Commonwealth Edison
Quad-Cities Generating Station
Post Office Box 216
Cordova, Illinois 61242
Telephone 309/654-2241

NJK-75-389

July 31, 1975

Director of Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Reference: Quad-Cities Nuclear Power Station
Docket No. 50-254, DPR-29, Unit 1
Appendix A, Sections 1.0.A.2, 3.7.D.1, 6.6.B.1.a

Enclosed please find Abnormal Occurrence Report No. 50-254/75-17 for Quad-Cities Nuclear Power Station. This occurrence was previously reported to Region III, Directorate of Regulatory Operations by telephone on July 22, 1975 and to you and Region III, Directorate of Regulatory Operations by telecopy on July 22, 1975.

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/JLS/vmb

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

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REPORT NUMBER: AO-50-254/75-17

REPORT DATE: July 31, 1975

OCCURRENCE DATE: July 21, 1975

FACILITY: Quad-Cities Nuclear Power Station
Cordova, Illinois 61242

IDENTIFICATION:

Unit One Traversing Incore Probe (TIP) machine number three ball valve failed to close when the detector was withdrawn to the in-shield position.

CONDITIONS PRIOR TO OCCURRENCE:

The unit was in the run mode at a steady state power level of 675 MW_e and 2260 MW_t.

DESCRIPTION OF OCCURRENCE:

On July 21, 1975, at about 9:15AM, the shift equipment operator withdrew TIP machine number three detector from the core to the shield position. When reaching the "in-shield" position the drive motor stopped, leaving the detector in the shield but the ball valve failed to close. The control key for the shear valve was given to the control room operator by the shift engineer. An entry was made into the Unit One TIP cubicle and the ball valve was tapped. The valve went closed immediately.

DESIGNATION OF APPARENT CAUSE OF OCCURRENCE:

Equipment Failure - The valve is solenoid operated to the open position and spring loaded to the closed position. The apparent cause of the occurrence was a failure of the spring to close the ball valve completely.

ANALYSIS OF OCCURRENCE:

The valve was open 1 hour and 15 minutes. Under accident conditions with the drywell pressurized to 62 psig, if the TIP tube became severed, the flow through the open penetration would have been 72.1 SCFM. This leakage is only a fraction of the capacity of the Standby Gas Treatment System and would have been easily processed by it. There would have been no significant amounts of radioactive materials released; thus, the public health and safety would not have been endangered.

CORRECTIVE ACTION:

The valve and operating mechanism was removed and replaced by a new valve and operator of new design.

A valve of the new design has already been installed in Unit One TIP machine number one, and has operated satisfactorily to date. Valves for machines two, four and five will be replaced as the additional new valves that are on order are received.

FAILURE DATA:

Equipment Identification - The TIP ball valve is a solenoid operated ball valve as shown on General Electric drawing 112C2391P001.

Previous failures of TIP ball valves have occurred. Based on the performance to date of the one new design valve installed, installation of the remaining new valves should preclude further similar occurrences.