



Commonwealth Edison
Quad-Cities Generating Station
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NJK-75-351

July 8, 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. 50-265, NRR-30, Unit 2
Appendix A, Sections 1.0.A.2, 3.7.A.3, 6.6.B.1.a

Enclosed please find Abnormal Occurrence Report No. 50-265/75-21 for Quad-Cities Nuclear Power Station. This occurrence was previously reported to Region III, Directorate of Regulatory Operations by telephone on June 28, 1975 and to you and Region III, Directorate of Regulatory Operations by telecopy on June 30, 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/lk

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

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REPORT NUMBER: AO 50-265/75-21

REPORT DATE: July 8, 1975

OCCURRENCE DATE: June 28, 1975

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

IDENTIFICATION OF OCCURRENCE:

Reactor building to suppression chamber vacuum breaker valves AO-2-1601-20 A & B failed to open during routine quarterly surveillance testing.

CONDITIONS PRIOR TO OCCURRENCE:

Unit 2 was operating at 450 MWe and decreasing load to 400 MWe for surveillance testing and to reverse flow through the main condenser.

DESCRIPTION OF OCCURRENCE:

At 1:30 a.m. on June 28, 1975, while performing the Pressure Suppression Chamber to Reactor Building Vacuum Breaker surveillance as per Technical Specification 4.7.A.3.a, the 2-1601-20 A and 2-1601-20B valves were found not to open from the control room. When the vacuum breaker solenoids were tapped it was found the valve would open. Electrical maintenance was called to repair the solenoids.

The Unit 2 operator continued to drop load.

DESIGNATION OF APPARENT CAUSE OF OCCURRENCE:

Equipment Failure

The apparent cause of this occurrence is designated as equipment failure. Upon removal and inspection of the pilot solenoid valve assemblies, 2-1601-50 A&B, worn rubber seats were found in the solenoid caps. This apparently resulted in the failure of the solenoid mechanism to give an air signal to the fourway Versa pilot valve. Therefore, the main valves, 2-1601-20 A&B, could not be opened.

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

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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 percent capacity flow paths. Although both the A & B lines were inoperable, due to the 1601-20 A&B failures, the instrumentation that annunciates when the reactor building pressure exceeds the suppression chamber pressure by 3 inches of water was operable and would have alerted the operator to take actions. In the event that this differential had occurred, the 2-1601-22 and 2-1601-56 valves could have been used to equalize the pressure. The structural integrity of the suppression chamber was thus not compromised due to this occurrence.

CORRECTIVE ACTION:

Electrical maintenance personnel replaced the solenoids on the 2-1601-20A and 2-1601-20B vacuum breakers and the valves were retested to assure proper operation. The vacuum breakers were returned to service at 4:45 a.m. on June 28th, 3 hours and 15 minutes after the problem was discovered.

In addition to the quarterly surveillance testing of the 2-1601-20 A&B by the operating department, the instrument maintenance department performs quarterly calibration and functional testing of the differential pressure sensors and in the course of this testing cycles the 2-1601-20 A&B vacuum breakers.

FAILURE DATA:

On August 31, 1974, the A0 2-1601-20A failed to open during routine quarterly surveillance testing. A damaged rubber seat in the 2-1601-50A solenoid cap assembly resulted in the failure of the solenoid mechanism to give an air signal to the fourway Versa pilot valve.

The 2-1601-20A and 2-1601-20B valves are Henry Pratt 20 inch air operated butterfly valves. The 2-1601-50 A&B solenoids are fourway Versa pilot valves.