Commonwealth Edison Company
Quad Cities Generating Station
22710 206th Avenue North
Cordova, IL 61242-9740
Tel 309-654-2241

ComEd

November 29, 1999

SVP-99-232

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D.C. 20555

Quad Cities Nuclear Power Station, Unit 2
Facility Operating License No. DPR-30
NRC Docket No. 50-265

Enclosed is Licensee Event Report (LER) 265/99-004, 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 could have prevented the removal of residual heat.

We are committing to the following action:

The affected Unit 2 High Pressure Coolant Injection turbine exhaust piping will be flushed during the next refueling outage on Unit 2 (Q2R15) to ensure that any foreign material present is removed or moved to a location that will not prevent proper equipment operation.

Any actions described in the submittal represent intended or planned actions by Commonwealth Edison (ComEd) Company. They are described for the NRC's information and are not regulatory commitments.

Should you have any questions concerning this letter, please contact Mr. C.C. Peterson at (309) 654-2241, extension 3609.

Respectfully,

Joel P. Dimmette, Jr.
Site Vice President
Quad Cities Nuclear Power Station

JE22

cc: Regional Administrator – NRC Region III
NRC Senior Resident Inspector – Quad Cities Nuclear Power Station

PDR ADOCK 05000265

LICENSEE EVENT REPORT (LER)			Form Rev. 2.0
Facility Name (1)	Docket Number (2)		Page (3)
Quad Cities Unit 2	0 5 0 0 0 2 6 5		1 of 0 3

Title (4) High Pressure Coolant Injection Subsystem Steam Exhaust Vacuum Breaker Failure to Close during Surveillance

Event Date (5)			LER Number (6)			Report Date (7)			Other Facilities Involved (8)	
Month	Day	Year	Year	Sequential Number	Revision Number	Month	Day	Year	Facility Names	Docket Number(s)
1 1	0 2	1999	1999	0 0 4	0 0	1 1	2 9	1999		0 5 0 0 0

OPERATING MODE (9)	1	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10CFR (Check one or more of the following) (11)									
POWER LEVEL (10)	1 0 0		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 in Abstract below and in Text		
			20.405(a)(1)(iii)		50.73(a)(2)(i)		50.73(a)(2)(viii)(A)				
			20.405(a)(1)(iv)		50.73(a)(2)(ii)		50.73(a)(viii)(B)				
			20.405(a)(1)(v)		50.73(a)(2)(iii)		50.73(a)(2)(x)				

LICENSEE CONTACT FOR THIS LER (12)

Name	TELEPHONE NUMBER
	AREA CODE
Charles Peterson, Regulatory Assurance Manager, ext. 3609	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	MANUFACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX

SUPPLEMENTAL REPORT EXPECTED (14)		Expected Submission Date (15)	Month	Day	Year
☐ YES (If yes, complete EXPECTED SUBMISSION DATE)	☒ NO				

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

ABSTRACT:

On November 2, 1999, at 1901 hours, the High Pressure Coolant Injection (HPCI) Steam Exhaust Line Vacuum Breaker 2-2399-65 valve failed to meet the acceptance criteria of QCOS 2300-18, "HPCI Steam Exhaust Vacuum Breaker Line Check Valves IST Functional Test," when it was tested in the closed direction. After disassembly and inspection, the 2-2399-65 valve was re-assembled and satisfactorily tested. The Unit 2 HPCI subsystem was declared operable at 1932 hours on November 3, 1999.

Although no foreign material was discovered, alternative causes were ruled out through investigation, and foreign material underneath the valve disk during the test failure was determined to be the root cause of this event.

The safety significance of this event was minimal. The redundant in-line vacuum breakers passed their testing at the time of this event; therefore, primary containment was intact.

The affected Unit 2 HPCI turbine exhaust piping will be flushed during the next refueling outage.

PLANT AND SYSTEM IDENTIFICATION:
General Electric - Boiling Water Reactor - 2511 MWt rated core thermal power.

EVENT IDENTIFICATION: High Pressure Coolant Injection Subsystem Steam Exhaust Vacuum Breaker Failure to Close during Surveillance.

A. CONDITIONS PRIOR TO EVENT:

Unit:	Two	Event Date:	11/02/99	Event Time:	1901 hours
Reactor Mode:	One	Mode Name:	Run	Power Level:	100 %

This report was initiated by Licensee Event Report 265/99-004

Power Operation (1) - Mode switch in the RUN position with average reactor coolant temperature at any temperature.

B. DESCRIPTION OF EVENT:

On November 2, 1999, at 1901 hours, the High Pressure Coolant Injection (HPCI) [BJ] Steam Exhaust Line Vacuum Breaker [RV] 2-2399-65 valve failed to meet the acceptance criteria of QCOS 2300-18, "HPCI Steam Exhaust Vacuum Breaker Line Check Valves IST Functional Test," when it was tested in the closed direction. The acceptance criteria for this surveillance is the capability of producing 80 psig of pressure downstream of the vacuum breaker valve when it is being tested in the closed direction. The highest pressure produced during this surveillance was about 47 psig. The operator heard "chattering" when the valve test failed. The "chattering" stopped when the test was started for the downstream vacuum breaker in the open direction.

The vacuum breaker remained isolated and HPCI remained inoperable.

After disassembly and inspection, the 2-2399-65 valve was re-assembled and tested in accordance with QCOS 2300-18. This test was completed at 0645 hours on November 3, 1999. The test results were satisfactory. A preliminary root cause was performed, which determined that the 2-2399-65 valve was operable based on the inspections and testing that had been completed. Based on this review the Unit 2 HPCI subsystem was declared operable at 1932 hours on November 3, 1999.

C. CAUSE OF THE EVENT:

The most probable root cause of this event was determined to be foreign material underneath the valve disk. Alternative causes (operator error, valve failure, a test method problem, and an equipment problem not related to the valve) were considered during investigation. This cause was supported by the "chattering" sound heard during the test. An engineering representative for the valve vendor indicated that the "chattering" that was heard during the valve test failures could be attributed to the valve disk bouncing off of the valve seat. Also, the "chattering" stopped when the open test was started on the downstream vacuum breaker.

D. SAFETY ANALYSIS:

The safety significance of this event was minimal. The redundant in-line vacuum breakers passed their testing at the time of this event; therefore, primary containment was intact. Also, had the HPCI subsystem been called upon to operate, the large volume of steam flow (approximately 143,000 lb_m per hour) through the turbine exhaust line would have closed the 2-2399-65 valve. This amount of steam flow is in comparison with the approximately 900 lb_m per hour of air that is provided to close the valve during testing. HPCI was operable until the vacuum breaker was isolated, at which time the Limiting Condition for Operation for HPCI was entered. All other Emergency Core Cooling Systems were operable.

Although the ENS call made for this event on November 2, 1999, indicated that the event was reportable in accordance with 10CFR50.72(b)(1)(ii)(B), "Any event or condition during operation that results in the condition of the nuclear power plant, including its principal safety barriers, being seriously degraded; or results in the nuclear power plant being in a condition that is outside the design basis of the plant," investigation has shown that, as discussed above, the plant was not in a condition outside of its design basis.

E. CORRECTIVE ACTIONS:

Correcive Action Completed:

After disassembly and inspection, the 2-2399-65 valve was re-assembled and tested in accordance with QCOS 2300-18. This test was completed at 0645 hours on November 3, 1999.

Corrective Actions to be Completed:

The affected Unit 2 HPCI turbine exhaust piping will be flushed during the next refueling outage on Unit 2 (Q2R15) to ensure that any foreign material present is removed or moved to a location that will not prevent proper equipment operation.

F. PREVIOUS OCCURRENCES:

No LERs were identified in the last two years involving foreign material. No LERs involving failure of the HPCI vacuum breakers were identified for the last five years.

G. COMPONENT FAILURE DATA:

There were no component failures associated with this event.