



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

NJK-74-273

September 10, 1974



50-265

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, Unit 2
Docket No. 50-265, DPR-30, Appendix A
Sections 1.0.A.2, 3.7.A.3, and 6.6.B.1.a

Dear Mr. O'Leary:

Enclosed please find Abnormal Occurrence Report No. AO 50-265/74-21 for Quad-Cities Nuclear Power Station. This occurrence was previously reported to Region III, Directorate of Regulatory Operations by telephone on August 31, 1974, and to you and Region III, Directorate of Regulatory Operations by telecopy on August 31, 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
N. J. Kalivianakis
Station Superintendent

NJK/EAS/jeh

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

Enclosure: AO 50-265/74-21

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REPORT NUMBER: AO 50-265/74-21

REPORT DATE: September 9, 1974

OCCURRENCE DATE: August 31, 1974

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

IDENTIFICATION OF OCCURRENCE:

Reactor Building to suppression chamber vacuum breaker valve AO-2-1601-20A failed to open during routine quarterly surveillance testing.

CONDITIONS PRIOR TO OCCURRENCE:

Unit 2 reactor in startup mode withdrawing control rods towards criticality, surveillance tests in progress.

DESCRIPTION OF OCCURRENCE:

During the unit start up, quarterly operability surveillance was being performed on the Unit 2 Reactor Building - to - Pressure Suppression Chamber Vacuum Breaker valves AO-2-1601-20A and AO-2-1601-20B. Valve 20A failed to open from the control room. The control room operator then terminated control rod withdrawal and the Shift Foreman and Equipment Operator proceeded to examine the valve locally to determine the reason for the failure. Since the valve is a fail-open type valve, the control fuse was removed and the valve did open with some assistance. Therefore, an electrical problem was ruled out. The fuse was replaced and the valve did close; yet it still would not open from the control room. Therefore, it was concluded that there was probably a faulty valve operator. The 20A valve was taken out-of-service, and a work request was issued to repair the valve.

ANALYSIS OF OCCURRENCE:

The purpose of the vacuum relief valves is to equalize the pressure between the pressure suppression chamber and the reactor building so that the structural integrity of the suppression chamber is maintained. The system contains two 100 per cent capacity flow paths. Although "A" line was inoperable due to the 1601-20A failure, the "B" line was still operable. Valve AO-2-1601-20B had been demonstrated to be satisfactorily operable during the surveillance test. Thus, the "B" flow path was capable of performing its intended function at all times. The structural integrity of the suppression chamber was thus, not compromised due to this occurrence.

DESIGNATION OF APPARENT CAUSE OF OCCURRENCE:COMPONENT FAILURE:

The apparent cause of this occurrence is designated as component failure. Upon removal and inspection of the pilot solenoid valve assembly, a damaged rubber seat was found in the solenoid cap assembly. This apparently resulted in the failure of the solenoid mechanism to give an air signal to the four-way Versa pilot valve. Therefore, the main valve could not be opened.

The pilot valve was thus designated as the failed component due to excessive wear of the rubber seat.

CORRECTIVE ACTION:

The pilot valve section was replaced, but the old solenoid coil was retained. The valve was satisfactorily operated from the control room three times. Local operation was confirmed and no sluggish operation was observed.

FAILURE DATA:

The 1601-20A valve is a Henry Pratt 20 inch air operated butterfly valve. On February 17, 1972, the valve position and indicating light were adjusted. Local leak rate tests were run on the section of pipe between AO-2-1601-20A and CV-1601-31A on April 16, 1973, and October 17, 1973. The measured leakages were 0.637 SCFH and 0 SCFH, respectively. The valve seating surfaces were in no way to blame for the valve failing to operate on August 31, 1974. The pilot solenoid SO-2-1601-50A has not had any previous maintenance history. Therefore, there is no cumulative experience with regards to this failure.