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ACCESSION NBR: 8705070008 DOC. DATE: 87/05/01 NOTARIZED: NO DOCKET #
FACIL: 50-410 Nine Mile Point Nuclear Station, Unit 2, Niagara Moha 05000410
AUTH. NAME AUTHOR AFFILIATION
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RECIP. NAME RECIPIENT AFFILIATION

SUBJECT: LER 87-014-01: on 870129, inoperable instrumentation in radioactive gaseous effluent monitoring sys utilized w/o establishment of required compensatory measures. Caused by improper use of instrument. W/870501 ltr.

DISTRIBUTION CODE: IE22D COPIES RECEIVED: LTR 1 ENCL 1 SIZE: 8
TITLE: 50.73 Licensee Event Report (LER), Incident Rpt, etc.

NOTES:

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	NRR/DEST/ADS	1	0	NRR/DEST/CEB	1	1
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	NRR/DREP/EPB	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 SPEIS, T	1	1	RGN1 FILE 01	1	1
EXTERNAL:	EG&G GROH, M	5	5	H ST LOBBY WARD	1	1
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U.S. NUCLEAR REGULATORY COMMISSION
APPROVED OMB NO. 3150-0104
EXPIRES: 8/31/88

NRC Form 366 (9-83)

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1): ...it Unit 2

DOCKET NUMBER (2): 0 5 0 0 0 4 1 0

PAGE (3): 1 OF 0 7

TITLE (4): Nine Mile Point Unit 2 Gaseous Effluent Monitoring Instrumentation 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)
									N/A	0 5 0 0 0
0 1	2 9	8 7	8 7	— 0 1 4	— 0 1	0 5	0 1	8 7	N/A	0 5 0 0 0

OPERATING MODE (9): 4

POWER LEVEL (10): 0 0 0

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)

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	3 1 5 — 3 4 9 - 2 4 4 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)

On January 29, 1987 a Limiting Condition for Operation (LCO) as defined by Technical Specification 3.3.7.11 was found to have been violated at Nine Mile Point Unit 2. The LCO violation was the result of the utilization of inoperable instrumentation in the Radioactive Gaseous Effluent Monitoring System (GEMS) without establishment of the required compensatory measures as required by Technical Specifications. On February 6, 1987 a similar violation was discovered for a second similar instrument. For the duration of both events the plant was in the cold shutdown condition and its initial fuel load had not yet been irradiated.

The cause of the first event was determined to be inadequate Station Shift Supervisor (SSS) instructions for declaring systems operational at Nine Mile Point Unit 2. The cause of the second event was the improper use of the instrument used to calibrate a piece of GEMS instrumentation.

Corrective actions include reinforcement of previously established SSS instructions for declaring systems operational and the use of better qualified personnel to calibrate the instruments involved in the event. All Chemistry Surveillance Procedures and Analysis Procedures supporting Technical Specifications will be reviewed to identify specific controls which could have prevented this event. The training program for the Chemistry Department shall be reviewed to ascertain if Chemistry Department personnel are familiar with the calibration techniques required to perform the procedures.

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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 7	— 0 1 4	— 0 1	0 2 OF 0 7

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

I. DESCRIPTION OF EVENTS

On January 29, 1987 at 1000 hours a Limiting Condition for Operation (LCO) as defined by Technical Specifications was found to have been violated at Nine Mile Point Unit 2. The LCO violation was a result of utilization of inoperable instrumentation in the Radioactive Gaseous Effluent Monitoring System (GEMS) without observing the proper Action Item as required by Technical Specifications. The inoperable instruments were the flow rate monitors of the Main Stack and Radwaste/Reactor Building Vent Effluent System. No other components or systems were inoperable which contributed to this event nor was any operator action required as a result of this event. Throughout the duration of this event Nine Mile Point Unit 2 was in the cold shutdown condition and its initial fuel load had not yet been irradiated.

The function of the GEMS is to measure, evaluate, and report radioactive gaseous effluent releases from Nine Mile Point Unit 2 and to annunciate if release levels approach limits specified in the Technical Specifications. The GEMS provides noble gas, iodine, and particulate isotopic analysis for the Main Stack and Radwaste/Reactor Building Vent releases and is used to generate the gaseous release calculations for Regulatory Guide 1.21 report generation. Technical Specifications require that when the flow rate monitors for the Main Stack and Radwaste/Reactor Building Vent are inoperable, effluent releases via these pathways may continue provided the flow rates are estimated at least once every four hours.

The LCO violation was a result of the Main Stack and Radwaste/Reactor Building Vent flow rate monitors being out of calibration (inoperable) without performing the required four hour flow rate estimates. The sequence of events which led to this condition are as follows:

June 26, 1986 - The portable anemometer used to calibrate the Main Stack and Radwaste/Reactor Building Vent flow rate monitors was due for its yearly calibration. The anemometer is a Kurtz Model 441.

July 4, 1986 - The Main Stack (2RMS-FT170) and Radwaste/Reactor Building Vent (2RMS-FT180) flow rate monitors are calibrated with the Kurtz 441 anemometer. The calibration of the flow rate monitors was performed as part of the preoperational test for the GEMS. During its initial calibration 2RMS-FT170 was found to have an excessively high output signal and could not be calibrated.

July 6, 1986 - A deficiency report (No. 21231) was written to troubleshoot and repair 2RMS-FT170. That same day it was noted that the Kurtz 441 anemometer used to calibrate 2RMS-FT180 was past due for its own calibration. A second deficiency report (No. 21232) was written to initiate steps to recalibrate the Kurtz 441 anemometer and 2RMS-FT180.

August 18, 1986 - The deficiency report (No. 21231) for 2RMS-FT170 was partially completed to the extent that the Main Stack flow rate monitor was again able to be calibrated. The deficiency report could not be closed out, however, until 2RMS-FT170 was recalibrated with an accurate calibration device (anemometer).

August 25, 1986 - The Main Stack flow rate monitor 2RMS-FT170 was calibrated with the Kurtz 441 anemometer per Chemistry Surveillance Procedure N2-CSP-7V, "Gaseous Radioactive Waste Chemistry Surveillance at Unit 2". The Kurtz 441 anemometer was still out of calibration as of June 26, 1986.

September 9, 1986 - Four hour flow rate estimates for both the Main Stack and Radwaste/Reactor Building Vent started.

September 30, 1986 - The Kurtz 441 anemometer was recalibrated by an offsite qualified vendor (Grumman Aircraft Systems) and sent back to the Nine Mile Point Unit 2 site. The calibration report included a note that the anemometer was acceptable for use only with the calibration data attached to the report. Thus, after readings were taken with the anemometer, they had to be corrected per the calibration data taken by Grumman before they could be considered accurate.

October 14, 1986 - A work request (No. 107588) was written to recalibrate 2RMS-FT180 and close out Deficiency Report 21232. A second work request (No. 107589) was also written to recalibrate 2RMS-FT170 and close out Deficiency Report 21231.

October 24, 1986 - The calibration sticker received from Grumman for the Kurtz 441 anemometer was sent from the Meter and Test Equipment Department (M&TE) to the Chemistry Department along with the calibration report. A message was attached which called attention to the limited use status (use with data only) of the anemometer as delivered by Grumman.

October 31, 1986 - Nine Mile Point Unit 2 received its license to load fuel. Technical Specifications are officially in effect. Neither 2RMS-FT180 nor 2RMS-FT170 was in an operational condition. Flow rate estimates for both systems were maintained on a four hour schedule to satisfy Technical Specification 3.3.7.11.

December 10, 1986 - Radwaste/Reactor Building Vent flow rate monitor (2RMS-FT180) was calibrated per procedure N2-CSP-7V and incorrectly declared operable. The calibration was performed with the Kurtz 441 anemometer, but no corrections in the as taken data were made per the calibration data sent back by Grumman with the instrument. The Main Stack flow rate monitor (2RMS-FT170) was also incorrectly declared operable by the Chemistry Department per August 25, 1986 calibration results. It appears that no check of outstanding work requests was made against either of the flow rate meters before they were declared operable. The four hour flow rate estimates were ceased, which violated Technical Specification 3.3.7.11 and started the event.

January 20, 1987 - Work Request 107588 was reviewed and closed out per December 10, 1986 calibration of 2RMS-FT180. However, since 2RMS-FT180 was incorrectly calibrated on that date, the flow rate meter was still not actually operable.

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 7	— 0 1 4	— 0 1	0 4 OF 0 7

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

January 29, 1987 - The Main Stack flow rate meter (2RMS-FT170) was discovered to be inoperable by a review of all outstanding work requests against the GEMS. Work Request 107589 which was written on October 14, 1986 had not yet been closed out. The review was conducted as part of SSS instructions issued by the Operations Superintendent to the night order notebook in the Control Room. These instructions required that operations personnel review outstanding work requests against a system before declaring it operable. Flow rate estimates were started and maintained for the Main Stack flow rate meter to satisfy Technical Specification 3.3.7.11.

January 30, 1987 - An Occurrence Report (OR) was initiated by the Unit 2 Chemistry Supervisor per Site Administrative Procedure AP-10.2.2, "Procedure for Reporting Variations from Normal Plant Operations, Defects and Noncompliance". The OR was delivered to the Control Room for a review of Technical Specification requirements and reportability. Due to the complexity of the situation, the Station Shift Supervisor (SSS) could not determine if the event was a Technical Specification violation or if it was reportable. The OR was later forwarded to the Site Chemistry Supervisor for a further clarification of the event, so that a decision as to the reportability of the event could be made.

February 6, 1987 - Upon further review of the event by the Chemistry Department it was discovered that in addition to 2RMS-FT170 being out of calibration, 2RMS-FT180 was also calibrated incorrectly based on the previous calibration being done without making corrections per the calibration data. Four hour flow estimates were started and maintained for 2RMS-FT180 which ended the Technical Specification violation. Discussions continued between the Unit Supervisor Chemistry and the Site Supervisor Chemistry as to what items should be included in the Occurrence Report to be resubmitted to the Control Room so that an accurate determination of the reportability of the event could be made. This discussion lasted until February 12, 1987 when it was decided to write another Occurrence Report to address both events.

February 12, 1987 - A second Occurrence Report was written to clarify the first event and describe the second event. The first Occurrence Report was attached and both OR's were sent to the Control Room where they were reviewed and determined to be reportable as a 30 day LER.

February 13, 1987 - A second level review of the events at 1530 hours was performed and it was determined that 10CFR50.36 notification was required within four hours. The notification was made at 1650 hours.

II. CAUSE OF EVENTS

A root cause analysis for the events has been completed per Supervisory Procedure S-SUP-1, "Root Cause Analysis Program". This analysis revealed a separate root cause for each of the two Technical Specification 3.3.7.11 violations.

The root cause of the Technical Specification violation involving 2RMS-FT170 was that the flow rate meter was declared operable without conducting a review of the outstanding work requests which applied to the instrument. If a review of the outstanding work requests had been performed, the fact that 2RMS-FT170 was not in an operational state of calibration could easily have been identified on December 10, 1986 when 2RMS-FT170 was declared operable.

The root cause of the Technical Specification violation involving 2RMS-FT180 was that the instrument used to calibrate it was not used in the correct manner. The Kurtz 441 anemometer was used without reference to the calibration data received from Grumman, the vendor who calibrated it at an offsite facility.

Further deficiencies have been identified which also contributed to these events. These deficiencies include the following items:

1. Inadequate communication between the originator of the Occurrence Report and the Control Room personnel required to review the Occurrence Report for reportability. This communication deficiency resulted in serious delays in the reporting of the event to the NRC.

2. The original Occurrence Report was rewritten 12 days after it was initiated and included information concerning another Technical Specification violation. This delay was caused by a lack of understanding by some management employees of the need to complete OR's in a timely manner and the significance of such delays to others involved in the reportability process.

III. ANALYSIS OF EVENT

Although this event resulted in an LCO violation, no adverse safety consequences resulted. Even though the Main Stack and Radwaste/Reactor Building Vent flow rate monitors were out of calibration, the GEMS at Nine Mile Point Unit 2 was still able to perform its intended function with a lower than normal accuracy. Also, no radioactive releases were discharged via these paths during the event. Had the event occurred during power operation it is unlikely that effluent releases in excess of Technical Specification limits would have been exceeded, because the normal expected radioactive release rates from the plant are well below these limits. However, if the event had been coincident with a significant radioactive gaseous release from the plant, the potential could have existed for exceeding the Technical Specification limits for such releases without the knowledge of operations personnel. The total duration of the events were 59 days for the Main Stack flow rate monitor and 67 days for the Radwaste/Reactor Building Vent flow rate monitor.

IV. CORRECTIVE ACTIONS

Immediate corrective actions were to establish four hour flow rate estimates for the Main Stack (January 29, 1987) and the Radwaste/Reactor Building Vent (February 6, 1987) on the date each was discovered inoperable to satisfy Technical Specifications.

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 7	— 0 1 4	— 0 1	0 6 OF 0 7

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

The first event occurred as a result of inadequate SSS instructions towards declaring systems operational. Since the time of the events, SSS instructions have been issued specifying that a system shall not be declared operable without all outstanding work requests for that system being reviewed. This review can then be used as a basis for either declaring the system operational or leaving it in an inoperational status. To reinforce this SSS instruction a memo will be issued to all Operations personnel to formalize it as a standing order.

The second event was the result of the improper use of the calibration instrument (anemometer). To prevent the same type of calibration inadequacies which occurred, responsibility for the calibration of the flow rate meters will be shifted from the Chemistry Department to the Instrumentation and Control (I&C) Department. The I&C Department has a substantially higher degree of knowledge and expertise in the performance of instrument calibration activities. Currently, I&C is in the process of preparing a calibration procedure specifically for these flow rate meters. Four hour flow rate estimates will continue until the flow rate meters are recalibrated and in compliance with Technical Specifications.

The Vice President - Nuclear Generation and the Vice President - Quality Assurance have recently issued a memo to all Nuclear Division Management and Nuclear QA personnel advising them on operational assessment and reportability. This memo instructs the Engineering, Quality Assurance, and Generation Departments to revise procedures, as necessary, to formalize the initiation of Occurrence Reports when a procedure results in component inoperability or a non-compliance with Technical Specifications. This memo also serves as an interim instruction to initiate an Occurrence Report under these conditions and to hand carry it to the SSS or higher levels of supervision within the Operations Department. This memo has satisfactorily corrected previous delays in notifying the SSS. Notification has been prompt and no similar events have occurred since the issuance of this memo.

All Chemistry Surveillance Procedures have been reviewed per commitments made in a previous LER (86-22). This LER committed to a review of all Chemistry Surveillance Procedures for procedural controls and plant impact of test procedures.

As a result of this incident all Chemistry personnel were instructed by the Unit 2 Supervisor - Chemistry to attend training for AP-8.4, "Procedure for Control and Calibration of Equipment Used in Tests and Inspections". This will ensure that all Chemistry Department personnel are familiar with proper control and calibration of M&TE to maintain accuracy within prescribed limits at Nine Mile Point Unit 2. Twelve of thirteen Chemistry Technicians currently assigned to Nine Mile Point Unit 2 have been through this training as of May 1, 1987.

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 7	— 0 1 4	— 0 1	0 7 OF 0 7

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

V. ADDITIONAL INFORMATION

There have been no previous similar events of this type at Nine Mile Point Unit 2.

Identification of Components Referred to in this LER

Component	IEEE 803 EIIS Funct	IEEE 805 System ID
Gaseous Effluent Monitoring System	N/A	IL
Flow Rate Monitor	FE	IL
Air Velocity Meter	FI	N/A

NMP23862

NIAGARA MOHAWK POWER CORPORATION

NIAGARA MOHAWK

301 PLAINFIELD ROAD
SYRACUSE, NY 13212

THOMAS E. LEMPGES
VICE PRESIDENT—NUCLEAR GENERATION

May 1, 1987

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

RE: Docket No. 50-410
LER 87-14, Supplement 1

Gentlemen:

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

LER 87-14 Supplement 1	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 50.36 report was made at 1650 hours on February 13, 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/CDS/mjd

Attachments

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

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