin Luther King, Jr. Holiday. H. Waugh was on site Tuesday and Wednesday and was on leave for the remainder of the week. W. White was on site all week.

Authorization Basis Upgrade Program: On January 17, 2002, BWXT submitted to OASO a proposed path forward for the methodology to be used in establishing and presenting weapon response information in facility authorization basis documents. The path forward involves establishing maximum credible consequences for various weapon configurations as a result of electrical, thermal, mechanical or chemical insults. The path forward also involves BWXT development of a *Bounding SAR Assumed Weapon Response* document.

The maximum credible consequences for various weapon configurations were forwarded to OASO as a table attached to the letter. In addition to identifying maximum responses to various insults, BWXT also proposed certain threshold values for different types of insults. Insult levels below these thresholds are assumed to have no consequence.

Development of the *Bounding SAR Weapon Response* document was to be completed this week. This document would establish the bounding weapon response that is used in developing facility authorization basis documents. For those facility authorization basis documents that are already nearing completion (Bays and Cells, Paint Bay, etc.), BWXT identified additional schedule slips of approximately 50 working days.

High Pressure Fire Loop: On Tuesday morning, fire protection engineering reported a potential 30 gallon per minute leak in the high pressure fire loop at Pantex. The potential leak was noted after fire protection engineering monitored chart recorders over the past month that capture the run time of the jockey pumps. The electric jockey pumps were operating more frequently than normal. As of Friday, at least one jockey pump runs nearly continuously, indicating a degradation in the ability of the high pressure fire loop to hold pressure.

BWXT actions to address this problem included evaluating whether the jockey pumps might be impaired, searching for main drain leaks, and heightening the sensitivity of fire department, security, and crafts personnel to look for any obvious signs of a significant water leak. Evaluations of the jockey pumps have not identified any specific concerns with the pumps, but the evaluations are not yet complete. Drain leaks have been noted in several facilities, but it is not clear that the magnitude of the leaks is sufficient to account for the postulated leak rate. Personnel walking over the high pressure fire loop system have found no obvious leak indications other than the drains. BWXT does not currently have sufficient pressure and flow instrumentation on the high pressure fire loop to isolate the location of subsurface leaks.

According to BWXT fire protection engineering personnel and OASO personnel, the current path forward is to continue to closely monitor the status of the high pressure fire loop, to continue to evaluate the jockey pumps, and to consider the application of additional leak detection methods (such as acoustic detection). OASO indicated that the level of concern will significantly increase if the jockey pumps are no longer able to maintain the system pressure (requiring one of the electric or diesel fire pumps to maintain pressure). In the past, the high pressure fire loop has experienced multiple, significant leaks. These leaks were visually detectable and required replacing sections of the high pressure fire loop pipe. The cause of most of the past leaks was corrosion of the high pressure fire loop pipe. [II.A]