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On January 7, 1986, Unit One was shutdown for a refueling and maintenance outage. At 1530 hours, while performing the Main Steam Isolation Valve Local Leak Rate Tests (LLRT) (QTS 100-3), valves AO 1-203-2A, AO 1-203-2B, and AO 1-203-2C were found to leak in excess of the 11.5 standard cubic feet per hour limit specified in Technical Specification 3.7.A.2.a.3. The cause of the leak rate test failures was due to equipment failure. The valve seat for the 2A valve was grimy and pitted. The 2B valve seat was dirty and pitted. The 2C valve seat was also dirty and rusty and there were dirt spots on the valve disc. The conditions were caused by normal operational wear. Repairs were made as needed, including lapping of the valve seats and repair or replacement of the main valve discs and stems. Long term corrective action includes the use of a new valve lapping tool and development of a preventative maintenance program for the valve operators to assure adequate valve seating forces. This report is submitted in accordance with the requirements of 10 CFR 50.73(a)(2)(ii).

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FACILITY NAME (1)	DOCKET NUMBER (2)		NUMBER	Page (3)				
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Quad Cities Unit 1	0   5   0   0   0   2   5   4	8 6	-	0   0   2   -	0   1	0 2	OF	013

## PLANT AND SYSTEM IDENTIFICATION:

General Electric - Boiling Water Reactor - 2511 MWt rated core thermal power. Energy Industry Identification System (EIIS) codes are identified in the text as [XX].

#### IDENTIFICATION OF OCCURRENCE:

Leakage through Main Steam Isolation Valves AO 1-203-2A, AO 1-203-2B, and AO 1-203-2C is in excess of the Technical Specification limit of 11.5 SCFH as determined by Local Leak Rate Testing.

Discovery Date:

01-07-86

Report Date:

06-11-86

This report was initiated by Deviation Report D-4-1-86-6

# CONDITIONS PRIOR TO OCCURRENCE:

SHUTDOWN Mode(1) - Rx Power 0% - Unit Load 0 MWe

SHUTDOWN Mode(1) - In this position, a reactor scram is initiated power to the control rod drives is removed and the reactor protection trip systems have been deenergized for 10 seconds prior to permissive for manual reset.

# DESCRIPTION OF OCCURRENCE:

On January 7, 1986. Unit One was in cold shutdown for the end of cycle eight refueling and maintenance outage. At 1530 hours, while performing the Main Steam Isolation Valves [JM] Local Leak Rate Test (LLRT) (OTS 100-3), Valves AO 1-203-2A, AO 1-203-2B, and AO 1-203-2C were found to leak in excess of the 11.5 standard cubic feet per hour (SCFH) limit specified in Technical Specification 3.7.A.2.a.3. The leakage for the individual valves were as follows.

VALVE	LEAKAGE				
AO 1-203-2A	292.7 SCFH				
AO 1-203-2B	38.0 SCFH				
AO 1-203-2C	82.9 SCFH				

This report is submitted in accordance with the requirements of 10 CFR 50.73(a)(2)(11).

## APPARENT CAUSE OF OCCURRENCE:

After inspecting the valve internals of AO 1-203-2A, grime and pitting were discovered on the valve seat. Also, a cracked cage weld was discovered. However, the cracked cage weld did not affect valve leakage.

ACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)						Page (3)		
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After inspecting the valve internals of AO 1-203-2B, dirt and pitting were discovered on the valve seat.

After inspecting the valve internals of AO 1-203-2C, dirt and rust were discovered on the valve seat and dirt spots were discovered on the valve disc.

These conditions were caused by normal operational wear.

## ANALYSIS OF OCCURRENCE:

The through-line leakages of the A, B, and C steam lines are 0.0 SCFH due to the fact that the inboard valves AO 1-203-1A, AO 1-203-1B, and AO 1-203-1C were leak tight as shown by the Local Leak Rate Testing. Therefore, the safety implications of this occurrence were minimal.

#### CORRECTIVE ACTION:

Valve AO 1-203-2A seat was lapped. Also, the main disc, stem, piston ring, and packing were replaced.

The AO 1-203-2B valve seat and main disc were lapped and, the stem, piston ring, and packing were replaced.

The AO 1-203-2C valve seat and main disc were lapped. Also, the valve stem, pilot disc, piston ring, and packing were replaced.

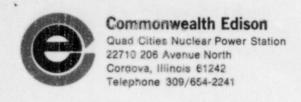
After the repairs were made, the "as left" leak rate values were as follows.

Valve	Leakage
AO 1-203-2A	1.15 SCFH
AO 1-203-2B	0 0 SCFH
AO 1-203-2C	0.0 SCFH

To improve the MSIV leak rate performance, the station has purchased a new valve seat lapping machine for repair of the MSIVs. This tool was used for the first time this outage and it is anticipated that use of this machine will improve MSIV leak rate performance. If lapping the valve seat proves to be unsuccessful during an MSIV repair, a new valve seat will be installed. The station also intends to develop a preventative maintenance program for the MSIV air operators to assure that the valve seating forces are satisfactory.

# FAILURE DATA:

At Quad Cities Station there have been 46 Main Steam Isolation Valves that have failed Local Leak Rate Testing. The last failures are documented on LERS 50-265/85-006 and 50-254/84-004.



RLB-86-82

June 11, 1986

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 please find Licensee Event Report (LER) 86-002, Revision 01, for Quad-Cities Nuclear Power Station.

This report is submitted to you in accordance with the requirements of the Code of Federal Regulations, Title 10, Part 50.73(a)(2)(ii), which requires the reporting of any event or condition that resulted in the condition of a nuclear power plant, including its principle safety barrier, being seriously degraded.

Respectfully,

COMMONWEALTH EDISON COMPANY QUAD-CITIES NUCLEAR POWER STATION

R. L.Bax Station Manager

RLB/MSK/dak

Enclosure

cc: J. Wojnarowski A. Madison INPO Records Center NRC Region III

Commonwealth Edison

DEVIATION REPORT

OVR NO. 04 \_ 1 \_ 86 \_ 6

STA UNIT YEAR NO.

PART 1 TITLE OF DEVIATION		OCCURRED 1-7-8	6 1530
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SPECIFICATION LIMIT OF 11	.5 SCFH AS DETERMINE	D BY LOCAL LEAK RA	TE TESTING.
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POTENTIALLY SIGNIFICANT EVENT	PER NSD DIRECTIVE A-07	YES X	] NO
NOTIFICATION MADE	INU	EX L. MISAK	1-7-86 DATE
PART 2 OPERATING ENGINEER'S COMMENTS	KESPONSIBLI	SUPERVISOR	DATE
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