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

BBS-72-15

December 6, 1972

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Mr. A. Giambusso
Deputy Director for Reactor Projects
Directorate of Licensing
U. S. Atomic Energy Commission
Washington, D. C. 20545

Ref: Quad-Cities Nuclear Power Station, Unit 2
License DPR-30, Appendix A
Sections 1.0.A.2., 3.7.D.1., and 6.6.B.3.

Dear Mr. Giambusso:

The purpose of this letter is to inform you of the details regarding the failure of the outboard containment isolation valve, MO2-1301-17, of the Reactor Core Isolation Cooling System (RCIC) to operate. This incident occurred on Unit 2 at Quad-Cities on December 1, 1972.

Description of Incident

At 10:00 pm on December 1, 1972, the Unit 2 reactor was in the Run mode at 90% power. While performing the routine monthly valve operability surveillance, valve 2-1301-17 failed to close. Several attempts to close the valve from the control room were unsuccessful. Therefore, the inboard containment isolation valve 2-1301-16 was closed to comply with Technical Specification 3.7.D.2 and RCIC was declared inoperable. Immediately the HPCI system was demonstrated to be operable in accordance with Technical Specification 4.5.E.2.6.

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Investigation and Corrective Action

An investigation performed by Station Electrical Maintenance revealed that the torque switch, (type RED "SMB-00" series, Limitorque Valve Control by Philadelphia Gear) for the valve motor was faulty.

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The return spring failed to reset the switch, thus preventing the valve motor to operate. The torque switch was replaced with a new WHITE "SMB-00" (Philadelphia Gear) series and adjusted. The valve was openned and closed three times after the repair prior to declaring the RCIC system operable.

Conclusion

The failure of this particular torque switch is similar to those occurrences reported in letters dated July 10, August 3, and September 3, 1972. The new WHITE SMB-00 series which replaces the RED SMB-00 series torque switch has a return spring with a higher modulus of elasticity. Furthermore, the Edison station Electrical Engineering Department is conducting an investigation of failures of this type.

The safety aspects of this particular failure have been analyzed. With the valve failed in the open position, the RCIC system could have performed its intended function. Also, the system was still capable of isolating on an RCIC line break signal since the inboard isolation valve was operable and outboard isolation valve could be manually closed if necessary.

B. B. Stephenson

BBS/lk