



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



NJK-74-136

June 28, 1974

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  
Docket No. 50-265, DPR-30  
Appendix A, Section 1.0.A.4, 6.6.B.1.a

Dear Mr. O'Leary:

Enclosed please find Abnormal Occurrence Report No. A.O. 50-265/74-14 for Quad-Cities Nuclear Power Station. This occurrence was previously reported to Region III, Directorate of Regulatory Operations by telephone and telegram on June 19, 1974, and to you by telegram also on June 19, 1974.

This report is submitted to you in accordance with the requirements of Technical Specification Section 6.6.B.1.a.

Very truly yours,

COMMONWEALTH EDISON COMPANY  
QUAD-CITIES NUCLEAR POWER STATION

N. J. Kalivianakis  
Station Superintendent

NJK/CWS/jeh

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

Enclosure: Abnormal Occurrence Report No. 50-265/74-14

*handed  
50-265*

6123

8305190465 740628  
PDR ADOCK 05000265  
S PDR

COPY SENT REGION 3

REPORT NUMBER: 50-265/74-14

REPORT DATE: June 28, 1974

OCCURRENCE DATE: June 19, 1974

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

IDENTIFICATION OF OCCURRENCE:

Cracked nipple on pressure test connection on feedwater header.

CONDITIONS PRIOR TO OCCURRENCE: Unit 2 in shutdown mode.

DESCRIPTION OF OCCURRENCE:

At 10:00 A.M. on June 19, 1974, an inspection was made of the piping in the out-board MSIV room. Water was discovered leaking from pressure test connection 2-3211-3/4" where it taps into feedwater line 2-3204A-18". Investigation revealed a cracked nipple where the test connection was welded to a weldolet on the feedwater line. Further investigation revealed a second cracked nipple on the 3/4" drain/equalizer line for RCIC testable check valve 2-1301-50.

DESIGNATION OF APPARENT CAUSE OF OCCURRENCE:

The subject nipple cracks were fatigue type failures assisted by improper support. Failure was caused by the unsupported cantilever arrangement of the piping. The problem was compounded by the cyclical vibrations of normal operation.

ANALYSIS OF OCCURRENCE:

The failed nipples were located on the portion of the feedwater header between feedwater check-valves 2-220-62A and 2-220-59A. The -59A check valve is the out-board boundary of the primary feedwater system. Complete failure of these nipples would have resulted in only a minor reduction of feedwater availability to the reactor. Since a complete loss of the feedwater system is an analyzed design accident, these failures did not threaten the safety of the reactor and thus the safety implications are minimal. The health and safety of the public was not threatened because any contaminated water resulting from the leaks would have been contained in the floor drain system and processed through the radwaste facility. Additionally, any air-borne contamination resulting from the leaks would have been handled by the reactor building ventilation system since the area is within the secondary containment boundary and thus is subject to the constraints of that system.

CORRECTIVE ACTION:

Assistance in analysis of the mode of failure was obtained from the Commonwealth Edison Company Operational Analysis Department. Nine additional small lines are

similarly attached to the feedwater system in the immediate area of the failures. These lines were examined and found intact. The Commonwealth Edison Company Mechanical and Structural Engineering Department, Sargent and Lundy Consulting Engineers, and Southwest Research Institute provided on-site assistance in designating adequate bracing for proper support of these lines. The two cracked nipples were repaired and leak tested. Recommended additional bracing was installed prior to power operation of the unit.

#### FAILURE DATA:

Previous similar nipple failures have not occurred at Quad-Cities Station in the safety related section of the feedwater system. These failures are related to previously reported failures caused by vibration problems in this same area of the feedwater system. A study is being conducted at the station by Southwest Research Institute to try to resolve the vibration problems.