



10 CFR 50.73

NMP1L3345
July 2, 2020

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555-0001

Nine Mile Point Nuclear Station, Unit 1
Renewed Facility Operating License No. DPR-63
Docket No. 50-220

Subject: NMP1 Licensee Event Report 2020-001, *Control Room Air Treatment System Inoperable*

In accordance with the reporting requirements contained in 10 CFR 50.73(a)(2)(v)(D), please find enclosed NMP1 Licensee Event Report (LER) 2020-001, Control Room Air Treatment System Inoperable.

There are no regulatory commitments contained in this letter.

Should you have any questions regarding the information in this submittal, please contact Brandon Shultz, Site Regulatory Assurance Manager, at (315) 349-7012.

Respectfully,

A handwritten signature in cursive script, appearing to read "Alexander D. Sterio".

Alexander D. Sterio
Acting Plant Manager, Nine Mile Point Nuclear Station
Exelon Generation Company, LLC

ADS/DW

Enclosure: NMP1 Licensee Event Report 2020-001, Control Room Air Treatment System Inoperable

cc: NRC Regional Administrator, Region I
NRC Resident Inspector
NRC Project Manager

IE22
NRR

Enclosure

NMP1 Licensee Event 2020-001
Control Room Air Treatment System Inoperable
Nine Mile Point Nuclear Station, Unit 1

Renewed Facility Operating License No. DPR-63

**LICENSEE EVENT REPORT (LER)**

(See Page 2 for required number of digits/characters for each block)

(See NUREG-1022, R.3 for instruction and guidance for completing this form
<http://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr1022/r3/>)

Estimated burden per response to comply with this mandatory collection request: 80 hours. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the Information Collections Branch (T-5 F53), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by e-mail to Infocollections.Resource@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202, (3150-0104), Office of Management and Budget, Washington, DC 20503. If a means used to impose an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

1. FACILITY NAME

Nine Mile Point Unit 1

2. DOCKET NUMBER

05000220

3. PAGE

1 OF 5

4. TITLE

Control Room Air Treatment System Inoperable

5. EVENT DATE			6. LER NUMBER			7. REPORT DATE			8. OTHER FACILITIES INVOLVED	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REV. NO.	MONTH	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
05	03	2020	2020	- 001	- 00	07	02	2020	N/A	N/A
9. OPERATING MODE			11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check all that apply)							
1			<input type="checkbox"/> 20.2201(b)	<input type="checkbox"/> 20.2203(a)(3)(i)		<input type="checkbox"/> 50.73(a)(2)(ii)(A)		<input type="checkbox"/> 50.73(a)(2)(viii)(A)		
			<input type="checkbox"/> 20.2201(d)	<input type="checkbox"/> 20.2203(a)(3)(ii)		<input type="checkbox"/> 50.73(a)(2)(ii)(B)		<input type="checkbox"/> 50.73(a)(2)(viii)(B)		
			<input type="checkbox"/> 20.2203(a)(1)	<input type="checkbox"/> 20.2203(a)(4)		<input type="checkbox"/> 50.73(a)(2)(iii)		<input type="checkbox"/> 50.73(a)(2)(ix)(A)		
			<input type="checkbox"/> 20.2203(a)(2)(i)	<input type="checkbox"/> 50.36(c)(1)(i)(A)		<input type="checkbox"/> 50.73(a)(2)(iv)(A)		<input type="checkbox"/> 50.73(a)(2)(x)		
10. POWER LEVEL 100			<input type="checkbox"/> 20.2203(a)(2)(ii)	<input type="checkbox"/> 50.36(c)(1)(ii)(A)		<input type="checkbox"/> 50.73(a)(2)(v)(A)		<input type="checkbox"/> 73.71(a)(4)		
			<input type="checkbox"/> 20.2203(a)(2)(iii)	<input type="checkbox"/> 50.36(c)(2)		<input type="checkbox"/> 50.73(a)(2)(v)(B)		<input type="checkbox"/> 73.71(a)(5)		
			<input type="checkbox"/> 20.2203(a)(2)(iv)	<input type="checkbox"/> 50.46(a)(3)(ii)		<input type="checkbox"/> 50.73(a)(2)(v)(C)		<input type="checkbox"/> 73.77(a)(1)		
			<input type="checkbox"/> 20.2203(a)(2)(v)	<input type="checkbox"/> 50.73(a)(2)(i)(A)		<input checked="" type="checkbox"/> 50.73(a)(2)(v)(D)		<input type="checkbox"/> 73.77(a)(2)(i)		
			<input type="checkbox"/> 20.2203(a)(2)(vi)	<input type="checkbox"/> 50.73(a)(2)(i)(B)		<input type="checkbox"/> 50.73(a)(2)(vii)		<input type="checkbox"/> 73.77(a)(2)(ii)		
			<input type="checkbox"/> 50.73(a)(2)(i)(C)		<input type="checkbox"/> OTHER		Specify in Abstract below or in NRC Form 366A			

12. LICENSEE CONTACT FOR THIS LER

LICENSEE CONTACT

Brandon Shultz, Site Regulatory Assurance Manager

TELEPHONE NUMBER (Include Area Code)

(315) 349-7012

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

CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO ICES	CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO ICES
B	VI	FAN	B515	Y	N/A	N/A	N/A	N/A	N/A

14. SUPPLEMENTAL REPORT EXPECTED☒ YES (If yes, complete 15. EXPECTED SUBMISSION DATE) ☐ NO**15. EXPECTED SUBMISSION DATE**

MONTH	DAY	YEAR
09	15	2020

ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines)

On May 3, 2020 at 17:50 while at 100% power in Mode 1, Nine Mile Point Unit 1 (NMP1) discovered that the fan bearing of the Control Room Ventilation Circulation Fan was inoperable. Upon investigation of a step change in noise from the Control Room Ventilation Circulation Fan, maintenance discovered that the fan bearing had failed. Since the fan is a single component (supported by redundant motors), the Control Room Air Treatment System (CRATS) was in a condition that could have prevented the fulfillment of its safety function. Therefore, this condition is reportable under 10 CFR 50.73(a)(2)(v)(D) as any event or condition that could have prevented the fulfillment of the safety function of structures or systems that are needed to: (D) Mitigate the consequences of an accident.

The #11 fan pillow block bearing, #11 motor sheave and key were replaced, and the system was restored to operable on May 8, 2020 at 20:11.

**LICENSEE EVENT REPORT (LER)
CONTINUATION SHEET**

(See NUREG-1022, R.3 for instruction and guidance for completing this form
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1. FACILITY NAME	2. DOCKET NUMBER	3. LER NUMBER		
Nine Mile Point Unit 1	05000220	YEAR 2020	SEQUENTIAL NUMBER - 001	REV NO. - 00

NARRATIVE**I. DESCRIPTION OF EVENT****A. PRE-EVENT PLANT CONDITIONS:**

Prior to the event, Nine Mile Point Unit 1 (NMP1) was in the power operating condition at 100% power. The Control Room Air Treatment System was operable with #11 motor for the Circulation Fan in service and the #12 motor in standby.

B. EVENT:

On May 3, 2020, at approximately 11:00 hours, control room operators detected a step change in Control Room Ventilation Circulation Fan/Motor #11 noise level and vibrations. The circulation fan configuration is a single fan with a drive motor (#11 and #12) on either end of the fan shaft. The two motors are connected to the blower shaft with belts on either end of the shaft. This fan is located inside a sealed plenum and as such is not able to be visually inspected while in service.

Operators swapped from Control Room Circulation Fan #11 motor to the #12 motor, but the noise continued after the motor swap until the fan was secured. The station entered an unplanned seven (7) day Limiting Condition for Operation per Technical Specifications 3.4.5.e at 11:18 hrs for an inoperable Control Room Air Treatment System and the alternate control room ventilation system (Smoke Purge Removal) was placed into service.

At 1750, Maintenance technicians entered the ventilation plenum to perform a visual inspection of the equipment. The visual inspection identified that the pillow block fan bearing had failed, rendering the fan inoperable for both motors.

The pillow block bearing was replaced. Additionally, during post maintenance testing mechanics identified that the #11 motor shaft/key/sheave engagement was not adequate, allowing the sheave rotational and angular movement. The #11 fan pillow block bearing, #11 motor sheave and key were replaced. The fan with its two redundant motors was reassembled, successfully passed post maintenance testing and the system restored to operable on May 8, 2020.

Nine Mile Point Unit 2 (NMP2) was unaffected by the event.

Operations performed the ENS notification (#54692) required by 10 CFR 50.72(b)(3)(v)(D) for, "Any event or condition that at the time of discovery could have prevented the fulfillment of the safety function of structures or systems that are needed to: (D) Mitigate the consequences of an accident."

This event has been entered into the plant's corrective action program as IR 4340639.

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		YEAR	SEQUENTIAL NUMBER	REV NO.
Nine Mile Point Unit 1	05000220	2020	- 001	- 00

NARRATIVE**C. INOPERABLE STRUCTURES, COMPONENTS, OR SYSTEMS THAT CONTRIBUTED TO THE EVENT:**

No other systems, structures, or components contributed to this event.

D. DATES AND APPROXIMATE TIMES OF MAJOR OCCURRENCES AND OPERATOR ACTIONS:

The dates, times, and major occurrences and operator actions for this event are as follows.

May 3, 2020 at 11:00 - Step change heard in control room noise level above the ceiling.

Sound appears to be coming from the ventilation area.

May 3, 2020 at 11:11 - Field operator reports higher than normal noise and vibration from the Control Room Ventilation ductwork and concurs that the noise is from the Control Room Ventilation Circulation Fan.

May 3, 2020 at 11:15 - Operator attempts to swap from #11 motor to #12 but noise continues.

May 3, 2020 at 11:18 - Operator secures #12 fan motor to prevent possible further degradation and enters the Technical Specification 3.4.5.e 7-day Action Statement.

May 3, 2020 at 11:34 - Control Room Ventilation is secured. Alternate Control Room Ventilation is placed in service.

May 3, 2020 at 17:20 - Declared control room envelope boundary inoperable and entered Technical Specification 3.4.5.f, 90-day action statement

May 8, 2020 at 20:11 - Control Room Ventilation Air Treatment System is restored to operable and Technical Specifications 3.4.5.e and f are exited.

E. METHOD OF DISCOVERY:

This event was discovered by Operations when abnormal noises were heard coming from the ventilation system.

F. SAFETY SYSTEM RESPONSES:

No operational conditions requiring the response of safety systems occurred as a result of this condition.

II. CAUSE OF EVENT:

The cause of the failure for the Circulation Fan was the failure of the pillow block bearing. The bearing has been sent out for failure analysis to determine the cause of its degradation. Results of the analysis will be provided in a supplement.

**LICENSEE EVENT REPORT (LER)
CONTINUATION SHEET**

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Nine Mile Point Unit 1	05000220	2020	- 001	- 00

NARRATIVE**III. ANALYSIS OF THE EVENT:**

The failure of the Control Room Air Treatment System is reportable under 10 CFR 50.73(a)(2)(v)(D) as any event or condition that could have prevented the fulfillment of the safety function of structures or systems that are needed to: (D) Mitigate the consequences of an accident. The Control Room Ventilation System Circulation fan was inoperable for a period of time.

With the Control Room Air Treatment System out of service, the heating and cooling function to maintain personnel comfort and control instrument protection was achieved by placing and maintaining the Smoke Purge system in service.

The Control Room Air Treatment System and envelope boundary were restored to service within the time frame allowed by the Technical Specification Action Statements.

Based on the above discussion, it is concluded that the safety significance of this event is low, and the event did not pose a threat to the health and safety of the public or plant personnel.

This event does affect the NRC Regulatory Oversight Process Indicator for safety system failures.

IV. CORRECTIVE ACTIONS:**A. ACTION TAKEN TO RETURN AFFECTED SYSTEMS TO PRE-EVENT NORMAL STATUS:**

The #11 fan pillow block bearing, #11 motor sheave and key were replaced. The fan was tested satisfactory in accordance with post maintenance testing requirements.

B. ACTION TAKEN OR PLANNED TO PREVENT RECURRENCE:

To be provided in the supplement when the cause is completed.

V. ADDITIONAL INFORMATION:**A. FAILED COMPONENTS:**

FN-210-61

B. PREVIOUS LERs ON SIMILAR EVENTS:



LICENSEE EVENT REPORT (LER) CONTINUATION SHEET

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NARRATIVE

None

C. THE ENERGY INDUSTRY IDENTIFICATION SYSTEM (EIIIS) COMPONENT FUNCTION IDENTIFIER AND SYSTEM NAME OF EACH COMPONENT OR SYSTEM REFERRED TO IN THIS LER:

COMPONENT

Control Room Ventilation Circulation Fan

IEEE 803
FUNCTION
IDENTIFIER
FAN

IEEE 805
SYSTEM
IDENTIFICATION
VI