REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR: 8707280298 DOC. DATE: 87/07/22 NOTARIZED: NO DOCKET #
FACIL: 50-410 Nine Mile Point Nuclear Station, Unit 2, Niagara Moha 05000410
AUTH. NAME AUTHOR AFFILIATION
RANDALL, R. G. Niagara Mohawk Power Corp.
LEMPGES, T. E. Niagara Mohawk Power Corp.
RECIP. NAME RECIPIENT AFFILIATION

SUBJECT: LER 87-037-00: on 870624, Tech Spec 3.3.2 limiting condition for operation exceeded to to utilization of inoperable instrumentation in leak detection sys. Caused by design deficiency. Supply duct modified. W/870722 ltr.

DISTRIBUTION CODE: IE22D COPIES RECEIVED: LTR 1 ENCL 1 SIZE: 5
TITLE: 50.73 Licensee Event Report (LER), Incident Rpt, etc.

NOTES:

	RECIPIENT ID CODE/NAME	COPIES LTTR	COPIES ENCL	RECIPIENT ID CODE/NAME	COPIES LTTR	COPIES ENCL
	PD1-1 LA	1	1	PD1-1 PD	1	1
	NEIGHBORS, D	1	1	MINER, S	1	1
INTERNAL:	ACRS MICHELSON	1	1	ACRS MOELLER	2	2
	AEOD/DOA	1	1	AEOD/DSP/NAS	1	1
	AEOD/DSP/ROAB	2	2	AEOD/DSP/TPAB	1	1
	DEDRO	1	1	NRR/DEST/ADE	1	0
	NRR/DEST/ADS	1	0	NRR/DEST/CEB	1	1
	NRR/DEST/ELB	1	1	NRR/DEST/ICSB	1	1
	NRR/DEST/MEB	1	1	NRR/DEST/MTB	1	1
	NRR/DEST/PSB	1	1	NRR/DEST/RSB	1	1
	NRR/DEST/SGB	1	1	NRR/DLPQ/HFB	1	1
	NRR/DLPQ/QAB	1	1	NRR/DOEA/EAB	1	1
	NRR/DREP/RAB	1	1	NRR/DREP/RPB	2	2
	NRR/PMAS/ILRB	1	1	NRR/PMAS/PTSB	1	1
	REG FILE 02	1	1	RES DEPY GI	1	1
	RES TELFORD, J	1	1	RES/DE/EIB	1	1
	RGN1 FILE 01	1	1			
EXTERNAL:	EG&G GROH, M	5	5	H ST LOBBY WARD	1	1
	LPDR	1	1	NRC PDR	1	1
	NSIC HARRIS, J	1	1	NSIC MAYS, G	1	1

TOTAL NUMBER OF COPIES REQUIRED: LTTR 46 ENCL 44

NRC Form 366
(9-83)

U.S. NUCLEAR REGULATORY COMMISSION
APPROVED OMB NO 3150-0104
EXPIRES 8/31/85

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
Nine Mile Point Unit 2	0 5 0 0 0 410	1 OF 04

TITLE (4) Main Steam Tunnel Differential Temperature Instrumentation Inoperable due to a Design Deficiency

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)
											N/A	0 5 0 0 0
06	22	87	87	—	037	—	00	07	22	87	N/A	0 5 0 0 0

OPERATING MODE (9)	2	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §. (Check one or more of the following) (11)			
POWER LEVEL (10)	002	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 (Specify in Abstract below and in Text NRC Form 366A)
		20.405(a)(1)(iii)	X 50.73(a)(2)(i)	50.73(a)(2)(viii)(A)	
		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	
	AREA CODE	
Robert G. Randall, Supervisor Technical Support	315	349-2445

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)	X NO				

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

On June 24, 1987 a Limiting Condition for Operation (LCO) as defined by Technical Specification 3.3.2 was found to have been exceeded at Nine Mile Point Unit 2. The LCO was exceeded as the result of the utilization of inoperable instrumentation in the Leak Detection System. Nine Mile Point Unit 2 was at less than 2% power with the mode switch in the "STARTUP" position.

The cause of the event has been determined to be a design deficiency. Temperature elements 2MSS*TE48A, B, C, D measure the supply air temperature to the main steam tunnel. These elements provide feedback to the main steam tunnel differential temperature instrumentation and are required to be operable as defined in Technical Specification 3.3.2. 2MSS*TE48B, D were installed as designed away from the inlet air stream and were sensing ambient air temperature. These temperature elements indicated in a non-conservative direction.

Corrective action has been to modify the supply duct to direct supply air to the subject temperature elements.

IE22
111

I. DESCRIPTION OF EVENT

On June 24, 1987 a Limiting Condition for Operation (LCO) as defined by Technical Specification 3.3.2 was found to have been exceeded at Nine Mile Point Unit 2. The LCO was exceeded as the result of the utilization of inoperable instrumentation in the Leak Detection System. Nine Mile Point Unit 2 was at less than 2% power with the mode switch in the "STARTUP" position.

One method of detecting steam leakage into the main steam tunnel is by monitoring the temperature differential between the tunnel ventilation inlet and outlet. The air temperature is measured by four elements at the inlet duct, (2MSS*TE48A, B, C, D) and four at the outlet (2MSS*TE49A, B, C, D).

On June 11, 1987 Operations personnel reported to Instrument and Control personnel that the temperatures indicated on the four main steam tunnel differential temperature indicators were different (two indicators read downscale while the other two indicated approximately 15°F). Subsequent investigation indicated that temperature elements 2MSS*TE48A, C were located under the duct with supply air blowing on them. 2MSS*TE48B, D were located away from the air stream and therefore sensing ambient air temperature in the main steam tunnel. A Problem Report (PR 6956) was written to Engineering on June 11, 1987 to evaluate the condition.

An Engineering disposition to Problem Report (PR 6956) was approved on June 22, 1987. The disposition advised modifying the existing supply ductwork by adding a small register. Inlet air flow over 2MSS*TE48B, D would then be provided.

On June 24, 1987 Operations reviewed the Problem Report. Engineering's disposition indicated the two temperature elements not in the path of the inlet air supply were indicating in a non-conservative direction. The Division II Nuclear Steam Supply Shutoff System (NS^4) was manually tripped per the requirements of Technical Specification paragraph 3.3.2.b. Modifications to the supply duct were then initiated under Engineering's direction.

There were no components or systems which were inoperable and/or out of service which contributed to the event. No plant system or component failures resulted from the event.

II. CAUSE OF EVENT

The root cause for the event has been determined to be a design deficiency. Temperature elements 2MSS*TE48B, D were installed, as designed, away from the supply air stream. 2MSS*TE48B, D, therefore, sensed steam tunnel ambient air temperature instead of inlet air temperature. This provided a non-conservative input into the steam tunnel differential temperature isolation logic.

III. ANALYSIS OF EVENT

Leakage in the main steam line tunnel is detected by monitoring the temperature differential between the tunnel ventilation inlets and outlets, and by monitoring tunnel ambient temperature. If a leak had occurred in the steam tunnel, instrumentation monitoring tunnel ambient temperature would be available to:

1. Monitor tunnel temperature and provide control room indication.
2. Produce alarms indicating high steam tunnel temperature.
3. Actuate the required Group I isolation as required by Technical Specifications.

Operable instrumentation was available to monitor steam tunnel temperature and provide the required Group I isolation.

Although this event was a Technical Specification violation, no adverse safety consequences resulted.

IV. CORRECTIVE ACTIONS

The ductwork supplying air to the main steam tunnel has been modified. A register has been added on the existing supply duct to provide air flow to 2MSS*TE48B, D. 2MSS*TE48B, D will therefore provide an accurate measurement of supply air temperature. As a further preventive measure Engineering has reviewed this installation and it appears to be a unique instance.

During this event, a Problem Report (PR) was used to identify a potential problem and coordinate subsequent Engineering analysis and corrective action. Feedback of information from Engineering to the control room was not, however, conducted in a timely manner. Corrective measures to address this inadequacy are as follows:

1. Procedural changes have been made to Nuclear Engineering and Licensing procedure NEL-029, "Notification Under 10CFR21". NEL-029 describes Engineering's methods for evaluating deviations and reporting defects or deviations in basic components or failure to comply with a rule, regulation, order or license condition that could cause a safety hazard. Revisions have been made requiring that in the event of component inoperabilities or non-compliance with Technical Specifications an Occurrence Report be generated. The Occurrence Report must then be hand carried immediately to the Station Shift Supervisor (SSS) or higher levels of supervision within the Operations Department.

2. Training will be provided to site Engineering personnel on event reportability requirements and on the revisions to NEL-029. This training will be completed by September 1, 1987.

V. ADDITIONAL INFORMATION

Identification of Components Referred to in this LER

Component	IEEE 803 EIIS Funct	IEEE 805 System ID
Steam Tunnel (2MSS*TE48B, D) Temperature Elements	TE	IM

No previous similar events have occurred at Nine Mile Point Unit 2.

NMP26422

NIAGARA MOHAWK POWER CORPORATION

NIAGARA MOHAWK

301 PLAINFIELD ROAD
SYRACUSE, NY 13212

THOMAS E. LEMPGES
VICE PRESIDENT—NUCLEAR GENERATION

July 22, 1987

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

RE: Docket No. 50-410
LER 87-37

Gentlemen:

In accordance with 10 CFR 50.73, we hereby submit the following Licensee Event Report:

LER 87-37 Which is being submitted in accordance with 10 CFR 50.73 (a) (2) (i) (B), "Any operation or condition prohibited by the plant's Technical Specifications;"

A 10 CFR 50.72 event notification was made at 1740 hours on June 24, 1987.

This report was completed in the format designated in NUREG-1022, Supplement No. 2, dated September 1985.

Very truly yours,

Thomas E. Lempges

Thomas E. Lempges
Vice President
Nuclear Generation

TEL/JMT/mjd

Attachments

cc: Regional Administrator, Region 1
Sr. Resident Inspector, W. A. Cook

IE22
1/1