



Commonwealth Edison
Quad-Cities Nuclear Power Station
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30-0160

FAP-72-170

September 6, 1972



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

Dear Mr. Giambusso:

Ref: Quad-Cities Nuclear Power Station
Unit 2 - DPR-30 Appendix A
Sections 1.0.A.2, 1.0.A.4, 3.7.A.4, and 6.6.B.3

The purpose of this letter is to report a condition relating to the operation of the station, in which, during a routine inspection seven Unit 2 suppression chamber to drywell vacuum breaker valves failed to test properly. Although the valves were not required to be operable at the time of the inspection, the valves may have been incapable of performing their required function during the previous period of reactor operation. This condition was reported to you by telegram on August 29, 1972.

DESCRIPTION OF INCIDENT

At 8:30 a.m. on August 24, 1972 with Unit 2 reactor shutdown, preparations were made for a routine inspection of Unit 2 suppression chamber interior. Prior to torus entry, the suppression chamber to drywell vacuum breaker valves were exercised incidental to the scheduled inspection to verify valve operability. Several valves (2-1601-32A, 32D, 32E, 2-1601-33A, 33B, 33C, 33D) gave sporadic OPEN/CLOSED indication during valve cycling with one valve (2-1601-32B) failing to actuate from the remote test panel. Subsequent visual inspection revealed that four valves which indicated CLOSED after the test were actually one inch or more from the full closed position.

INVESTIGATION

The suppression chamber to drywell vacuum breaker valves were taken out of service as a personnel safety precaution prior to conducting an inspection of the valves. At

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2:00 p.m., the Unit 2 suppression chamber was entered and six valves were found open, four of which indicated closed (green light) at the remote test panel. The valves were then manually exercised open and closed which resulted in erratic valve "REST" position.

The suppression chamber to drywell vacuum breaker valves were subsequently disassembled and inspected. This inspection revealed that excessive friction due to the shaft key rubbing against a Teflon bushing and improper shaft alignment was preventing successful valve actuation. Further investigation revealed improper setting of the remote position limit switches.

CORRECTIVE ACTION

The suppression chamber to drywell vacuum breaker valves were disassembled and the "ALLEN" set screws which hold the shaft key in its proper position were tightened. In addition, the valve seats on valves 2-1601-32D and 2-1601-32F were cut such that the valve disc could swing freely to its seat. The latter being required due to valve shaft realignment. Valve position indicating switches are being set to indicate an intermediate valve position as soon as the disc is cracked off its seat. The vacuum breakers on Unit 1 will be inspected at the next opportunity for torus entry. Any modification made to the Unit 2 system as a result of this incident will also be made to Unit 1. This would also be reviewed for applicability to Dresden Units 2 and 3.

CONCLUSIONS

All valves were verified closed on April 7, 1972 prior to establishing primary containment for the Unit 2 heatup following initial fuel loading. Since that time, the suppression chamber to drywell vacuum breaker valves were not actuated for test purposes until August 24, 1972. Due to false indication and excessive friction, however, it cannot be positively determined that the valves would have performed their intended function.

The setpoint for the full closed position indicating switches is an interim setpoint for the indication and will be revised as necessary based on the results of the analysis requested by D. J. Skovholt's August 9, 1972 letter on this subject. This evaluation of the limitations on open vacuum breakers is not complete at this time.

Mr. A. Giambusso

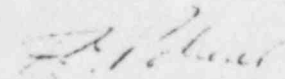
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It appears to COMMONWEALTH EDISON COMPANY that the design of the suppression chamber to drywell vacuum breaker valve counterweights required to provide positive closing force could be improved. A design modification is being developed through the original design organization pursuant to Criteria III of 10 CFR 50, Appendix B.

Very truly yours,

COMMONWEALTH EDISON COMPANY
Quad-Cities Nuclear Power Station


F. A. Palmer
Superintendent

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