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

BBS Ltr. #112-75

Dresden Nuclear Power Station
R. R. #1
Morris, Illinois 60450
February 24, 1975

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

SUBJECT: REPORT OF UNUSUAL EVENT PER SECTION 6.6.C OF THE TECHNICAL SPECIFICATIONS EXCESSIVE LEAKAGE THROUGH VALVE AO3-1601-21.

References: 1) Regulatory Guide 1.16 Rev 1 Appendix A

2) Notification of Region III of U. S. Nuclear Regulatory Commission
Telephone: P. Johnson, 1530 hours on February 18, 1975
Telegram: J. Keppler, 1600 hours on February 18, 1975

3) Drawing Number: M-356

Report Number: 50-249/1975-6

Report Date: February 24, 1975

Occurrence Date: February 14, 1975

Facility: Dresden Nuclear Power Station, Morris, Illinois

IDENTIFICATION OF OCCURRENCE

Leakage in excess of the Technical Specification limit of 5% Lto (29.381 scf/hr) was found to exist through isolation valve AO 3-1601-21. Following the occurrence it was felt that this leakage rate was in excess of allowable total integrated leak rate. Subsequent investigation showed the total integrated leak rate to be 350 SCFH which is below the Technical Specification Limit of 588 SCFH. For the above reason the event has been classified as an Unusual Event rather than an Abnormal Occurrence.

CONDITIONS PRIOR TO OCCURRENCE

At the time the condition was found, Unit 3 was operating at a power level of 1230 MWT and a load of 396 MWe.

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DESCRIPTION OF OCCURRENCE

At 1800 hours on February 14, 1975, a local leak rate test was being performed on a section of pipe in the nitrogen inerting line bounded by valves 3-1601-21, -22, -55, -56 and 3-8502-500. A leakage of about 350 SCFH was obtained which is above the 29.381 SCFH leak rate allowed by Technical Specifications.

The following day, at 0500 hours, primary containment integrity was returned when valve 3-1601-21 was blind flanged.

DESIGNATION OF APPARENT CAUSE OF OCCURRENCE (Component Failure)

Following installation of the blind flange, the valve was removed from the system and inspected. This inspection showed that the valve seat was cracked in the area adjacent to the shaft.

The cause of the cracked seat is not known at this time, but the valve has been sent to the manufacturer for a further evaluation. A followup letter will be sent after the manufacturer has made his evaluation.

ANALYSIS OF OCCURRENCE

This occurrence did not represent any threat to the health and safety of the plant personnel. The total integrated leakage, including the leakage through the 3-1601-21 valve, was 350 SCFH which is below the Tech Spec limit of 588 SCFH. Therefore, in the event of a loss of coolant accident. the allowable integrated primary leakage rate would not have been exceeded.

CORRECTIVE ACTION

Valve 3-1601-21 was replaced. The temperature element which alarms on low temperature will be relocated so that it is in the nitrogen flow stream during the inerting process. Liquid nitrogen has reached some of these butterfly valves in the past and, if this was the cause, this action will help prevent repetition of the occurrence. Any further action to prevent repetition of the occurrence will be delayed until the manufacturer has studied the valve.

FAILURE DATA

Leakage through the rubber seated butterfly valves has been a recurring problem on both units 2 and 3. Many of the valve failures have been linked to either cryogenic deterioration or improper assembling of the valve operator.

Sincerely,

Arthur M Roberts

for B. B. Stephenson
Superintendent

BBS:smp
File/AEC