



Commonwealth Edison  
One First National Plaza, Chicago, Illinois  
Address Supply to: Post Office Box 767  
Chicago, Illinois 60690

BBS Ltr.#870-74

Dresden Nuclear Power Station  
R. R. #1  
Morris, Illinois 60450  
December 6, 1974



Mr. James G. Keppler, Regional Director  
Directorate of Regulatory Operations-Region III  
U. S. Atomic Energy Commission  
799 Roosevelt Road  
Glen Ellyn, Illinois 60137

SUBJECT: REPORT OF ABNORMAL OCCURRENCE PER SECTION 6.6.A OF THE TECHNICAL SPECIFICATIONS  
REACTOR FEED PUMP 3A MINIMUM FLOW LINE LEAKAGE

References: 1) Regulatory Guide 1.16 Rev.1 Appendix A

- 2) Notification of Region III of AEC Regulatory Operations  
Telephone: Mr. C. Feierabend, 1400 hours on December 2, 1974  
Telegram: Mr. J. Keppler, 0835 hours on December 3, 1974
- 3) Drawing Number: M-347 (S&L)
- 4) Deviation Reports 50-237/74-41 (8-30-74), 50-237/74-46 (9-20-74), 50-249/74-33 (11-19-74), and 50-249/74-37 (12-10-74).

Report Number: 50-249/74-36

Report Date: December 6, 1974

Occurrence Date: December 1, 1974

Facility: Dresden Nuclear Power Station, Morris, Illinois

#### IDENTIFICATION OF OCCURRENCE

On December 1, 1974 a small leak was discovered on reactor feed pump 3A minimum flow line 3-3205A. This condition is an abnormal degradation of a boundary designed to contain radioactive materials as defined in Regulatory Position C.2.a(1)(c).

#### CONDITIONS PRIOR TO OCCURRENCE

When the leak was discovered, the Unit 3 reactor was shutdown.

*50-249  
incident*

8306150566 750108  
PDR ADDCK 05000249  
S PDR

12518

COPY SENT REGION III

DESCRIPTION OF OCCURRENCE

The pinhole leak on the minimum flow line was found during a routine plant inspection at 0230 hours on December 1, 1974. Since the unit was already shutdown, the immediate action taken was to write a work request to repair the leak.

DESIGNATION OF APPARENT CAUSE OF OCCURRENCE (Unusual Service Condition)

The pinhole leak on the pipe was caused by erosion of the pipe from within. The high velocity turbulent flow in the pipe led to cavitation of the fluid which caused the erosion.

ANALYSIS OF OCCURRENCE

Due to the size of the hole in the pipe, only minor leakage of the reactor feedwater was involved. If the unit had been running at normal power operation, no leakage would have occurred because the minimum flow lines of the reactor feed pumps are below atmospheric pressure during operation and contain water only during startups, shutdowns, and low power operations.

The effect of the leak was to make it more difficult to maintain condenser vacuum, but no safety implications are made by this.

Since this type of leak grows only slowly due to mechanisms involved and the plant is frequently inspected, the possibility of a pipe rupture or failure, which would cause loss of vacuum and reactor feedwater leakage during shutdown or startup, is highly unlikely.

At no time during this occurrence was the plant or public health and safety jeopardized.

CORRECTIVE ACTION

The leaking pipe was isolated and the leak was repaired by building up the thickness in the area with a weld bead and then welding a plate over the leak. Certified welding materials and techniques were used.

To prevent this type of problem from occurring again, there are two modifications in progress, one for each of Units 2 and 3 - M12-2-74-161 and M12-3-74-164, to replace the one foot section of piping on the reactor feed pump minimum flow lines where the cavitation has been occurring with a pipe constructed of a chromium-molybdenum steel alloy. This alloy is more durable than the carbon steel now being used.

Mr. James G. Keppler

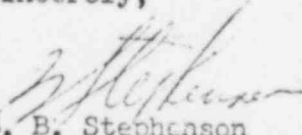
-3-

December 6, 1974

FAILURE DATA

These leaks on the minimum flow lines of the reactor feed pumps have been a recurring problem on both Units 2 and 3. (See Reference 5). The leaks occur in a 6"-diameter seamless schedule 120 class 900 heavy carbon steel of ASTM classification A106 Gr.B.

Sincerely,

  
E. B. Stephenson  
Superintendent

BBS:ELS:do