

CATEGORY 1

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ACCESSION NBR:9701290160 DOC.DATE: 97/01/20 NOTARIZED: NO DOCKET #
 FACIL:50-410 Nine Mile Point Nuclear Station, Unit 2, Niagara Moha 05000410
 AUTH.NAME AUTHOR AFFILIATION
 DEAN,R.J. Niagara Mohawk Power Corp.
 CONWAY,J.T. Niagara Mohawk Power Corp.
 RECIPIENT AFFILIATION

SUBJECT: LER 96-016-00:on 961220,potential overpressurization of
 containment penetrations occurred due to thermal expansion.
 Operability determination was completed.W/970120 ltr.

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NIAGARA MOHAWK

GENERATION
BUSINESS GROUP

NINE MILE POINT NUCLEAR STATION/LAKE ROAD, P.O. BOX 63, LYCOMING, NEW YORK 13093

January 20, 1997
NMP2L 1684

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

RE: LER 96-16
Docket No. 50-410

Gentlemen:

In accordance with 10CFR50.73 (a)(2)(ii), we are submitting LER 96-16, "Potential Overpressurization of Containment Penetrations due to Thermal Expansion."

Very truly yours,

John T. Conway
Plant Manager - NMP2

JTC/GJG/kap
Enclosure

xc: Regional Administrator, Region I
Mr. B. S. Norris, Senior Resident Inspector
Records Management

IE 2/1

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LICENSEE EVENT REPORT (LER)

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 30.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-330), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20535, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503

FACILITY NAME (1)

Nine Mile Point Unit 2

DOCKET NUMBER (2)

5000410

PAGE (3)

1 OF 3

TITLE (4) Potential Overpressurization of Containment Penetrations due to Thermal Expansion

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)	
12	20	96	96	016	00	01	20	97	N/A	05000	
									N/A	05000	

OPERATING MODE (9)

1

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)

POWER LEVEL (10) 0%	<input type="checkbox"/> 20.402(b)	<input type="checkbox"/> 20.405(c)	<input type="checkbox"/> 50.73(a)(2)(iv)	<input type="checkbox"/> 73.71(b)
	<input type="checkbox"/> 20.405(a)(1)(i)	<input type="checkbox"/> 50.36(c)(1)	<input type="checkbox"/> 50.73(a)(2)(v)	<input type="checkbox"/> 73.71(c)
	<input type="checkbox"/> 20.405(a)(1)(ii)	<input type="checkbox"/> 50.36(c)(2)	<input type="checkbox"/> 50.73(a)(2)(vii)	<input type="checkbox"/> OTHER
	<input type="checkbox"/> 20.405(a)(1)(iii)	<input type="checkbox"/> 50.73(a)(2)(i)	<input type="checkbox"/> 50.73(a)(2)(viii)(A)	<i>Specify in Abstract below and in Test, NRC Form 366U</i>
	<input type="checkbox"/> 20.405(a)(1)(iv)	<input checked="" type="checkbox"/> 50.73(a)(2)(ii)	<input type="checkbox"/> 50.73(a)(2)(viii)(B)	
	<input type="checkbox"/> 20.405(a)(1)(v)	<input type="checkbox"/> 50.73(a)(2)(iii)	<input type="checkbox"/> 50.73(a)(2)(x)	

LICENSEE CONTACT FOR THIS LER (12)

NAME Raymond J. Dean, Manager Engineering NMP2

TELEPHONE NUMBER

(315) 349-4240

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

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS

SUPPLEMENTAL REPORT EXPECTED (14)

YES (If yes, complete EXPECTED SUBMISSION DATE)

NO

EXPECTED SUBMISSION DATE (15)

MONTH

DAY

YEAR

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

As a result of GL 96-06, Niagara Mohawk, on December 20, 1996, identified four containment penetrations which could be subjected to overpressurization due to thermal expansion of the entrapped water during design basis accidents when the penetrations are isolated. The four penetrations (2CCP*Z46A, 2CCP*Z47, 2CCP*Z33A, and 2CCP*Z34A) allow flow of reactor building closed loop cooling (CCP) water into and out of the drywell.

The cause of this event is that pressurization of these penetrations due to thermal expansion of entrapped water between the containment isolation valves was not considered during the design of Nine Mile Point Unit 2 (NMP2).

An operability determination was completed in accordance with Station Procedures and Generic Letter 91-18, "Information to Licensees Regarding Two NRC Inspection Manual Sections on Resolution of Degraded and Non-Conforming Conditions and on Operability" to verify operability. Long-term corrective actions are being considered and will be reported in accordance with Generic Letter 96-06, "Assurance of Equipment Operability and Containment Integrity During Design Basis Accident Conditions."



LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 30.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-330), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
Nine Mile Point Unit 2	05000410	96	16	00	02 OF 03

TEXT (If more space is required, use additional NRC Form 366A's) (17)

I. DESCRIPTION OF EVENT

In October 1996, Niagara Mohawk began an evaluation of the NMP2 containment penetrations in accordance with GL 96-06, "Assurance of Equipment Operability and Containment Integrity During Design Basis Accident Conditions." As a result of that review, four penetrations were identified on December 20, 1996, as potentially being subjected to temperatures which could cause water pressurization in excess of design pressure during a design basis accident when the penetrations are isolated. An operability determination of the penetrations was completed on December 22, 1996 in accordance with station procedures and the guidance provided in GL 91-18.

The four penetrations (2CCP*Z46A, 2CCP*Z47, 2CCP*Z33A, and 2CCP*Z34A) allow flow of reactor building closed loop cooling (CCP) water into and out of the drywell. The design pressure of these penetrations is 150 psi. The penetrations are designed in accordance with ASME III Class 2 and piping is designed in accordance with ASME Section III Class 4.

II. CAUSE OF EVENT

Pressurization of these penetrations due to thermal expansion of entrapped water between the isolation valves was not considered in the design of NMP2.

III. ANALYSIS OF EVENT

This condition is reportable in accordance with 10CFR50.73(a)(2)(ii), "any event or condition that resulted in a condition of the nuclear power plant, including its principle safety barriers being seriously degraded, or that resulted in the nuclear plant being: (B) in a condition that was outside the design basis of the plant."

A thermal transient analysis of the penetration and piping was initiated by NMPC to determine the maximum pressure, temperature and required relief capability in the isolated segments after containment isolation. The purpose of this analysis was to determine the maximum expected pressure and temperature in the isolated segments with a relief capacity equal to the expected valve leakage. This analysis takes credit for the isolation valve leakage which has been identified through the 10CFR50, Appendix J Program testing. The design limiting conditions for this scenario are those which result in the maximum heatup rate of the entrapped fluid in the isolated segments. The result of this analysis predicts a maximum pressure that is reached before the rate of increase in volumetric expansion is offset by leakage through the isolation valves.

The associated piping and penetration stress analyses were updated to determine the maximum pressure that could be accommodated without exceeding the applicable ASME Code Allowables. The associated isolation valves were also evaluated to determine the maximum pressure that could be accommodated during this scenario. The evaluation shows that the peak pressures experienced do not exceed the maximum pressures that can be accommodated within the allowable stresses.



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LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-530), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20535, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (5)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
Nine Mile Point Unit 2	05000410	96	- 16	- 00	03 OF 03

TEXT (If more space is required, use additional NRC Form 366A's) (17)

III. ANALYSIS OF EVENT (cont'd)

An operability determination was developed for the affected penetrations. Based on the results of the supporting analysis, it was concluded that the piping, penetrations, and associated isolation valves are operable and that there were no adverse consequences to the general public or plant personnel as a result of this design deficiency.

IV. CORRECTIVE ACTIONS

1. An operability determination was completed which showed that the penetrations maintained their structural integrity. This was completed in accordance with station procedures and GL 91-18.
2. Appropriate long-term corrective actions will be included in the response to Generic Letter 96-06. This response is scheduled for submittal by January 28, 1997, and includes a presentation of the evaluations, conclusions, and future actions associated with the issues identified in Generic Letter 96-06.
3. NMPC will review applicable engineering procedures to evaluate the need for enhancements to ensure thermal transients of isolated piping segments are considered in future design activities by NMPC or its contractors by April 30, 1997.

V. ADDITIONAL INFORMATION

- A. Failed components: none.
- B. Previous similar events: none.
- C. Identification of components referred to in this LER:

COMPONENT	IEEE 803 FUNCTION	IEEE 805 SYSTEM ID
Penetrations	PEN	CC



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