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RECIP.NAME RECIPIENT AFFILIATION

SUBJECT: LER 89-020-00:on 890619,pump vibration acceptance criteria above allowable limits due to procedure deficiency.
W/8 ltr.

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NINE MILE POINT NUCLEAR STATION / P.O. BOX 32 LYCOMING, NEW YORK 13093 / TELEPHONE (315) 343-2110

July 17, 1989

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

RE: Docket No. 50-410
LER 89-20

Gentlemen:

In accordance with 10CFR50.73, we hereby submit the following Licensee Event Report:

LER 89-20 Is being submitted in accordance with 10CFR50.73(a)(2)(i)(B), "Any operation or condition prohibited by the plant's Technical Specifications".

This report was completed in the format designated in NUREG 1022, Supplement 2, dated September 1985.

Very truly yours,

L. Burkhardt, III
Executive Vice President
Nuclear Operations

JLW/GB/lmc
(0651V)

Attachment

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

Cert No P680608203

IE22
1/1

8907240008 890717
PDR ADOCK 05000410
S PDC

NRC Form 366
(9-83)

U.S. NUCLEAR REGULATORY COMMISSION
APPROVED OMB NO. 3150-0104
EXPIRES: 8/31/88

LICENSEE EVENT REPORT (LER)

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

TITLE (4)
Pump Vibration Acceptance Criteria Above Allowable Limits Due To Procedure 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)
0 6	1 9	8 9	8 9	0 2 0	0 0				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)	1 0 0	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
Kenneth B. Thomas, Inservice Inspection Superintendent, Unit 2	3 1 5 — 3 4 9 - 7 2 7 5

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

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS		CAUSE	SYSTEM	COMPONENT	MANUFACTURER	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)

ABSTRACT

On June 19, 1989, Operations personnel were notified that Operations Surveillance Procedure N2-OSP-EGF-Q001 did not contain the correct pump vibration limiting acceptance criteria as required by the Nine Mile Point Unit 2 (NMP2) Inservice Test (IST) Program. Two pumps in each of Division I, Division II, and Division III Emergency Diesel Generator Fuel Oil Transfer System were affected by this procedure deficiency. NMP2 was operating at 100 percent power at the time of the discovery of this event.

The root cause of the event has been determined to be a procedural deficiency in implementing the IST Program which resulted in erroneous acceptance criteria being incorporated into an Operations Surveillance Procedure.

Initial corrective action included a review of the latest pump vibration test results. The correct acceptance criteria was applied and all six pumps were determined to be operable with four of the six pumps in the ALERT (increased frequency testing) range.

Additional corrective action included issuing a revision to Operations Surveillance Procedure N2-OSP-EGF-Q001 to incorporate corrected acceptance criteria. A Problem Report (PR) had been issued identifying previous pump vibration test data and requested Engineering to approve new reference values and acceptance criteria.

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Nine Mile Point Unit 2	0 5 0 0 0 4 1 0	8 9	— 0 2 0	— 0 0	0 2 OF 0 5

TEXT (If more space is required, use additional NRC Form 366A's) (17)

I. EVENT DESCRIPTION

On June 19, 1989, with Nine Mile Point Unit 2 (NMP2) at 100% power and the mode switch in RUN, it was determined that Operations Surveillance Procedure N2-OSP-EGF-Q001 did not contain the correct pump vibration acceptance criteria limits in accordance with ASME Section XI Relief Request GPRR-1. Relief Request GPRR-1 is part of the Nine Mile Point Unit 2 Pump and Valve Inservice Testing Program Plan.

The surveillance procedure pump vibration acceptance criteria should have limited the calculation of the ACCEPTABLE range criteria from 0 to 2.5 times the reference value, but not greater than .325 in./sec.; the ALERT range acceptance criteria from >2.5 times the reference value to 6 times the reference value, but not greater than .7 in./sec.; and the REQUIRED ACTION range acceptance criteria to greater than 6 times the reference value but not greater than .7 in./sec.

The use of the incorrect acceptance criteria limits allowed the pumps to run at values where "ALERT" (increased frequency) and "REQUIRED ACTION" (declare INOP, take immediate action) actions should have been taken. When the ASME Section XI Relief Request GPRR-1 acceptance criteria was applied to the past test results since 1986, the Division I pumps (2EGF*P1A and P1C) were determined to have been in the ALERT range three times and in the REQUIRED ACTION range zero times. The Division II pumps (2EGF*P1B and P1D) were determined to have been in the ALERT range fourteen times and in the REQUIRED ACTION range ten times. The Division III pumps (2EGF*P2A and P2B) were determined to have been in the ALERT range two times and in the REQUIRED ACTION range one time.

The Emergency Diesel Generator Fuel Oil Transfer System consists of two redundant pumps with associated valves and piping. The failure of both pumps to operate would not prevent the Emergency Diesel Generator from starting. Performance of the Emergency Diesel Generator would then be limited by the available day tank fuel supply.

A review of the latest test results using the ASME Section XI Relief Request GPRR-1 acceptance criteria indicated pumps 2EGF*P1B, P1D, P2A and P2B are in the ALERT range. The review indicated the pumps are still operable but required the test frequency to be increased to every 45 days. Pump 2EGF*P1B has been placed on increased frequency as a result of this review. Pump 2EGF*P1D had been on increased frequency testing for some time due to poor but stable performance. Pumps 2EGF*P2A and P2B were placed on increased frequency testing recently through the normal review and analysis process to the existing surveillance criteria.

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TEXT (If more space is required, use additional NRC Form 366A's) (17)

II. CAUSE OF THE EVENT

A root cause analysis was performed using Site Supervisory Procedure S-SUP-1, 'Root Cause Evaluation Program". The root cause for this event has been determined to be a procedural deficiency in implementing the Inservice Test Program which resulted in erroneous acceptance criteria being incorporated into an Operations surveillance procedure.

Specifically, an inaccurate understanding of the acceptance criteria outlined in ASME Section XI Relief Request GPRR-1 led to the omission of limiting acceptance criteria in the procedure review to N2-OSP-EGF-Q001. Additionally, the Operations Department, the Technical Department, and the Inservice Inspection Department did not detect this inadequacy while reviewing the procedure revision.

A contributing factor to the cause of this event was the incomplete development of pump reference value and acceptance criteria records.

III. ANALYSIS OF THE EVENT

This event is considered reportable under 10CFR50.73(a)(2)(i)(B), "Any operation or condition prohibited by the plant's Technical Specifications".

Specifically, this event is reportable because actions required by the Inservice Test (IST) Program were not completed. The Emergency Diesel Generator Fuel Oil Transfer pumps exhibited vibration that required additional monitoring. However, this monitoring was not performed due to erroneous acceptance criteria incorporated into an operations surveillance procedure.

There were no safety consequences to the plant or public as a result of this event. The safety function of this pump is to ensure transfer of fuel oil to the fuel oil day tank and ensure maximum fuel demand is met for the emergency diesel generator it serves. At no time during or prior to this event were the emergency diesel generators inoperable or potentially inoperable due to the inability of the transfer pump to function properly.

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		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
Nine Mile Point-Unit 2	0 5 0 0 0 4 1 0	8 9	— 0 2 0	— 0 0	0 4 OF 0 5

TEXT (If more space is required, use additional NRC Form 366A's) (17)

IV. CORRECTIVE ACTION

Corrective actions include:

1. A review of the latest pump vibration test results was performed to verify pump operability. The correct acceptance criteria was applied and all six pumps were determined to be operable but in the "alert" or increased frequency testing range. This review was completed June 19, 1989.

2. A Problem Report (PR) (#08750) had been issued on June 16, 1989 providing pump problem history in a "sequence of events" format, and requested Engineering to approve new reference values and acceptance criteria. The disposition of Problem Report 08750 will be incorporated in the form of a revision to Operations Surveillance Procedure N2-OSP-EGF-Q001.

3. Initiating a procedure revision to N2-OSP-EGF-Q001 to incorporate the acceptance criteria of ASME Section XI Relief Request GPRR-1. The correct acceptance criteria will be applied to the next performance of Operation Surveillance Procedure N2-OSP-EGF-Q001.

4. The pump reference value and acceptable criteria records were reviewed and found correct. This action included a review to assure that similar erroneous criteria for safety related pumps did not exist. This review was completed on June 19, 1989.

5. Procedures which contain requirements to satisfy Technical Specification 4.0.5 will receive a detailed review to ensure Nine Mile Point Unit 2 Pump and Valve Inservice Testing Program Plan commitments are satisfied.

6. A reevaluation of vibration measurement techniques will be conducted for improvements in obtaining accurate, repeatable and meaningful data that is indicative of pump performance.

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
Nine Mile Point Unit 2	0 5 0 0 0 4 1 0	8 9	— 0 1 2 0	— 0 0	0 1 5 OF 0 1 5

TEXT (If more space is required, use additional NRC Form 366A's) (17)

V. ADDITIONAL INFORMATION

A. Identification of Components

Component	IEEE 803 EIIS Funct	IEEE 805 System ID
Emergency Diesel Generator Fuel Oil Transfer System	------	DE

B. Failed Component Identification - not applicable (n/a)

C. Previous Similar Events

There has been one similar previous event involving procedural deficiencies in the Inservice Test Program caused by incorrect test requirements being incorporated into the applicable Surveillance Test Procedure. Details of this event are contained in (LER) Licensing Event Report 89-18.