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AUTH.NAME AUTHOR AFFILIATION
ABBOTT;R.E. Niagara Mohawk Power Corp.
RECIP.NAME RECIPIENT AFFILIATION

SUBJECT: LER 97-008-00:on 970828,non conservative APRM gain adjustments resulted in TS violation.Caused by inadequate technical review.Revised Procedures N1-RESP-1,N1-REP-12, N1-REP-12A & N1-OP-43A.W/970926 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

September 26, 1997
NMP1L 1252

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

RE: LER 97-08
Docket No. 50-220

Gentlemen:

In accordance with 10CFR50.73 (a)(2)(i)(B), we are submitting LER 97-008, "Non Conservative APRM Gain Adjustments Results in Technical Specification Violation."

Very truly yours,

Richard B. Abbott

Richard B. Abbott
Plant Manager - NMP1

RBA/GJG/cmk
Enclosure

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

IE22

NRC FORM 366 U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OMB NO. 3150-0104
EXPIRES: 4/30/92

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

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
Nine Mile Point Unit 1	05000220	1 OF 3

TITLE (4)
Non Conservative APRM Gain Adjustments Results in Technical Specification Violation

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)
08	28	97	97		008	00	09	26	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)				
100	☐ 20.402(b)	☐ 20.405(c)	☐ 50.73(a)(2)(iv)	☐ 73.71(b)
	☐ 20.405(a)(1)(i)	☐ 50.36(c)(1)	☐ 50.73(a)(2)(v)	☐ 73.71(c)
	☐ 20.405(a)(1)(ii)	☐ 50.36(c)(2)	☐ 50.73(a)(2)(vii)	☐ OTHER
	☐ 20.405(a)(1)(iii)	☒ 50.73(a)(2)(i)	☐ 50.73(a)(2)(viii)(A)	*(Specify in Abstract below and in Text, NRC Form 366A)*
	☐ 20.405(a)(1)(iv)	☐ 50.73(a)(2)(ii)	☐ 50.73(a)(2)(viii)(B)	
	☐ 20.405(a)(1)(v)	☐ 50.73(a)(2)(iii)	☐ 50.73(a)(2)(x)	

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER
Richard E. Abbott, Acting Manager Operations, Unit 1	(315) 349-2608

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 August 28, 1997, with Nine Mile Point Unit 1 (NMP1) in Operational Condition (OC) 1 (Power Operation) and reactor thermal power at 100 percent, it was determined that NMP1 had operated in violation of Technical Specification (TS) 2.1.2a during previous startups and other power maneuvers. This violation occurred since Average Power Range Monitors (APRM) were allowed to be set to two percent lower than required by TS 2.1.2a, due to the improper application of TS Table 3/4.6.2a note m.

The root cause of this event is inadequate technical review.

No immediate corrective actions were required since NMP1 operating conditions requiring the APRM gain adjustment to satisfy TS 2.1.2a were not present at the time of discovery. Procedures N1-RESP-1, N1-REP-12, N1-REP-12A and N1-OP-43A were revised to be in compliance with TS.

I. DESCRIPTION OF EVENT

On August 28, 1997, with Nine Mile Point Unit 1 (NMP1) in Operating Condition (OC) 1 (Power Operation) and reactor thermal power at approximately 100 percent, NMP1 personnel identified several instances in the past that NMP1 Technical Specification (TS) 2.1.2a was not complied with during startup, and other power maneuvers. This was identified as a follow on review of a similar situation at Nine Mile Point Unit 2 (NMP2) reported in NMP2 LER 97-10.

Specifically, to compensate for peaking in the core, such as during startup, and other power maneuvers, the flow biased neutron flux scram and rod block setpoints must be reduced in accordance with TS 2.1.2a. Due to the transitory nature of those operating conditions, rather than lowering the scram setpoint, TS allows an adjustment of Average Power Range Monitors (APRM). The APRM gain adjustments must be made such that the APRM readings are greater than or equal to 100% times Core Maximum Fraction of Limiting Power Density (CMFLPD).

Contrary to this, Operations procedures N1-RESP-1, N1-REP-12, N1-REP-12A, and N1-OP-43A allowed the APRM readings to be left lower than 100% times CMFLPD by as much as 2 percent. This procedure deficiency has existed since May 3, 1987. NMP1 personnel have identified several violations since the beginning of the current operating cycle, and it is reasonable to assume that other violations of this nature have occurred since May 3, 1987.

II. CAUSE OF EVENT

The procedure deficiency has been determined to be caused by inadequate technical review when the procedure was revised. Personnel incorrectly applied the plus or minus 2 percent APRM adjustment tolerance provided in TS Table 3/4.6.2a note m, when setting the APRMs to 100% times CMFLPD as required by TS 2.1.2a. In actuality, the plus or minus allowance can only be applied after the APRMs have been set to read greater than or equal to 100% times CMFLPD per TS 2.1.2a.

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 Technical Specifications."

The purpose of the flow biased neutron scram and rod block settings is to ensure that the Minimum Critical Power Ratio (MCPR) does not become less than the fuel cladding safety limit, or that greater than or equal to one percent plastic strain does not occur. NMPC has recently completed an analysis to support a TS change

I. ANALYSIS OF EVENT (cont'd)

(not yet submitted) which will propose a two percent increase in the APRM scram setpoint and a seven percent increase in the APRM rod block setpoint. That analysis bounds past operations, and demonstrates that with APRMs set as low as minus two percent below CMFLPD, a transient would not have resulted in a Minimum Critical Power Ratio (MCPR) greater than the Safety Limit Minimum Critical Power Ratio (SLMCPR) nor would fuel plastic strain have exceeded one percent. Therefore, there were no adverse consequences to the health and safety of the public at anytime.

IV. CORRECTIVE ACTIONS

No immediate corrective actions were required. NMP1 was not operating with high peaking in the core at the time of discovery. However, the following actions are being taken to prevent reoccurrence.

1. Immediately upon confirmation of the deficiency, procedures N1-RESP-1, N1-REP-12, N1-REP-12A and N1-OP-43A were revised to ensure that APRMs are adjusted to greater than or equal to the required setting per TS 2.1.2a.

2. Core Thermal Limits and Neutron Monitoring TSs will be reviewed for similar interpretation errors in procedures prior to startup from the current forced outage.

3. The individual who performed the most recent technical review of the procedures has been counseled regarding the review of TS SR and the need to assure literal compliance.

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
Average Power Range Monitor (APRM)	MON	IG