



**Commonwealth Edison**

Quad Cities Nuclear Power Station  
22710 206 Avenue North  
Cordova, Illinois 61242  
Telephone 309/654-2241

RLB-92-052

February 26, 1992

U. S. Nuclear Regulatory Commission  
Document Control Desk  
Washington, DC 20555

Reference: Quad Cities Nuclear Power Station  
Docket Number 50-254, DPR-29, Unit One

Enclosed is Licensee Event Report (LER) 91-029, Revision 00, for Quad Cities Nuclear Power Station.

This report is submitted in accordance with the requirements of the Code of Federal Regulations, Title 10, Part 50.73(a)(2)(v)(B). The licensee shall report any event or condition that alone could have prevented the fulfillment of the safety function or systems that are needed to mitigate the consequences of an accident.

Respectfully,

COMMONWEALTH EDISON COMPANY  
QUAD CITIES NUCLEAR POWER STATION

R. L. Bax  
Station Manager

RLB/TB/jcs

Enclosure

cc: J. Schrage  
T. Taylor  
INPO Records Center  
NRC Region III

STMR 200

110021

9203120124 920304  
PDR ADOCK 05000251  
S PDR

*Handwritten initials/signature*

## LICENSEE EVENT REPORT (LER)

Form Rev 2.0

Facility Name (1) Quad Cities Unit One  
 Title (4) U-1 RCIC MOV 1-1301-49 Valve Failed to Open Due to Unknown Causes

Docket Number (2) 0 | 5 | 0 | 0 | 0 | 2 | 5 | 4  
 Page (3) 1 of 0 | 4

Event Date (5) Month | Day | Year | Year  
 0 | 4 | 2 | 4 | 9 | 1 | 9 | 1  
 LER Number (6) Sequential Number | Revision Number  
 0 | 6 | 6 | 0 | 0  
 Report Date (7) Month | Day | Year  
 0 | 3 | 0 | 4 | 9 | 2  
 Other Facilities Involved (8) Facility Names | Docket Number(s)  
 0 | 5 | 0 | 0 | 0 | 1 | 1  
 0 | 5 | 0 | 0 | 0 | 1 | 1

OPERATING MODE (9) 3  
 POWER LEVEL (10) 0 | 1 | %  
 THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10CFR (Check one or more of the following) (11)  
 20.402(b) | 20.405(c) | 50.73(a)(2)(iv) | 73.71(b)  
 20.405(a)(1)(i) | 50.36(c)(1) | X 50.73(a)(2)(v) | 73.71(c)  
 20.405(a)(1)(ii) | 50.36(c)(2) | 50.73(a)(2)(vii) | Other (Specify  
 20.405(a)(1)(iii) | 50.73(a)(2)(i) | 50.73(a)(2)(viii)(A) | in Abstract  
 20.405(a)(1)(iv) | 50.73(a)(2)(ii) | 50.73(a)(2)(viii)(B) | below and in  
 20.405(a)(1)(v) | 50.73(a)(2)(iii) | 50.73(a)(2)(k) | Text)

## LICENSEE CONTACT FOR THIS LER (12)

Name Terry Barber - Regulatory Assurance Ext. 3103  
 TELEPHONE NUMBER AREA CODE | 3 | 0 | 9 | 6 | 5 | 4 | - | 2 | 2 | 4 | 1

## COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFAC- TURER	REPORTABLE TO NPRDS		CAUSE	SYSTEM	COMPONENT	MANUFAC- TURER	REPORTABLE TO NPRDS	

## SUPPLEMENTAL REPORT EXPECTED (14)

Expected Submission Date (15) Month | Day | Year  
 Yes (If yes, complete EXPECTED SUBMISSION DATE) X | NO

ABSTRACT (Limit to 1400 spaces, i.e., approximately fifteen single-space typewritten lines) (16)

At 1321 hours on April 24, 1991, Unit One was in STARTUP mode at 1 percent rated core thermal power. The Reactor Core Isolation Cooling (RCIC) system was inoperable in preparation for RCIC turbine overspeed testing. During QCOS 1300-3 "Monthly RCIC Motor Operated Valve Test", the RCIC 1301-49 pump discharge valve failed to open.

The cause of this event is unknown. Two contacts in the limit switch assembly were cleaned and the valve was successfully stroked.

On January 24, 1992 the Station received a severity Level IV violation in Inspection Report 254/91024; 265/91020 for failing to report this event as an LER in accordance with the requirements for 10CFR 50.73(a)(2)(v)(D). This report is being submitted to fulfill this requirement.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

Form Rev 2.0

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			Page (3)	
" "		Year	///	Sequential Number	///	Revision Number
Quad Cities Unit One	0   5   0   0   0   2   5   4	9   1	-	0   2   9	-	0   0
TEXT Energy Industry Identification System (EIS) codes are identified in the text as [XX]						

PLANT AND SYSTEM IDENTIFICATION:

General Electric - Boiling Water Reactor - 2511 Mwt rated core thermal power.

EVENT IDENTIFICATION: U-1 RCIC MOV 1-1301-49 Valve Failed to Open Due to Unknown Causes.

A. CONDITIONS PRIOR TO EVENT:

Unit:	One	Event Date:	April 24, 1991	Event Time:	1321
Reactor Mode:	3	Mode Name:	Startup	Power Level:	01%

This report was initiated by Deviation Report D-4-1-91-066

Startup Mode (3) - In this position, the reactor protection scram trips, initiated by condenser low vacuum and main steamline isolation valve closure are bypassed, the low pressure main steamline isolation valve closure trip is bypassed and the reactor protection system is energized, with IRM and APRM neutron monitoring system trips and control rod withdrawal interlocks in service.

B. DESCRIPTION OF EVENT:

At 1321 hours on April 24, 1991, Unit One was in the STARTUP mode at 1 percent reactor core thermal power. At this time, the Unit One Nuclear Station Operator (NSO) began to perform QCOS 1300-3, Monthly RCIC Motor Operated Valve Test.

The Reactor Core Isolation Cooling (RCIC) [BN] system was already inoperable in preparation for RCIC turbine overspeed testing. This testing requires the RCIC turbine [TRB] and pump [P] be uncoupled to verify the ability of the turbine to trip under an actual overspeed condition. A 24 hour Limiting Condition of Operation (LOC) per Technical Specification 4.5.E is allowed to complete RCIC overspeed testing prior to exceeding 325 psig reactor pressure.

During QCOS 1300-3, the light indication for Motor Operated (MO) valve [ISV] 1-1301-49, pump discharge valve, failed to display dual indication when the NSO tried to open the valve. This signified the valve disk did not lift from the valve body seat. Light indication on the 901-3 panel was not lost, indicating that the valve operator had not tripped on thermal overload. The NSO tried and failed to open the valve a second time. An Equipment Attendant (EA) was sent to investigate the problem.

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Form Rev 2.0

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)						Page (3)		
		Year	Sequential Number	Revision Number						
Quad Cities Unit One	0   5   0   0   0   2   5   4	9   1	-   0   2   9	-   0   0				0   3	OF	0   4

TEXT Energy Industry Identification System (EIIS) codes are identified in the text as [XX]

The EA hand cranked the valve's disk off its seat and then manually reclosed the valve again. On the second attempt after the EA hand cranked the valve, the NSO succeeded in stroking the valve to the full open and close positions. At 1446 hours, the NSO completed the remainder of the surveillance successfully.

The Electrical Maintenance (EM) Department was notified of the problem and Nuclear Work Request (NWR) #Q92046 was initiated.

At 1705 hours on April 24, 1991, a courtesy phone call was made to the NRC via the Emergency Notification System (ENS).

At 1858 hours, valve MO-1-1301-49 was taken Out of Service. EM adjusted the finger spring pressure on the 3 and 3C contacts and cleaned the limit switch contacts per QEMP 600-1. Also, the limit switch housing was inspected for cleanliness. Afterwards, the valve was stroked successfully.

At 0600 hours on April 25, 1991, Unit One RCIC was returned to service.

On October 6, 1990 the RCIC 1301-49 valve was successfully stroked under QOS 1300-S3 "RCIC MOTOR OPERATED VALVE OPERABILITY TEST DATA SHEET". Unit One was then shutdown for a refuel outage on November 12, 1990.

A Total Job Management search of work requests between the October 6, 1990 test and the failure of the valve on April 24, 1991 revealed no work having been done on the valve.

On January 24, 1992 the Station received a Severity Level IV violation in Inspection Report 254/91024; 265/91020 for failing to report this event as an LER in accordance with the requirements for 10CFR50.73(a)(2)(v)(D). The licensee shall report any event or condition that alone could have prevented the fulfillment of the safety function of structures or systems that are needed to mitigate the consequences of an accident. This report is being submitted to fulfill this requirement.

C. APPARENT CAUSE OF EVENT:

The exact cause of this event is unknown. A possible cause is the 3 and 3C contacts not making sufficient contact due to dirt or loose debris. These contacts, located in the limit switch assembly of the MOV-1-1301-49, are normally closed during the intermediate and closed positions of the valve.

If the contacts did not pick up correctly, the motor would not operate to stroke open the valve.

D. SAFETY ANALYSIS OF EVENT:

The safety of the plant and personnel was not affected during this event. The RCIC system automatically initiates on low-low water level (~59 inches) and is designed to provide core cooling water in the event the reactor becomes isolated from the main condenser simultaneously with a loss of the reactor feedwater system. The RCIC system is not part of the station Emergency Core Cooling Systems (ECCS) and is therefore not required for a Loss of Coolant Accident (LOCA).

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TEXT Energy Industry Identification System (EIS) codes are identified in the text as [XX]

The Reactor Core Isolation Cooling (RCIC)[BN] system was already inoperable in preparation for RCIC turbine overspeed testing. This testing requires the RCIC turbine [TRB] and pump [P] be uncoupled to verify the ability of the turbine to trip under an actual overspeed condition. A 24 hour Limiting Condition of Operation (LOC) per Technical Specification 4.5.E is allowed to complete RCIC overspeed testing prior to exceeding 325 psig reactor pressure.

Per Technical Specification 3.5.E, if RCIC is found to be inoperable when the reactor is in the RUN mode, continued reactor operation is permissible provided the High Pressure Coolant Injection (HPCI) system is operable. In addition to HPCI providing backup to RCIC, the Safe Shutdown Makeup Pump (SSMP) is a motor driven pump designed as a backup to RCIC as part of the station safe shutdown system. If RCIC had been inoperable between October 06, 1990 and November 12, 1990 HPCI and the SSMP were available.

E. CORRECTIVE ACTIONS:

The corrective actions for the failure of the MO-1-1301-49 valve consisted of manually cranking the valve disk off its seat and stroking the valve afterwards. NWR #Q92046 was then initiated to investigate the problem.

EM personnel investigated the failure of the valve and could not determine the cause. The valve was taken out of service so the electrical technician could inspect and clean the contacts in the limit switch assembly. The 3 and 3C contact finger spring pressure was adjusted per QEMP 600-1.

Afterwards, the valve was stroked successfully and was returned to service.

F. PREVIOUS EVENTS:

A search was performed of previous events where the RCIC 1301-49 valve failed. Only one occurrence was identified.

Reportable Occurrence Report  
2-80-25/03L

RCIC 1-1301-49 valve would not fully open due to limit switches on the limit torque valve operator were out of position.

G. COMPONENT FAILURE DATA:

No search of the Nuclear Plant Reliability Data System (NPRDS) was performed as there was no specific component failure identified in this event.

ATTACHMENT I (Cont'd)

EVENT SUMMARY AND CAUSE CODES

DVR Number  
4-1-96-0166

<input type="checkbox"/> Lost Generation	<input type="checkbox"/> Reactor Trip	<input type="checkbox"/> NRC violation, level _____
<input type="checkbox"/> Cost > \$25,000	<input type="checkbox"/> ESF actuation	<input type="checkbox"/> GSEP event, class _____
<input type="checkbox"/> Hazard or Spill	<input type="checkbox"/> NRC reportable	<input type="checkbox"/> Tech Spec LCO
<input type="checkbox"/> Personnel injury	<input type="checkbox"/> LER	<input type="checkbox"/> Potential or future loss
	<input type="checkbox"/> PSE	<input type="checkbox"/> SALP functional area _____

Component Type	Failure Mode	Department
X <del>CE</del> <sup>NR</sup>	<del>E</del> <sup>NR</sup>	<del>EM</del>
X CE	E 5	EM
X		

Licensed? L or blank	Type	Detail code
A		
A		
A		

Type	Detail Code	Department
B		
B		
B		
Type	Detail code	
C		

Type of deficiency	Detail code	Procedure type
D		
D		
D		

Type	Detail code	Department
E		
E		
E		