Niagara Mohawk

December 15, 1999
NMP2L 1919

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

RE: Docket No. 50-410
LER 99-21

Gentlemen:

In accordance with 10CFR50.73(a)(2)(i)(B), we are submitting LER 99-21, "Reactor Vessel Pressure Relays were not Correctly Tested as Required by Technical Specification Due to an Inadequate Procedure."

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

IE22

PDR ADOCK 05000410

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	05000410	01 OF 04

TITLE (4) Reactor Vessel Pressure Relays were not Correctly Tested as Required by Technical Specification Due to an Inadequate Procedure

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)
11	22	99	99		021		00	12	15	99	N/A	
											N/A	

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)			
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
	☐ 20.2203(a)(2)(iii)	☐ 50.36(c)(1)	☐ 50.73(a)(2)(v)	*(Specify in Abstract below and in Text, NRC Form 366A)*
	☐ 20.2203(a)(2)(iv)	☐ 50.36(c)(2)	☐ 50.73(a)(2)(vii)	

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER
Demetrius Willis - Manager Maintenance	(315) 349-7035

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 November 22, 1999, while at 100 percent power, Niagara Mohawk Power Corporation identified that two reactor vessel pressure relays were not being tested as required by Technical Specifications. Technical Specification Surveillance Requirement 4.3.2.1-1.g for the two relays requires a channel check, a channel functional test, and a channel calibration on a shiftly, quarterly, and refueling interval, respectively. The channel functional test of the relays was not being performed quarterly.

The cause was omission of relevant information during procedure development. Contributing to the cause was inadequate procedure reviews.

The relays were declared inoperable until the surveillance procedure was revised and the relays were satisfactorily tested. Additional guidance for performing technical reviews and the extent of the review for technical procedures has been better defined, since the last revision of the surveillance procedure was issued. The review of other channel functional test procedures is continuing and scheduled for completion by March 31, 2000.

I. DESCRIPTION OF EVENT

On November 22, 1999, while at 100 percent power, Niagara Mohawk Power Corporation (NMPC) identified that two reactor vessel pressure relays (B22H-K201C and B22H-K201D) were not being tested as required by Technical Specifications. Technical Specification Surveillance Requirement 4.3.2.1-1.g for the two relays requires a channel check, a channel functional test, and a channel calibration on a shiftly, quarterly, and refueling interval, respectively. The channel functional test of the relays was not being properly performed quarterly.

Reactor Vessel Pressure Relays B22H-K201C and B22H-K201D de-energize on high reactor pressure to inhibit opening of the residual heat removal system shutdown cooling valves. Procedure N2-ISP-ISC-Q001, "Quarterly Functional Test and Trip Unit Calibration of the Reactor Scram and RHR [Residual Heat Removal] Isolation on Steam Dome Pressure High Instrument Channels," does not verify that the relays change state upon receipt of a high reactor pressure signal. In 1986, the procedure was created using the testing sequence and methodology for Channel A, and then this methodology was duplicated for the other three channels. The design of Channels C and D is different than Channel A, because Channels C and D contain an extra relay. This difference was not identified during the procedure development or during subsequent technical reviews. Normally, with four channels performing the same function, the circuit configuration is identical.

Procedure N2-ISP-ISC-Q001 has been revised three times since initial development. The last revision was performed in 1993. During procedure development and subsequent reviews, the administrative procedure, which gives direction for procedure development, did not provide sufficient guidance for performing technical reviews and/or the extent of the technical reviews required for technical procedures. In 1997, Procedure NIP-PRO-03, "Preparation and Review of Technical Procedures," was revised to add guidance for performing technical reviews and for the extent of technical reviews required for technical procedures.

This condition was identified as a result of corrective actions described in Licensee Event Report 99-13 (Relays in Multiple Systems Were Not Correctly Tested as Required by Technical Specifications). Procedure N2-ISP-ISC-Q001 was included in the population of the channel functional test procedures that were being reviewed to verify that relays are being tested properly.

II. CAUSE OF EVENT

The cause was omission of relevant information during procedure development. The original procedure was generated for Channel A, and the procedures for the remaining channels were simply copied with appropriate changes to the instrument identification nomenclature. Contributing to this cause was inadequate procedure reviews, because Channels C and D were not identified as having an additional relay installed in the circuit.

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." Technical Specification Surveillance Requirement 4.3.2.1-1.g for the two relays requires a channel check, a channel functional test, and a channel calibration on a shiftly, quarterly, and refueling interval, respectively. The test did not verify that the two relays changed state during the quarterly channel functional test.

The functional design basis of the residual heat removal shutdown cooling mode is to have the capability to remove decay heat and sensible heat from the reactor primary system so that the reactor outlet temperature is reduced to 125 degrees F. An interlock is provided to prevent opening the residual heat removal shutdown cooling suction valves if reactor vessel pressure is above the residual heat removal shutdown cooling suction line design pressure. Relays B22H-K201C and B22H-K201D along with the rest of the electrical circuit perform that interlock function.

After the identification of the missed testing, the relays were satisfactorily tested, which demonstrated that the relays were able to perform their safety function.

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

Based on the information provided above, the failure to perform the Technical Specification surveillance requirement for the two reactor vessel pressure relays did not adversely affect the health and safety of the general public or plant personnel.

IV. CORRECTIVE ACTIONS

1. NMPC declared the relays inoperable until the surveillance procedure was revised and the relays were satisfactorily tested.

2. Procedure NIP-PRO-03 was revised in 1997, to add guidance for performing technical reviews and for the extent of technical reviews required for technical procedures.

3. The circuit design has been disseminated to other maintenance personnel who are performing reviews on the channel functional test procedures to heighten their awareness of the possibility of similar circuit configurations encountered during their reviews.

4. As stated in Licensee Event Report 99-13, maintenance personnel are reviewing the remaining channel functional test procedures to verify that relays are being tested properly. After the extent of condition is determined, NMPC will review the root cause and corrective actions to verify they are appropriate. These actions will be completed by March 31, 2000.

V. ADDITIONAL INFORMATION

A. Failed components: none.

B. Previous similar events:

Nine Mile Point Unit 2 has had a number of instances where inadequate procedure preparation or review caused either missed or inadequately performed surveillance tests. This event and those discussed in Licensee Event Reports 96-01 (Technical Specification Violation Caused by Inadequate APRM Setdown Channel Functional Test), 96-02 (Technical Specification Violations Caused by Inadequate Surveillance Scheduling), 96-08 (Technical Specification Violations Caused by Inadequate Procedure), 97-01 (Technical Specification Violation Caused by Inadequate Response Time Testing of High Pressure Core Spray Actuation Instrumentation), 97-07 (Failure to Calibrate Hydrogen Recombiner Instruments as Required by Technical Specifications due to Procedure Omission), 97-09 (Missed Technical Specification Surveillance of the Control Room Envelope), 97-11 (Technical Specification Violation of APRM Testing Requirements), 97-12 (Missed Technical Specification Surveillance of the Control Building Relay Room Temperature), 97-14 (Failure to Adequately Perform Technical Specification Surveillance on Rod Sequence Control System Due to Procedure Inadequacy), 98-04 (Missed Technical Specification Required Logic System Functional Testing of Level 8 Trip of Main Turbine), 98-07 (Technical Specification 3.0.3 Entry Due to Missed Logic System Functional Testing of Loss of Voltage and Degraded Voltage Channels), 98-11 (Missed Technical Specification Surveillance Testing of Alternate Power Supply), 98-12 (Missed Technical Specification Logic System Functional Testing of Service Water Pump Circuitry), 98-15 (Past Missed Technical Specification Surveillance Requirements for Division I and II Emergency Diesel Generators), 98-20 (Previous Inoperability of Reactor Core Isolation Cooling System Valves), 98-26 (Seismic Monitor Inoperable for More than Thirty Days and Special Report Not Submitted), 99-06 (Inadequate Surveillance of Automatic Depressurization Nitrogen Supply System Isolation Valves), and 99-13 involve problems with past practices in writing and reviewing procedures. The corrective actions from Licensee Event Report 99-13 identified these additional relays.

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

Components	IEEE 803A Function	IEEE 805 System ID
Shutdown Cooling System	N/A	BO
Relays	RLY	AD
Shutdown Cooling Suction Valves	V	BO
Piping	N/A	BO
Reactor Vessel	RPV	AD