

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR: 8707150718 DOC. DATE: 87/07/10 NOTARIZED: NO DOCKET #  
 FACIL: 50-220 Nine Mile Point Nuclear Station, Unit 1, Niagara Powe 05000220  
 AUTH. NAME AUTHOR AFFILIATION  
 MAZZAFERRO, P.A. Niagara Mohawk Power Corp.  
 RECIP. NAME RECIPIENT AFFILIATION

SUBJECT: LER 87-010-00: on 870612, Stack Gas Sample Pump #12 tripped during post maint testing. Caused by failure of first replacement pump. #11 pump placed in svc in both instances & after second failure pump was replaced. W/870710 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 LTR ENCL	RECIPIENT ID CODE/NAME	COPIES LTR ENCL
	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	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



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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 4</b>
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TITLE (4)  
**Stack Gas Sample Pump Failure Due To Deteriorated Components**

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	12	8	7	-	0	1	0	0	0	0	0	5	0	0	0
0	6	12	8	7	-	0	0	7	1	0	8	0	5	0	0	0

OPERATING MODE (9) **N**

POWER LEVEL (10) **0 9 1 0**

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

<input type="checkbox"/> 20.402(b)	<input type="checkbox"/> 20.405(c)	<input type="checkbox"/> 50.73(a)(2)(iv)	<input type="checkbox"/> 73.71(b)
<input type="checkbox"/> 20.405(a)(1)(i)	<input type="checkbox"/> 50.38(c)(1)	<input type="checkbox"/> 50.73(a)(2)(v)	<input type="checkbox"/> 73.71(c)
<input type="checkbox"/> 20.405(a)(1)(ii)	<input type="checkbox"/> 50.38(c)(2)	<input type="checkbox"/> 50.73(a)(2)(vii)	<b>OTHER (Specify in Abstract below and in Text, NRC Form 365A)</b>
<input type="checkbox"/> 20.406(a)(1)(iii)	<input checked="" type="checkbox"/> 50.73(a)(2)(ii)	<input type="checkbox"/> 50.73(a)(2)(viii)(A)	
<input type="checkbox"/> 20.405(a)(1)(iv)	<input type="checkbox"/> 50.73(a)(2)(ii)	<input type="checkbox"/> 50.73(a)(2)(viii)(B)	
<input type="checkbox"/> 20.405(a)(1)(v)	<input type="checkbox"/> 50.73(a)(2)(iii)	<input type="checkbox"/> 50.73(a)(2)(x)	

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER
<b>Mr. Peter A. Mazzaferro, Assistant Supervisor, Technical Support</b>	<b>3 1 5 3 1 4 9 1 - 1 2 1 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
X	I	L	P	Y					

SUPPLEMENTAL REPORT EXPECTED (14)

YES (If yes, complete EXPECTED SUBMISSION DATE)  NO

EXPECTED SUBMISSION DATE (15)

MONTH	DAY	YEAR

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

ABSTRACT

On June 12, 1987, Nine Mile Point Unit 1 (NMP1) was operating at approximately 90% power. At 1034 hours, Stack Gas Sample Pump #12 tripped during post maintenance testing. The suspected cause of the trip was excessive vibration. A motor-to-pump coupling was replaced. At 1451 hours, however, the pump failed as it was being restarted. It was then replaced by a spare pump. In both cases, NMP1 momentarily lost stack gas monitoring capabilities. This was a violation of NMP1 Technical Specifications Table 4.6.15-2, which requires continuous monitoring of stack releases. Immediate corrective action involved placing Stack Gas Sample Pump #11 into service in both instances.

An investigation determined that the pump, which was installed as a replacement on the day of the event, had failed due to deteriorated components. Subsequent corrective action included replacement of the pump and training of personnel involved in the event via a Lessons Learned Transmittal (per site administrative procedures).

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		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
		87	010	00	02	OF	04

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

I. DESCRIPTION OF EVENT

On May 21, 1987, Station Work Request #111369 was processed in order to do maintenance to correct an oil problem on Stack Gas Sample Pump #12. Mechanical Maintenance personnel found that the pump diaphragm and seals had deteriorated. Because no spare diaphragms were available, it was decided to replace the pump, a Gast Manufacturing Corporation model 1065-V2 pump (serial #0878). A search of materials management records was performed by Storeroom personnel and an apparently acceptable spare was issued to replace the inoperable pump. The replacement was a model 2065-V2 (serial #71-404287) Gast Manufacturing Corporation pump. This pump was installed on June 12, 1987.

On June 12, 1987, Nine Mile Point Unit #1 (NMP1) was operating at approximately 90% power. At 1034 hours, the NMP1 control room received a Stack Gas Monitor trouble alarm. Chemistry personnel investigating the cause of the alarm first noted a computer printout indicating a high/low flow condition and then locally verified that Stack Gas Sample Pump #12 had tripped. The pump was undergoing Post Maintenance Testing (PMT) at the time. Stack Gas Sample Pump #11 was immediately placed into service. Maintenance personnel inspecting the pump assumed that excessive vibrations had been caused by a bad coupling.

At 1451 hours, after replacing the coupling, the pump siezed when an attempt was made to restart it. Chemistry personnel were present at the pump when it siezed and placed pump #11 back into service. Maintenance personnel now knew that the coupling was not bad and that the replacement pump (serial #71-404287) was defective. They prepared to rebuild the original pump (serial #0878). On Monday (June 12), however, a replacement pump (a model 1065-V2 pump [serial #0186]) was located and was installed. After a PMT period, the pump was placed in a stand-by condition and Stack Gas Sample Pump #11 was placed into operation.

II. CAUSE OF THE EVENT

The cause of the loss of continuous stack gas monitoring was due to the failure of the first replacement pump (model 2065-V2). This pump failed due to deteriorated parts. The root cause as to why the pump contained deteriorated parts could not be determined due to the lack of traceable records associated with non-safety related components. The cause could have been due to the pump exceeding its shelf life or the pump was defective and inadvertently returned to Stores. The first appears to be the most probable cause.



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

II. CAUSE OF THE EVENT (Cont'd)

There were several factors which contributed to the resulting loss of continuous stack gas monitoring. The first is the lack of a shelf life program for major non-safety related components, such as pumps and motors. This can, and probably did, lead to deteriorated parts existing in components. The second contributing factor was the issuance of a different component than requested due to both model numbers being listed on the same article description inventory record card. In this particular instance, the 2065-V2 model was originally supplied but was replaced in 1973 with the model 1065-V2. The Storeroom used the same inventory card for both pumps and crossed out the 2065-V2 model number, but it was still legible. This led the Storeroom personnel to issue the 2065-V2 model when they could not find the 1065-V2 model. A third contributing factor was the acceptance of the non-requested pump by the Maintenance personnel. An engineering evaluation of equivalency of components is not presently required for non-safety related systems by the Materials Management Program. Each of these items contributed to the final event, which was a loss of continuous stack gas monitoring.

III. ANALYSIS OF THE EVENT

This event is considered reportable as a violation of NMP1 Technical Specifications Table 4.6.15-2, which requires continuous monitoring of stack releases.

The pump failure resulted in the temporary loss of stack gas monitoring capability. Therefore, the containment isolation of vent and purge valves on high radiation at the stack was also lost. However, since these valves were already closed (and are normally closed under full power operating conditions), this had no effect on plant safety. Alternate plant parameter monitoring was available at all times during the event. These alternate means included main steam line radiation monitors and air ejector off-gas radiation monitors. These systems would detect fuel failure much sooner than the stack gas monitoring system due to the time delays involved in discharge of gases to the stack. This analysis is applicable to any reactor power level.

This event is reportable as "Any operation or condition prohibited by the plant's Technical Specifications...", however, the applicable Technical Specifications section is inadequate. The current technical specifications do not allow a time period in order to place a redundant monitoring system into service or to reestablish the preferred equipment. An application for change to NMP1 Technical Specifications was submitted to the U.S. Nuclear Regulatory Commission (NRC) on February 17, 1987.





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		8   7	—   0   1   0	—   0   0	0   4	OF	0   4

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

III. ANALYSIS OF THE EVENT (Cont'd)

The Stack Gas Sample Pumps are not normally considered Nuclear Plant Reliability Data System (NPRDS) reportable. However, the failure of the pump resulted in the loss of the high radiation isolation signal instrumentation for vent and purge valves (channel #12). Since both channels are required to actuate in order to initiate isolation, the failure of this pump is considered NPRDS reportable and is so indicated on NRC Form 366 of this report.

IV. CORRECTIVE ACTION

Immediate corrective action involved placing the #11 pump in service in both instances. After the second failure the pump was replaced and PMT performed on the replacement. Subsequent corrective action consisted of providing for training of the personnel involved in this event via initiating a Lessons Learned Transmittal per site Administrative Procedure AP-10.2.2, "Procedure For Reporting Variations From Normal Plant Operations, Defects and Noncompliance". This transmittal alerted personnel in the Maintenance and Stores departments to be cognizant of situations which might result in inadvertently installing deteriorated components during plant maintenance. An emphasis was placed on the causes of the event.

Serial numbers for stack gas pumps will now be recorded on material requisition forms (receipts and returns). Long term corrective action will include identifying the reasons for differences in model numbers on the inventory cards and investigating possible programmatic changes for identifying those non-safety related components that may require additional administrative controls.

In addition, the NMP1 Mechanical Maintenance Superintendent reviewed this event with the maintenance personnel involved. The event was critiqued at the department level. Corrective actions reviewed included the performance of root cause evaluations for equipment failures and verification of acceptability of equipment replacements.

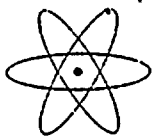
V. ADDITIONAL INFORMATION

Previous events concerning failure of the Stack Gas Monitoring System were reported by NMP1 in Licensee Event Reports 86-02, 86-02 Rev. 1, and 86-34.

The defective component was a Gast Manufacturing Corporation model 2065-V2 pump. The NUREG 1022 coding information is listed below.

Cause : X  
System : IL  
Component: : P  
Manufacturer: G046





NIAGARA MOHAWK POWER CORPORATION

NIAGARA  MOHAWK

301 PLAINFIELD ROAD  
SYRACUSE, NY 13212

THOMAS E. LEMPGES  
VICE PRESIDENT—NUCLEAR GENERATION

NMP26246

July 10, 1987

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

RE: Docket No. 50-220  
LER 87-10

Gentlemen:

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

LER 87-10 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;"

10 CFR 50.36 telephone notifications were made at 1140 and 1505 hours on June 12, 1987.

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

Very truly yours,

Thomas E. Lempges  
Vice President  
Nuclear Generation

TEL/meh

Attachments

cc: William T. Russell  
Regional Administrator

IE22  
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