

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR: 8707130277 DOC. DATE: 87/07/02 NOTARIZED: NO DOCKET #  
 FACIL: 50-220 Nine Mile Point Nuclear Station, Unit 1, Niagara Power 05000220-  
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 RECIP. NAME RECIPIENT AFFILIATION

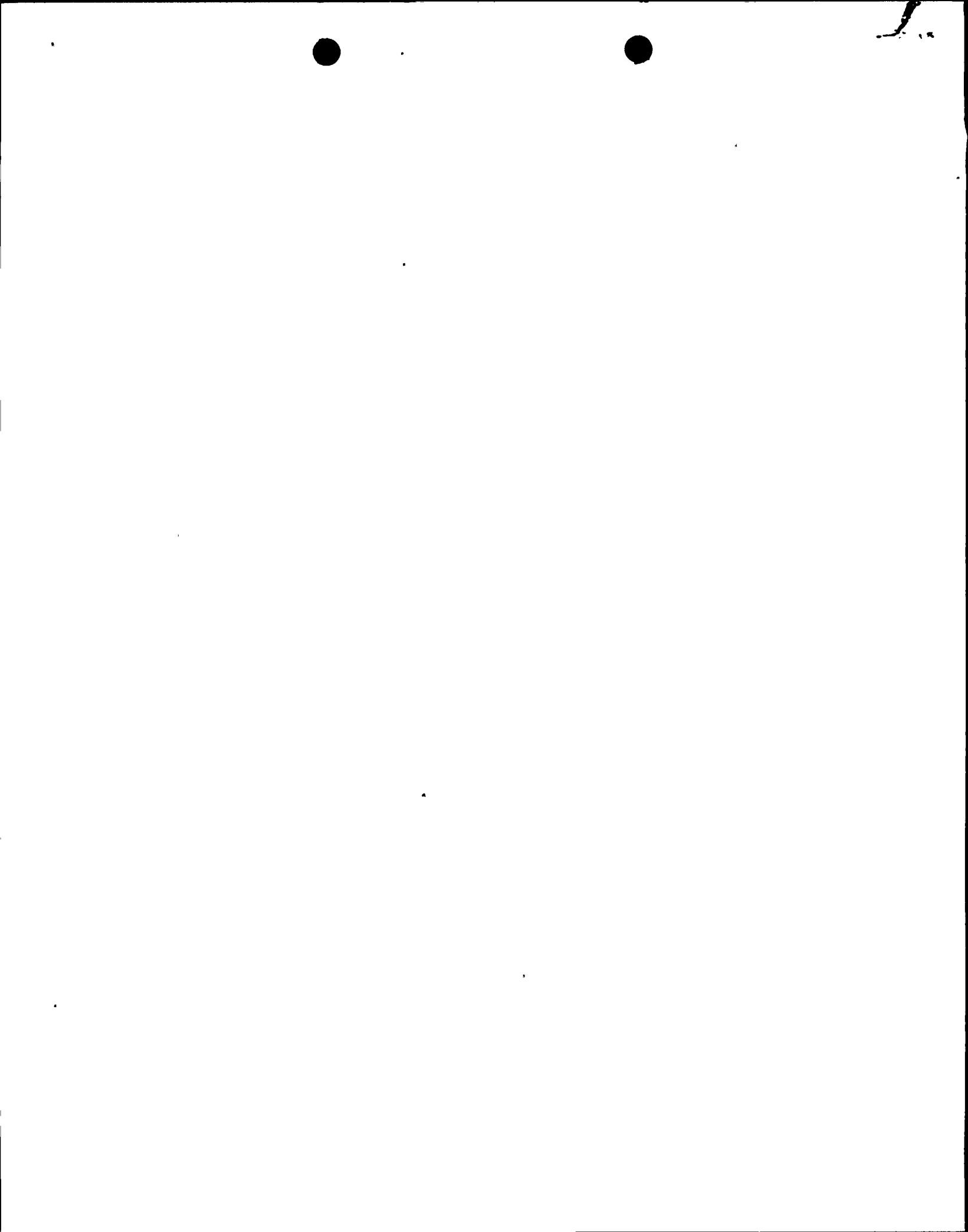
SUBJECT: LER 87-009-00: on 870604, discrepancy in vibration readings taken w/vibration instrument. Caused by personnel error based on inadequate implementation of ASME Code Section XI. Checklist of Section XI will be developed. W/870702 ltr.

DISTRIBUTION CODE: IE22D. COPIES RECEIVED: LTR 1 ENCL 1 SIZE: 4  
 TITLE: 50.73 Licensee Event Report (LER), Incident Rpt, etc.

NOTES:

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	PD1-1 LA	1 1	PD1-1 PD	1 1
	BENEDICT, R	1 1		
INTERNAL:	ACRS MICHELSON	1 1	ACRS MOELLER	2 2
	AEOD/DOA	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	<del>NRR/PMAS/ILRB</del>	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
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LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) <b>Nine Mile Point Unit 1</b>	DOCKET NUMBER (2) <b>0 5 0 0 0 2 2 0</b>	PAGE (3) <b>1 OF 0 3</b>
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TITLE (4)  
**Vibration Instrumentation Not In Compliance With ASME Section XI And Tech. Specs.**

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	04	8	7	009	0	7	02			0 5 0 0 0
											0 5 0 0 0

OPERATING MODE (9) <b>N</b>	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)									
POWER LEVEL (10) <b>1 0 0</b>	20.402(b)	20.405(c)	50.73(a)(2)(iv)	73.71(b)						
	20.405(a)(1)(i)	50.38(c)(1)	50.73(a)(2)(v)	73.71(c)						
	20.405(a)(1)(ii)	50.38(c)(2)	50.73(a)(2)(vii)	OTHER (Specify in Abstract below and in Text, NRC Form 366A)						
	20.405(a)(1)(iii)	<input checked="" type="checkbox"/> 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)		TELEPHONE NUMBER	
NAME <b>Peter Mazzaferro, Assistant Supervisor, Technical Support</b>		AREA CODE <b>3 1 5</b>	<b>3 4 9 - 2 1 9 0</b>

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
<input type="checkbox"/> YES (If yes, complete EXPECTED SUBMISSION DATE)	<input checked="" type="checkbox"/> NO				

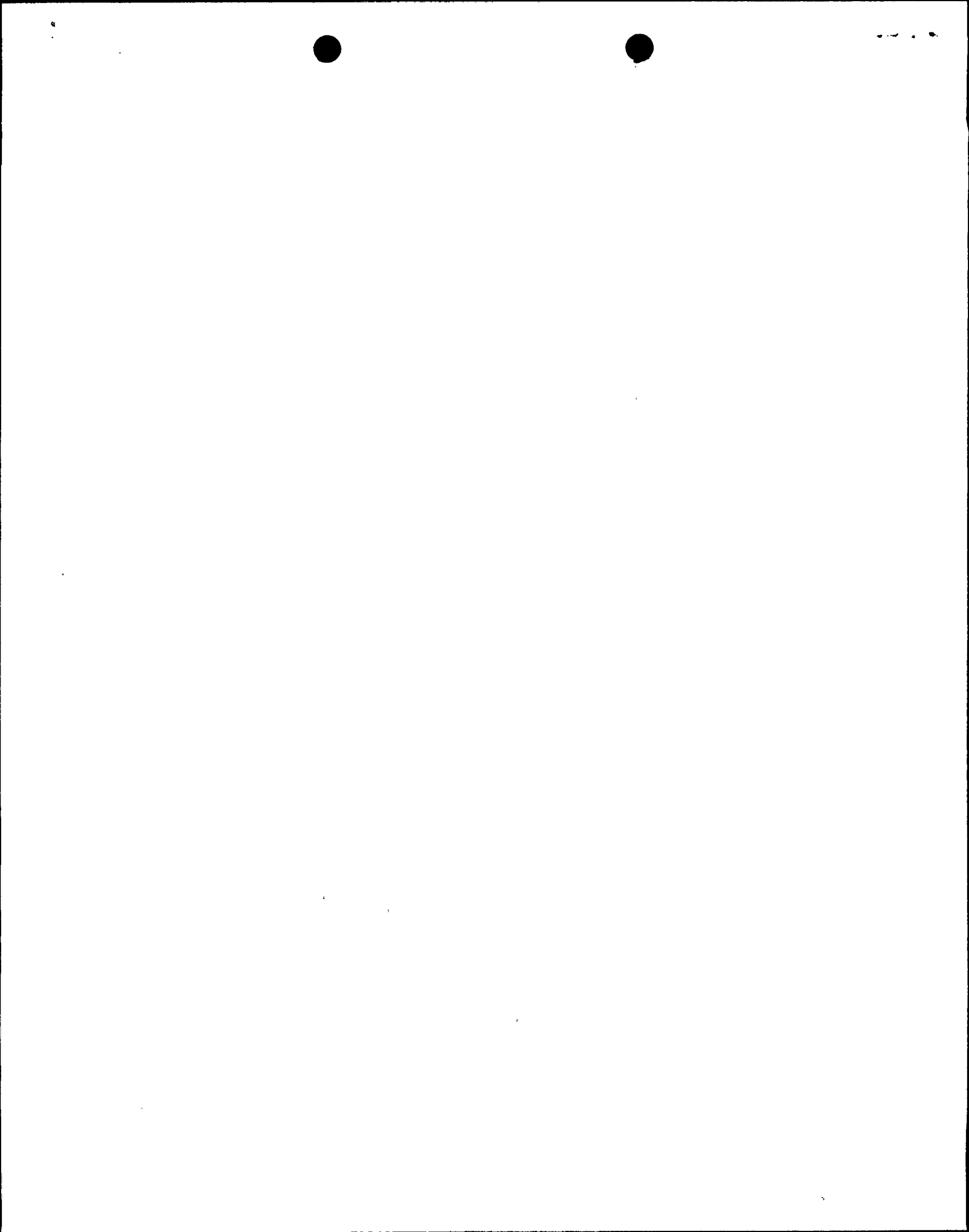
ABSTRACT (Limit to 1400 spaces, i.e., approximately fifteen single-space typewritten lines) (16)

ABSTRACT

On June 4, 1987, with Nine Mile Point Unit 1 at 100% power, a review of the records for the replacement of the No. 11 liquid poison pump motor yielded a discrepancy in the vibration readings taken for the pump as required by ASME Code Section XI. The vibration instruments used at this plant do not have a frequency response from half minimum speed to maximum shaft speed for the case of the aforementioned pump. This deviates from the requirements of the ASME Code and Technical Specification 3.2.6. Immediate action was taken to assess the operability of the pump. Another instrument was obtained, with the required frequency response, and another set of baseline vibration readings taken. In all cases, the pump vibration readings were acceptable. The surveillance procedure for the pump is being changed to incorporate the new baseline readings and instrumentation requirements. The root cause is attributable to personnel error in implementing the ASME Code. A checklist of Section XI requirements will be developed to review against the plant's Inservice Testing Program for any additional requirements. ASME Section XI training will also be developed and given to station personnel.

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FACILITY NAME (1)  Nine Mile Point Unit 1	DOCKET NUMBER (2)  0   5   0   0   0   2   2   0	LER NUMBER (6)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
		8   7	-   0   0   9	-   0   0	0   2	OF	0   3

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

DESCRIPTION OF EVENT

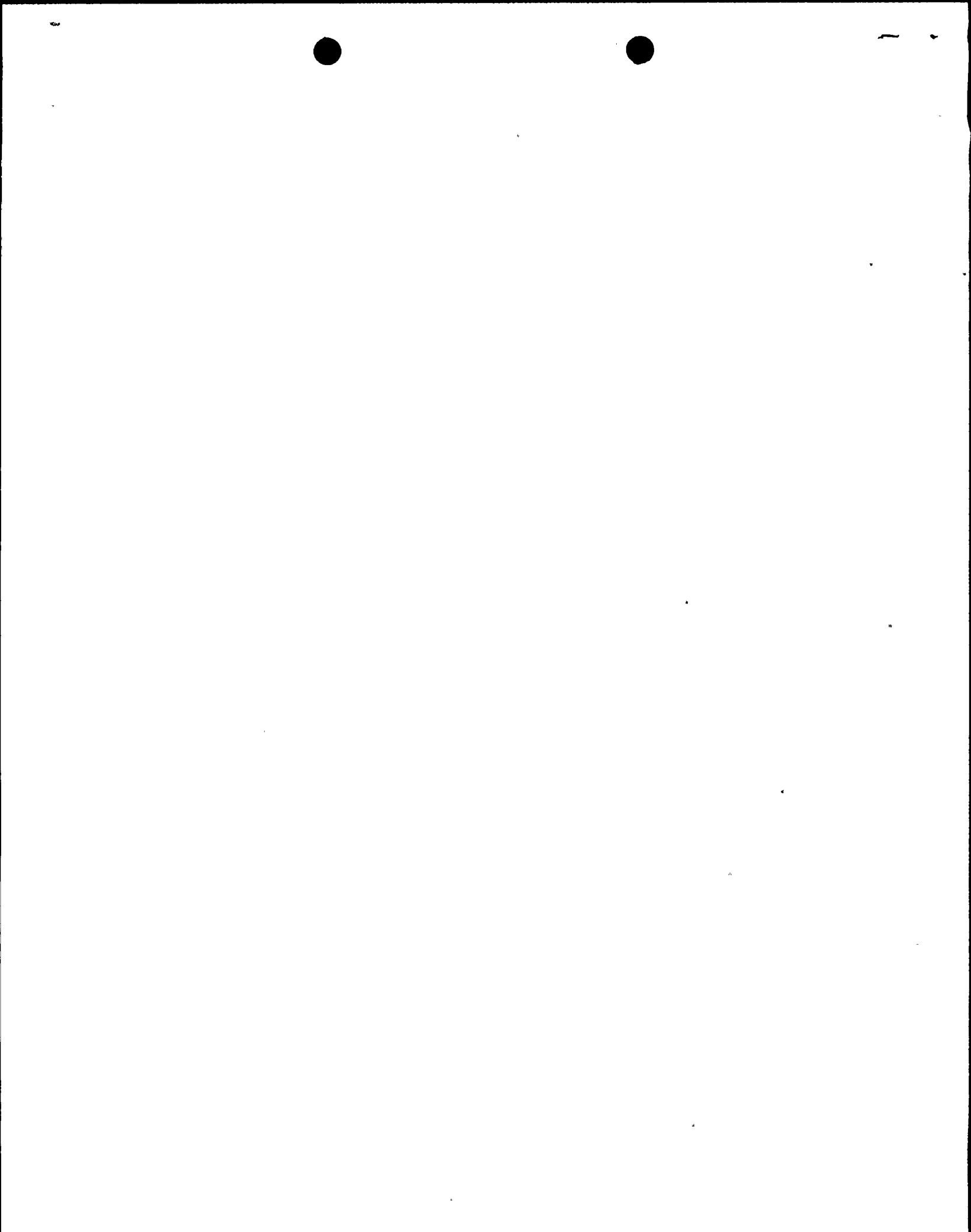
On June 4, 1987, with Nine Mile Point Unit 1 at 100% power, a review of the records by the Inservice Inspection Department for the replacement of the No. 11 liquid poison pump motor yielded a discrepancy in the vibration readings taken for the pump as required by ASME Code Section XI. The discrepancy existed between readings taken with an IRD-306 vibration instrument (0.5 mils) and an IRD-818 vibration instrument (1.99 mils). The normal operating frequency range of the IRD-306, in conjunction with a model no. 544 velocity transducer, is 10-4000 Hz (600-240,000 cpm). The normal operating frequency range of the IRD-818 in conjunction with a model no. 970 accelerometer transducer, is 5.83-10,000 Hz (350-600,000 cpm). The liquid poison pumps at Nine Mile Point Unit 1 run at approximately 360 rpm. Subsubarticle IWP-4520 of ASME Code Section XI, requires that the instrumentation used for amplitude measurement shall have a frequency response range from half minimum speed to at least maximum pump shaft rotational speed. For the liquid poison pumps the instrumentation used for amplitude measurement must have a frequency response range of at least 3-6 Hz (180-360 cpm). Therefore, the aforementioned vibration instruments do not meet the requirements of the Code for the liquid poison pumps. This is a violation of Technical Specification 3.2.6, which requires compliance to Section XI of the ASME Boiler and Pressure Vessel Code.

CAUSE OF EVENT

A root cause evaluation has been performed to determine the reason for the use of vibration equipment with an inadequate frequency response range for the liquid poison pumps. This cause has been attributed to personnel error based on inadequate implementation of the Code. This is due to an incomplete understanding and technical cognizance of some of the requirements contained in the Code when the program was implemented approximately eight years ago.

ANALYSIS OF EVENT

There are no adverse safety consequences from this event. The replacement of the 11 liquid poison pump motor was performed under the limiting condition for operation as described in Technical Specification 3.1.2. Although both liquid poison pumps are affected by the use of inadequate vibration measuring equipment, the use of this equipment does not affect the operability of the pumps. Monthly surveillance testing is performed on each pump and is adequate to assess the operability of the pump. The taking of vibration readings is a tool to assess long term degradation by trending operational data over time. A high vibration reading is not necessarily indicative of failure, but rather maintenance attention is required. The use of both the IRD-306 and IRD-818 would be sufficient to assess the degradation of either pump by detecting a change in the level of vibration, but not sufficient to detect the actual amplitude.



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		8 7	0 0 9	0 0	0 3	OF	0 3

TEXT (If more space is required, use additional NRC Form 368A's) (17)

ANALYSIS OF EVENT (Cont'd)

The use of the IRD-306 provides the source of data for compliance with ASME Code Section XI. A review of the vibration records for all other pumps in the Inservice Testing Program for which this instrumentation is used, shows that the IRD-306 has an acceptable frequency response range for compliance to the Code. Therefore, no other potential adverse consequences to equipment operability is affected by the use of this vibration instrumentation.

CORRECTIVE ACTION

Following discovery that the vibration instrumentation's frequency response range was not adequate for the running speed of the No. 11 liquid poison pump, immediate action was taken to assess the operability of the pump. This assessment indicated that although the vibration readings were taken with instrumentation with the wrong frequency response range, the readings were sufficient to indicate changes in the vibration levels of the pump. The pump was then declared operable.

For the June monthly surveillance test of the liquid poison pumps, baseline vibration readings were taken with an IRD-880 vibration instrument in conjunction with a model no. 560 low frequency velocity transducer. This instrument has a frequency response range of 1-4,500 Hz (60-270,000 cpm). These readings indicate that the pumps operate with vibration levels in the acceptable range. The surveillance test, NI-ST-M1, "Liquid Poison System Pump and Valve Operability Test", is being changed to incorporate the new baseline vibration data and instrumentation requirements.

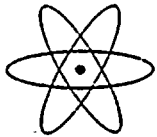
Long term corrective action specific to the plant's Inservice Testing Program is as follows. A checklist of ASME Code Section XI requirements will be developed. These requirements will then be compared to the current plant program. Any deviation from these requirements will be documented on an Occurrence Report and reviewed for implementation into the program. Also, ASME Code Section XI specific training will be developed and given to station operations, maintenance and technical personnel.

ADDITIONAL INFORMATION

There were no LER's similar to this event.







NIAGARA MOHAWK POWER CORPORATION

NIAGARA  MOHAWK

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SYRACUSE, NY 13212

THOMAS E. LEMPGES  
VICE PRESIDENT—NUCLEAR GENERATION

NMP26224

July 2, 1987

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

RE: Docket No. 50-220  
LER 87-09

Gentlemen:

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

LER 87-09 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;"

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

Very truly yours,

Thomas E. Lempges  
Vice President  
Nuclear Generation

TEL/meh

Attachment

cc: William T. Russell

IE22  
1/1



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