REGULA VY INFORMATION DISTRIBUTIC SYSTEM (RIDS)

ACCESSION NBR	8710270258 DDC. DATE: 87/	10/23 NOTARIZED: NO	DOCKET #
FACIL: 50-410	Nine Mile Point Nuclear Sta	ation, Unit 2, Niagara Moha	05000410
AUTH. NAME	AUTHOR AFFILIATION		
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RECIP. NAME	RECIPIENT AFFILIATION		

SUBJECT: LER 87-056-00: on 870925, main stack & radwaste/reactor bldg gaseous effluent monitoring sys declared inoperable. Caused by design deficiency & Tech Spec violation. Alternate means for monitoring gaseous effluent implemented. W/871023 ltr.

DISTRIBUTION CODE: IE22D COPIES RECEIVED:LTR <u>/</u>ENCL <u>/</u>SIZE: <u>6</u> TITLE: 50.73 Licensee Event Report (LER), Incident Rpt, etc.

# NOTES: 21

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NRC Form 366A	EPORT (LER) TEXT CONTIN	UATION	+ U.S	APPROVED O EXPIRES: 8/3	ULATOR MB NO, 3 1/85	Y CON 150-0	IMISSION
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TEXT (If more space is required, use additional NRC Form 366A's) (17)

# I. DESCRIPTION OF EVENT

On September 25, 1987 at 1315 with the reactor in Cold Shutdown (Operational Condition 4), at a temperature of approximately 117 degrees Fahrenheit, and at ambient pressure, the Main Stack and the Radwaste/Reactor Building Gaseous Effluent Monitoring Systems (GEMS) were declared inoperable at Nine Mile Point Unit 2 (NMP2) as required by NMP2 Technical Specification (TS) Section 3.3.7.10. Additionally, a program to procure grab samples from both the Main Stack and the Radwaste/Reactor Building Vent gaseous effluent streams was initiated as required by TS Table 3.3.7.10-1 Action Statement 139a.

The sequence of events leading to the GEMS systems being declared inoperable are as follows:

On the morning of September 25, 1987, a problem was identified with the GEMS control room annunciation (specifically a lack of reflash capability) during a meeting between the NMP2 Chemistry and Computer departments. As a result, a Problem Report (PR #7297) was written and presented to the Station Shift Supervisor (SSS). The SSS, reviewing the problem report, determined that the GEMS control room annunciation did not meet the operability requirements of TS Table 4.3.7.10-1 Note C. Therefore, he declared both GEMS systems to be inoperable.

TS Table 4.3.7.10-1 Note C requires control room annunciation of four specific trouble conditions for each GEMS system. These four trouble conditions provide a common alarm input along with nine other trouble conditions (not specified in the TS) to a control room annunciator window; (one window is provided for each GEMS system) however, this common window is not provided with a reflash feature. Therefore, it was determined that if a non TS required alarm signal was present, that signal could mask the annunciation of a subsequent TS required alarm signal. In this situation, where the control room operators are not informed of the second signal, timely response to that signal may not occur.

Both GEMS systems have been in this deficient configuration since receipt of the NMP2 operating license on October 31, 1986. GEMS operability however, (during the time interval between October 31, 1986 to September 25, 1987) was dependent on the status of the GEMS control room annunciation. The GEMS system should have been considered inoperable if the control room annunciation was in an alarm state. In this situation, where an alarm signal was being annunciated, the operators would not have been alerted to a subsequent alarm signal. This is especially significant where a non TS required alarm could mask the annunciation of a subsequent TS required alarm. Otherwise, the GEMS system was operable as long as the control room annunciation was not in an alarm state. In this case the control room operators would have been alerted to a future alarm condition.

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LICENSEE EVENT	REPORT (LER) TEXT CONTIN	UATION	1	U.S.	NUCL APPI EXP	EAR REG ROVED O IRES: 8/31	ULATOR MB NO. 3 1/85	Y CON	MISSION
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TEXT (If more space is required, use additional NRC Form 366A's) (17)

TS Section 3.3.7.10 requires specific actions to be taken when the GEMS system is inoperable. These actions however, were not taken each time the GEMS system was inoperable during the interval between October 31, 1986 and September 25, 1987, since one of the conditions for operability (as discussed above) was not yet determined. Additionally, the exact duration each GEMS system was inoperable, between October 31, 1986 and September 25, 1987 cannot be readily determined due to the intermittent nature of the event.

It is anticipated that the GEMS system will be restored to operability by December 7, 1987.

There were no other inoperable systems which contributed to this event. No plant system or component failure resulted from this event.

# II. CAUSE OF EVENT

The root cause for this event is a design deficiency. As stated, the annunciator circuit was designed such that it will not provide a reflash function if another alarm signal is generated with one already present. Therefore, with the present system design, the control room operators would not be alerted to another alarm condition if an alarm input already existed in the annunciator circuit. In light of this, timely operator response to a TS required alarm signal may not occur.

### III. ANALYSIS OF EVENT

This event is considered reportable via 10CFR50.73(a)(2)(i)(B) because the GEMS system could not be considered operable as defined by NMP2 Technical Specification Section 3.3.7.10. This has been the situation since receipt of the NMP2 operating license on October 31, 1986.

NMP2 Final Safety Analysis Report (FSAR) Section 11.5.1.1 discusses the design objectives of the radiation monitoring systems at NMP2. This FSAR section defines two classes of radiation monitors; "Radiation Monitors Required for Safety", and "Radiation Monitors Required for Plant Operation".

The radiation monitors required for safety provide radiation indication, and also initiate protective actions to limit releases of radioactive materials from the reactor vessel, primary and secondary containment, and fuel storage areas if predetermined radiation levels are exceeded in the monitored process/effluent streams. Loss of these monitors could affect the proper functioning of protective features designed to limit releases from the station.

The GEMS system however, is designated by FSAR Section 11.5.1.1.2 as a radiation monitor required for plant operation. The GEMS system provides operating personnel with a measurement of radioactivity levels in potentially radioactive effluents and process streams. Additionally, the GEMS system is used to verify compliance with the station's Technical Specifications by providing gross radiation level monitoring and offline isotopic analysis of gaseous effluents. Loss of this system does not affect the function of any protective features designed to limit releases from the station.

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NRC Form 366A (9-81)	LICENSEE EVENT	REPORT (LER)	EXT Ç	ΟΝΤΙΝΟ	ATIO	N	U.S.	APP EXF	ROVED OPIRES: 8/3	ULATOR MB NO. 3 1/85	Y COM 150-0	MISSION
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#### TEXT (If more space is required, use additional NRC Form 366A's) (17)

As stated, the GEMS system was considered intermittently inoperable since receipt of the NMP2 operating license; however, monitoring capability was still available and utilized during the majority of the time period from October 31, 1986 to September 25, 1987. During the brief periods where monitoring capability was not available, alternative methods for monitoring radioactive releases were utilized as specified by the station's Technical Specifications. Additionally, the Chemistry Department performed its TS required daily surveillance once per shift. This action provided greater assurance of system operability. Therefore, the impact of this event on plant or public safety is considered to be minimal.

The duration of this event, from the receipt of the NMP2 operating license on October 31, 1986 to the date when full compliance with TS Section 3.3.7.10 was achieved, (September 25, 1987) is less than 328 days\*.

\*(See the "Description of Event" section of this report for a detailed explanation.)

## IV. CORRECTIVE ACTIONS

1. Upon determination that both GEMS systems were inoperable, the Chemistry Department immediately initiated a program to procure grab samples from the Main Stack and Reactor Building Vent gaseous effluent streams. This action satisfies the requirements of TS Table 3.3.7.10-1, Action Statement 139a. Sampling will continue to be taken until the GEMS systems are declared to be operable.

2. Niagara Mohawk Engineering/Licensing has evaluated the operability requirements for the GEMS system. This evaluation has determined what conditions impact GEMS operability as defined by TS Section 3.3.7.10, and what conditions are required to be annunciated for system operability.

3. The GEMS control room annunciation will be modified per NMP2 Modification PN2Y87MX211 as follows: The present thirteen alarm inputs for each common annunciator window will be divided between two windows. (There will be a similar window arrangement for each GEMS system.) One window will be provided with a reflash feature and will annunciate the conditions that affect GEMS operability as defined by Technical Specifications. (See corrective action item #2.) The other window will annunciate the GEMS radiation alarms. This modification is anticipated to be completed by November 27, 1987.

4. The GEMS quarterly functional surveillance procedure will be revised to incorporate any additional operability requirements for the modified annunciation circuits. "The anticipated revision date for this procedure is November 27, 1987.

It is anticipated that after a trial period, the Main Stack and the Radwaste/Reactor Building Vent GEMS systems will be restored to operable status by December 7, 1987. .

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LICENSEE EVENT REPO	ORT (LER) TEXT CONTINU	UATION	U,S. NUCLEAR REG APPROVED C EXPIRES: 8/3	GULATORY COMMISSION DMB NO. 3150-0104 B1/85
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V. ADDITIONAL INFORMATION				
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THOMAS E. LEMPGES

NIAGARA MOHAWK POWER CORPORATION



October 23, 1987

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

RE: Docket No. 50-410 LER 87-56

Gentlemen:

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

LER 87-56 Which is being submitted in accordance with 10 CFR 50.73 (a) (2) (i) (B), "Any operation or condition prohibited by the plants Technical Specifications".

A 10 CFR 50.72 report was made at 1315 hours on September 25, 1987.

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/POB/mjd

Attachments

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



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