Niagara Mohawk

October 20, 1999
NMP2L 1905

United States Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555

RE: Docket No. 50-410
LER 99-18

Gentlemen:

In accordance with 10CFR50.73(a)(2)(i), we are submitting LER 99-18, "Valves in the Steam Condensing Mode were not Tested as Required by Technical Specification 4.0.5." As discussed with Ms. Evans of the Nuclear Regulatory Commission, Region I, Division of Reactor Projects, on October 19, 1999, this Licensee Event Report was delayed to allow completion of an extent of condition review.

Very truly yours,

Michael F. Peckham
Plant Manager - NMP2

MFP/CES/kap
Attachment

xc: Mr. H. J. Miller, Regional Administrator, Region I
Mr. G. K. Hunegs, NRC Senior Resident Inspector
Records Management

290041

NRC FORM 366 U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OMB NO. 3150-0104
EXPIRES:

LICENSEE EVENT REPORT (LER)

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 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
Nine Mile Point Unit 2	0 5 0 0 0 4 1 0	01 OF 05

TITLE (4)
Valves in the Steam Condensing Mode Were Not Tested as Required by Technical Specification 4.0.5

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)
09	16	99	99		018		00	10	20	99	N/A	
											N/A	

OPERATING MODE (9)		THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: *(Check one or more of the following)* (11			
POWER LEVEL (10) 100%		☐ 20.2201(b)	☐ 20.2203(a)(2)(v)	☒ 50.73(a)(2)(i)	☐ 50.73(a)(2)(viii)
		☐ 20.2203(a)(1)	☐ 20.2203(a)(3)(i)	☐ 50.73(a)(2)(ii)	☐ 50.73(a)(2)(x)
		☐ 20.2203(a)(2)(i)	☐ 20.2203(a)(3)(ii)	☐ 50.73(a)(2)(iii)	☐ 73.71
		☐ 20.2203(a)(2)(ii)	☐ 20.2203(a)(4)	☐ 50.73(a)(2)(iv)	☐ OTHER *(Specify in Abstract below and in Text, NRC Form 366A)*
		☐ 20.2203(a)(2)(iii)	☐ 50.36(c)(1)	☐ 50.73(a)(2)(v)	
		☐ 20.2203(a)(2)(iv)	☐ 50.36(c)(2)	☐ 50.73(a)(2)(vii)	

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER
Stephen Geier - Manager Engineering	(315) 349-7887

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

CAUSE	SYSTEM	COMPONENT	MANUFAC-TURER	REPORTABLE TO EPIX		CAUSE	SYSTEM	COMPONENT	MANUFAC-TURER	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)

On September 16, 1999, a Nuclear Regulatory Commission inspector questioned Niagara Mohawk Power Corporation concerning the absence of four valves from the Nine Mile Point Unit 2 Inservice Testing Program. Niagara Mohawk Power Corporation determined that the four valves were considered to be passive, but the valves have an active safety function to provide an isolation boundary between the high-pressure reactor coolant system and the low-pressure portions of the residual heat removal system. The valves should have been tested in accordance with Section XI of the American Society of Mechanical Engineers Boiler and Pressure Vessel Code and applicable addenda. This is a nonconformance with Technical Specification Surveillance Requirement 4.0.5.

The cause was inadequate reviews of the original design and licensing documentation while developing the Inservice Testing Programs.

Operators declared the steam condensing mode inoperable. The Inservice Testing Program was revised to include the proper testing for the valves and the valves were tested satisfactorily. In addition, the design documents will be revised.

I. DESCRIPTION OF EVENT

On September 16, 1999, a Nuclear Regulatory Commission inspector questioned Niagara Mohawk Power Corporation (NMPC) concerning the absence of four valves from the Nine Mile Point Unit 2 Inservice Testing Program. The valves are the residual heat removal system steam condensing mode pressure and level control valves which receive a signal to automatically close on a loss of coolant accident signal. These valves are the second valve in series that provide isolation between the high-pressure reactor coolant system and the low-pressure portions of the residual heat removal system. The valves were in the Inservice Testing Program, but testing was not required because they were erroneously considered passive. Therefore, Technical Specification Surveillance Requirement 4.0.5 was not met.

Valves 2RHS*LV17A and 2RHS*LV17B are on the drain line of the associated residual heat removal heat exchangers, 2RHS*E1A and 2RHS*E1B. Valves 2RHS*PV21A and 2RHS*PV21B are on the steam supply line of the same RHS heat exchangers. The four valves are utilized in the steam condensing mode and are not operated during power operations. During steam condensing operations, Valves 2RHS*PV21A and 2RHS*PV21B function to reduce the pressure of the reactor steam as it enters the heat exchangers, and Valves 2RHS*LV17A and 2RHS*LV17B control the water level in the heat exchangers. The valves are pneumatically open and fail closed under spring pressure.

A review of the First Ten-Year Inservice Testing Program documentation did not reveal any acceptable bases for classifying the valves as passive valves. A review of the Second Ten-Year Inservice Testing Program documentation revealed that the Safety Class Determinations 90-249 and 90-295 and Safety Evaluation 90-159 were the bases for classifying the valves as passive valves. The Safety Class Determinations 90-249 and 90-295 and Safety Evaluation 90-159 relied on the closing of the isolation valves in series with the subject valves on receipt of a loss of coolant accident signal and designated the subject valves as safety related passive. The safety class determinations and safety evaluation did not consider the Safety Evaluation Report (NUREG-1047) and Branch Technical Position ICSB-3.

Licensee Event Report 99-11 corrective action #4 indicated that NMPC would review approximately 150 valves in the Inservice Testing Program that were exempt from testing. Valves 2RHS*LV17A, 2RHS*LV17B, 2RHS*PV21A, and 2RHS*PV21B were included in the population of the 150 valves to be reviewed for inservice testing applicability by November 30, 1999, but the evaluations were not completed at the time of the NRC inspection.

II. CAUSE OF EVENT

The cause was inadequate reviews of the original design and licensing documentation while preparing the First and Second Ten-Year Inservice Program. Contributing to the cause is that relevant information concerning the active function of the valve from design documents. The original General Electric Company design documentation and other design basis documents prepared by the Stone and Webster Engineering

II. CAUSE OF EVENT (Cont'd)

Company did not address the impact of the failure of the valves to close upon receipt of a loss of coolant accident signal. Personnel performing the safety class determinations lacked the necessary system level knowledge and experience to recognize this lack of relevant information.

III. ANALYSIS OF EVENT

This event is reportable in accordance with 10CFR50.73(a)(2)(i)(B), "Any operation or condition prohibited by the plant's Technical Specifications." Due to their active safety function, Valves 2RHS*LV17A, 2RHS*LV17B, 2RHS*PV21A, and 2RHS*PV21B are required to be tested in accordance with Section XI of the American Society of Mechanical Engineers Boiler and Pressure Vessel Code and applicable addenda. These valves were not properly tested. Therefore, NMPC did not meet Technical Specifications Surveillance Requirement 4.0.5.

The four valves are utilized in the steam condensing mode and are not operated during power operations. The steam condensing mode can be used for residual heat removal when the main condenser or shutdown cooling is not available. During steam condensing operations, the valves would close on receipt of a loss of coolant accident signal to protect the low-pressure portion of the system from the high-pressure reactor coolant system. However, if these valves failed to close, additional valves in the same supply and drain piping would isolate the low-pressure portion of the residual heat removal system. In addition, relief valves are sized to protect the low-pressure portion of the residual heat removal system even if the valves in question failed open.

NMPC performed a probabilistic risk assessment for this condition and determined that it is non-risk significant.

The four valves were tested satisfactorily, which demonstrated the valves would have isolated the high-pressure reactor coolant system from the low-pressure portions of the residual heat removal system.

Based on the information provided above, the failure to perform inservice testing on the four valves used in the steam condensing mode did not adversely affect the health and safety of the general public or plant personnel.

IV. CORRECTIVE ACTIONS

1. NMPC declared the steam condensing mode inoperable and verified that the associated lines were isolated, and tagged the valves shut.

IV. CORRECTIVE ACTIONS (Cont'd)

2. Proper testing requirements for Valves 2RHS*LV21A, 2RHS*LV21B, 2RHS*PV21A, and 2RHS*PV21B were added to the Inservice Testing Program and the valves were satisfactorily tested.

3. The design documents will be revised and a licensing document change request will be approved to incorporate the changes into the active valve table at the next update of the Updated Safety Analysis Report. This action will be complete by March 31, 2000.

4. The majority of the corrective actions described in Licensee Event Reports 99-09, 99-11, and 99-14, Supplement 1 determine the extent of condition, address inadequacies in past management's expectations and communication of these expectations, and address the failure of plant personnel to adhere to management's expectations for reviewing and researching design and licensing documents. These corrective actions address the causes in these areas.

V. ADDITIONAL INFORMATION

A. Failed components: none.

B. Previous similar events:

Licensee Event Reports 99-14 Supplement 1 (Missed Technical Specification ASME Section XI Surveillance Testing), 99-09 (Nonconformance with Technical Specification Regarding ASME Section XI Class 2 Check Valve Reverse Flow Testing), and 99-08 (Inadequate Surveillance of Reactor Core Isolation Cooling Check Valve) describe NMPC's failure to proper test safety related check valves. These licensee event reports were identified as the result of the investigation stemming from Licensee Event Report 97-07 (Violation of Technical Specifications Regarding American Society of Mechanical Engineers Code Section XI Class 2 Weld Inspection Requirements Due to Improper Use of an Exemption). Licensee Event Report 99-11 (Valves Not Correctly Tested as Required by Technical Specification 4.0.5) identifies 26 valves in multiple systems that were improperly reclassified as passive valves and were not being properly tested. Although the question that led to the discovery of this event was posed by an NRC inspector, the valves described in this licensee event report (98-18) were to be reviewed by NMPC for inservice testing adherence in accordance with corrective actions of Licensee Event Report 99-11. The corrective actions from Licensee Event Report 99-11 would have identified these additional valves.

IV. ADDITIONAL INFORMATION (Cont'd)

C. Identification of components referred to in this Licensee Event Report:

Components	IEEE 803A Function	IEEE 805 System ID
Residual Heat Removal System	N/A	BO
Pressure Control Valve	PCV	BO
Relief Valve	RV	BO
Level Control Valve	LCV	BO