NIAGARA MOHAWK
GENERATION
BUSINESS GROUP

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

June 4, 1998
NMP2L 1788

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

RE: Docket No. 50-410
LER 98-04, Supplement 1

Gentlemen:

In accordance with 10CFR50.73 (a)(2)(i)(B), we are submitting LER 98-04, Supplement 1, "Missed Technical Specification Required LSFT of Level 8 Trip of Main Turbine." This supplement is to clarify actions taken to correct the cause of knowledge deficiency.

Very truly yours,

KA Dahlberg

Kim A. Dahlberg
Plant Manager - NMP2

KAD/GJG/kap
Attachment

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

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	1 OF 4

TITLE (4)
Missed Technical Specification Required LSFT of Level 8 Trip of Main Turbine

EVENT DATE (5)			LER NUMBER (6)					REPORT DATE (7)			OTHER FACILITIES INVLVED (8)	
MONTH	DAY	YEAR	YEAR		SEQUENTIAL NUMBER		REVISION NUMBER	MONTH	DAY	YEAR	FACILITY NAMES	DOCKET NUMBER(S)
03	02	98	98		04		0 1	06	04	98	N/A	0 5 0 0 0
											N/A	0 5 0 0 0

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): 92

- ☐ 20.2201(b)
- ☐ 20.2203(a)(1)
- ☐ 20.2203(a)(2)(i)
- ☐ 20.2203(a)(2)(ii)
- ☐ 20.2203(a)(2)(iii)
- ☐ 20.2203(a)(2)(iv)
- ☐ 20.2203(a)(2)(v)
- ☐ 20.2203(a)(3)(i)
- ☐ 20.2203(a)(3)(ii)
- ☐ 20.2203(a)(4)
- ☐ 50.36(c)(1)
- ☐ 50.36(c)(2)
- ☒ 50.73(a)(2)(i)
- ☐ 50.73(a)(2)(ii)
- ☐ 50.73(a)(2)(iii)
- ☐ 50.73(a)(2)(iv)
- ☐ 50.73(a)(2)(v)
- ☐ 50.73(a)(2)(vii)
- ☐ 50.73(a)(2)(viii)
- ☐ 50.73(a)(2)(x)
- ☐ 73.71
- ☐ OTHER *(Specify in Abstract below and in Text, NRC Form 366A)*

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER
K. D. Ward - Technical Support Manager	(315) 349-1043

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

CAUSE	SYSTEM	COMPONENT	MANUFAC-TURER	REPORTABLE TO NPRDS		CAUSE	SYSTEM	COMPONENT	MANUFAC-TURER	REPORTABLE TO NPRDS

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 March 2, 1998, Niagara Mohawk Power Corporation (NMPC) determined that the Nine Mile Point Unit 2 (NMP2) Logic System Functional Tests (LSFT) for the main turbine trip on high reactor vessel level (Level 8) failed to verify the entire circuit. This is a violation of Technical Specification Surveillance Requirement (TS SR) 4.3.9.2 which is required to be performed at least once per 18 months.

The cause of this event has been determined to be an apparent knowledge deficiency of the Electro Hydraulic Control (EHC) system combined with poor work practices, which led the LSFT procedure developers to conclude that the EHC panel was the actuated device. Contributing to this event was the omission of relevant information when the LSFT procedure for the Level 8 turbine trip was developed. The circuit diagrams for the Level 8 turbine trip show the EHC panel as a circuit termination.

The applicable LSFT procedures will be revised prior to refueling outage 6 (RFO6). This event has been discussed with personnel performing the Generic Letter 96-01 procedure reviews.

I. DESCRIPTION OF EVENT

On March 2, 1998, Niagara Mohawk Power Corporation (NMPC) determined that the Nine Mile Point Unit 2 (NMP2) Logic System Functional Tests (LSFT) for the main turbine trip on high reactor vessel level (Level 8) failed to verify the entire circuit. This is a violation of Technical Specification Surveillance Requirement (TS SR) 4.3.9.2 which is required to be performed at least once per 18 months.

This deficiency was identified in response to a question from another licensee concerning LSFT testing of the Electro Hydraulic Control (EHC) system. The EHC system engineer reviewed the LSFT drawings and determined that the EHC circuit had been tested from the Level 8 transmitter to an EHC panel in accordance with an LSFT procedure which references TS 4.3.9.2. The circuitry from the master trip bus within the EHC panel to the turbine stop and control valves was tested in accordance with an Instrument and Control surveillance procedure which did not specifically reference TS 4.3.9.2. However, the circuitry from the EHC panel input terminals to the master trip bus was not tested in either of the LSFT procedures.

After further review, it was found that the EHC panel circuitry from the input terminals to the master trip bus has been tested since Refueling Outage 3 in October 1993, but not by an LSFT. Work orders have been initiated with step text to perform the testing each refueling outage since RFO3. Therefore, the entire circuit has been tested since October 1993 to meet the LSFT requirements.

NMPC had performed two previous LSFT reviews and an initial review of this Level 8 LSFT as part of the overall LSFT review for Generic Letter (GL) 96-01. None of these reviews identified this deficiency. However, the NMP2 GL 96-01 process has not been completed. A senior engineer is required to perform an independent verification of the initial reviewer's work. That verification would likely have identified this deficiency.

II. CAUSE OF EVENT

The cause of this event has been determined to be an apparent knowledge deficiency of the EHC system combined with poor work practices, which led the LSFT procedure developers to conclude that the EHC panel was the actuated device. Contributing to this event was the omission of relevant information when the LSFT procedure for the Level 8 turbine trip was developed. The circuit diagrams for the Level 8 turbine trip show the EHC panel as a circuit termination.

The cause of the individual not finding this during the initial GL 96-01 review was again knowledge deficiency and poor work practice. The individual believed that since the EHC/Turbine System is non-safety related, the actual trip of the main turbine was simply an economic issue to prevent turbine damage and not for reactor safety. Based on this, the individual did not pursue his review beyond the EHC panel input.

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."

The purpose of the turbine trip on high water level is to cause a reactor scram to limit the minimum critical power ratio. NMP2 Updated Safety Analysis Report (USAR) Section 15.1.2, Feedwater Controller Failure - Maximum Demand, Subsection 15.1.2.2.3, Effect of Single Failures and Operator Errors, states "In Table 15.1-3, the first sensed event to initiate corrective action to the transient is the vessel high water level (L8) trip. Multiple level sensors are used to sense and detect when the water level reaches the L8 setpoint. At this point in the logic, a single failure will not initiate or prevent a turbine trip signal. Turbine trip signal transmission, however, is not built to single-failure criterion. The result of a failure at this point would have the effect of delaying the pressurization "signature." However, high moisture levels entering the turbine will be detected by high levels in the turbine's moisture separators, resulting in a trip of the unit. In addition, excessive moisture entering the turbine will cause vibration to the point where it too will trip the unit." Based upon these other turbine trip signals and associated reactor scram, the impact of not having this Level 8 trip is negligible. Therefore, this event did not pose a threat to public health and safety or to plant personnel.

IV. CORRECTIVE ACTIONS

1. The applicable LSFT procedures will be revised prior to next use.

2. This event has been reviewed and expectations reinforced with the personnel performing the GL 96-01 procedure reviews. The purpose of this review was to assure that personnel clearly understand that an LSFT is required to test from initiating device to the actuated device.

3. The verification process for GL 96-01 will specifically address the LSFT circuit scope as part of the verification review. The verification reviews are scheduled for completion by the end of RFO6.

Since the personnel who originally developed the EHC-LSFT procedures are no longer employed at NMPC, and Corrective Action 2 assured a thorough review, no additional training is warranted.

V. ADDITIONAL INFORMATION

A. Failed components: none.

B. Previous similar events:

NMP2 has had a number of instances where procedure preparation or review caused missed or inadequately performed surveillance tests. In accordance with NMPC's Corrective Action Program, a Deviation/Event Report (DER) was initiated to evaluate this trend. A root cause team was assembled to evaluate this overall trend to determine if process problems or other common aspects could be identified. Required corrective actions will be taken as necessary to correct any identified deficiencies in accordance with the corrective action program.

C. Identification of components referred to in this LER:

COMPONENT	IEEE 803 FUNCTION	IEEE 805 SYSTEM ID
Electro Hydraulic Control	N/A	TG