Commonwealth Edison
Quad-Cities Nuclear Power Station
Post Office Box 216
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Telephone 309/654-2241

NJK-74-426

December 19, 1974

Mr. John F. O'Leary, Director
Directorate of Licensing Regulation
U. S. Atomic Energy Commission
Washington, D. C. 20545

REFERENCE: Quad-Cities Nuclear Power Station
Docket No. 50-265, DPR-30
Appendix A, Sections 1.0.A.4 and 6.6.B.1.a.

Dear Mr. O'Leary:

Enclosed please find Abnormal Occurrence Report No. AO 50-265/74-27 for Quad-Cities Nuclear Power Station. This occurrence was previously reported to Region III, Directorate of Regulatory Operations by telephone on December 9, 1974 and to you and Region III, Directorate of Regulatory Operations by telecopy on December 10, 1974.

This report is submitted to you in accordance with the requirements of Technical Specification 6.6.B.1.a.

Very truly yours,

COMMONWEALTH EDISON COMPANY
QUAD-CITIES NUCLEAR POWER STATION

N. J. Kalivianakis
Station Superintendent

NJK/RAR/lk

cc: Region III, Directorate of Regulatory Operations
J. S. Abel

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COPY SENT REGION III

REPORT NUMBER: AO 50-265/74-27

REPORT DATE: December 19, 1974

OCCURRENCE DATE: December 9, 1974

IDENTIFICATION OF OCCURRENCE:

Failure of the 2B Recirculation Pump suction valve to auto-close.

CONDITIONS PRIOR TO OCCURRENCE:

Unit Two was in the RUN mode at 535 MWe and 1785 MWt.

DESCRIPTION OF OCCURRENCE:

On December 9, 1974 at 10:05 a.m. the 2B Reactor Recirculation Pump suction and discharge valves received an automatic close signal, and the 2B M-G Set tripped. The pump discharge valve closed, but the suction valve, designated MO-2-202-4B, did not close completely. The valve was fully closed by manually holding in the contactor at the breaker until the running current decreased to normal. The recirculation pump was left in the tripped condition and the valves remained closed.

Since the pump suction valve is given a close signal under accident conditions as part of Low Pressure Coolant Injection loop-select logic, this failure has been identified as an abnormal occurrence in accordance with Technical Specification 1.0.A.4.

DESIGNATION OF APPARENT CAUSE OF OCCURRENCE:

Component failure

Since the 2B recirculation pump suction valve is located within the primary containment boundary, it has not been possible to physically inspect the valve. This will be accomplished during the next extended unit outage.

Measurements were taken on the current required to open and close the valve. It was determined that 13.6 amps were needed to close the valve, as compared to only 5.5 amps to open it. It is postulated that either insufficient lubrication or faulty packing may have been the cause of the failure to close.

ANALYSIS OF OCCURRENCE:

During the actuation of the LPCI Mode of the Residual Heat Removal System (RHRS), the suction and discharge valves for the recirculation pump in the loop which is to receive the injection get a close signal. It is not required that either of the valves be closed in the loop with the postulated line break. Since the coolant injection point is downstream of the pump discharge valve, having the suction valve closed provides additional assurance that adequate LPCI flow will inject into the reactor core.

The "B" LPCI loop is the preferred coolant injection path for the LPCI loop select. Since the recirculation pump suction and discharge valves are closed, no adverse safety implications are created. Therefore, failure of the 2B suction valve does not cause either LPCI subsystem to be inoperable.

CORRECTIVE ACTION:

The 2B recirculation pump suction valve was fully closed by manually holding in the contactor at the circuit breaker. Plant operation has continued at a reduced power level with the 2A recirculation pump in operation.

The suction valve will be inspected during the next extended outage. Further information with regard to the cause of the failure and the corrective action required will be provided at that time.

FAILURE DATA:

No previous failures of this type have been encountered at Quad-Cities Nuclear Power Station.