



Exelon Generation®

10 CFR 50.73

NMP1L 3107
September 26, 2016

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 2016-002, Isolation of both Emergency
Condensers due to loss of UPS 162B

In accordance with the reporting requirements contained in 10 CFR 50.73(a)(2)(v)(B), please
find enclosed NMP1 Licensee Event Report (LER) 2016-002, Isolation of both Emergency
Condensers due to loss of UPS 162B.

There are no regulatory commitments contained in this letter.

Should you have any questions regarding the information in this submittal, please contact
Dennis Moore, Site Regulatory Assurance Manager, at (315) 349-5219.

Respectfully,

Robert E. Kreider Jr.
Plant Manager, Nine Mile Point Nuclear Station
Exelon Generation Company, LLC

REK/KJK

Enclosure: NMP1 Licensee Event Report 2016-002, Isolation of both Emergency
Condensers due to loss of UPS 162B

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

IE22
NRR

Enclosure

NMP1 Licensee Event Report 2016-002,
Isolation of both Emergency Condensers due to loss of UPS 162B

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)

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 FOIA, Privacy and Information Collections Branch (T-5 F53), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to Infocollects.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
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4. TITLE
Isolation of both Emergency Condensers due to loss of UPS 162B

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
07	28	2016	2016	- 002	- 00	09	26	2016	N/A	N/A
									FACILITY NAME	DOCKET NUMBER
									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)
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 checked="" 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 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 Dennis Moore, Site Regulatory Assurance Manager	TELEPHONE NUMBER (Include Area Code) (315) 349-5219
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13. COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT

CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX
B	EF	UJX	Ametek	N/A	N/A	N/A	N/A	N/A	N/A

14. SUPPLEMENTAL REPORT EXPECTED <input type="checkbox"/> YES (If yes, complete 15. EXPECTED SUBMISSION DATE) <input checked="" type="checkbox"/> NO	15. EXPECTED SUBMISSION DATE	MONTH	DAY	YEAR
		N/A	N/A	N/A

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

On Thursday July 28, 2016, at approximately 2357 hours with power level at approximately 100 percent, Nine Mile Point Unit 1 (NMP1) experienced a loss of Uninterruptible Power Supply (UPS), UPS 162B which resulted in loss of Reactor Protection System (RPS) Bus 11. Numerous half scram and half isolation signals were generated in addition to the isolation of both # 11 and # 12 Emergency Condensers (ECs). EC # 12 was returned to standby on 7/29/2016 at 0041 hours and EC # 11 was returned to standby on 7/29/2016 at 0045 hours. The causes of this event were the failure of a UPS capacitor and the bypass power transfer set point being set too low for the type of transient. Corrective actions include immediate replacement of the failed capacitor, installation of new higher temperature rated capacitors and adjusting the low voltage bypass power transfer set point.

This event is reportable under 10CFR50.73(a)(2)(v)(B).

NRC FORM 366A
(11-2015)

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB: NO. 3150-0104

EXPIRES: 10/31/2018



LICENSEE EVENT REPORT (LER) CONTINUATION SHEET

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 FOIA, Privacy and Information Collections Branch (T-5 F53), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to Infocollects.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	2. DOCKET NUMBER	3. LER NUMBER		
		YEAR	SEQUENTIAL NUMBER	REV NO.
Nine Mile Point Unit 1	05000-220	2016	- 002	- 00

NARRATIVE

I. DESCRIPTION OF EVENT

A. PRE-EVENT PLANT CONDITIONS:

Unit 1 was in Run operating at approximately 100% rated thermal power when the event occurred. There were no structures, systems or components out of service that contributed to this event.

B. EVENT:

On July 28, 2016, at approximately 2357 hours, UPS 162B unexpectedly transferred to its bypass power supply. Contrary to the expectation that the output loads remain energized during a transfer, the RPS Channel 11 Instrument Bus de-energized resulting in numerous half scram and half isolation signals. In addition, both # 11 and # 12 ECs isolated. The EC System was declared inoperable and the appropriate Technical Specification Action was entered.

This condition was reported to the NRC on July 29, 2016 at approximately 0651 hours pursuant to the requirements of 10 CFR 50.72(b)(3)(v)(B) (Event Notification #52133).


Subsequent troubleshooting of UPS 162B determined that a capacitor in the UPS Constant Voltage Transformer shorted. When the capacitor initially shorted, UPS voltage dropped but remained higher than the 60 VAC bypass power supply transfer set point. The UPS's protective relaying logic tripped the UPS loads prior to reaching the 60 VAC setpoint, resulting in de-energization of RPS Channel 11 Instrument Bus before the transfer could occur. Upon the trip of the Instrument Bus, the low voltage setpoint was reached and the UPS transferred to bypass power supply thereby re-energizing the loads. The voltage transient on the Bus affected the pressure transmitters for the EC high steam flow isolation signal resulting in the isolation of both EC trains.

Nine Mile Point Unit 2 (NMP2) was unaffected.

The event has been entered into the plant's corrective action program as IR 2698136.

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

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

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Nine Mile Point Unit 1		05000-220		YEAR	SEQUENTIAL NUMBER	REV NO.	
				2016	- 002	- 00	
NARRATIVE							
<p>D. DATES AND APPROXIMATE TIMES OF MAJOR OCCURRENCES AND OPERATOR ACTIONS:</p> <p>The dates, times, and major occurrences and operator actions for this event are as follows. All dates are 2016.</p> <p><u>July 28</u></p> <p>2357 Received multiple Control Room alarms due to loss of bus RPS 11. Both Emergency Condensers # 11 and 12 isolate.</p> <p><u>July 29</u></p> <p>0005 UPS 162B confirmed transferred to its bypass power supply 0041 Restored # 12 Emergency Condenser to standby 0045 Restored # 11 Emergency Condenser to standby</p> <p>During the time the Emergency Condensers were isolated, NMP1 Limiting Condition of Operation 3.1.3.a was not met.</p> <p>E. METHOD OF DISCOVERY:</p> <p>This event was self-revealing as identified by multiple control room alarms.</p> <p>F. SAFETY SYSTEM RESPONSES:</p> <p>Upon loss of the RPS #11 Instrument Bus the Emergency Condensers isolated as expected due to the voltage transient. Also the momentary loss of power resulted in Reactor Building Emergency Ventilation initiation. Both systems responded to their initiating signals successfully</p> <p>II. CAUSE OF EVENT:</p> <p>The causes of this event were determined to be (1) failure of the capacitor due to higher than expected environmental temperatures and (2) the UPS 162B bypass power transfer set point was set too low to allow the expected transfer for the transient.</p>							

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Nine Mile Point Unit 1	05000-220	2016	- 002	- 00

NARRATIVE

III. ANALYSIS OF THE EVENT:

There was no actual nuclear safety consequences associated with this event. No initiating transient was present. Although the EC loops were automatically isolated, the conditions requiring automatic initiation of the system were not present. The event was caused by an equipment failure creating a voltage transient that led to the spurious isolation.

Although the Emergency Condensers isolated, the isolation signals are designed to be bypassed should they be required to operate. The ability to manually initiate the system is recognized in the Probabilistic Risk Assessment model supported by procedural guidance that directs restoration. 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.

Isolation of both the Emergency Condensers is reportable under 10 CFR 50.72(b)(3)(v)(B) and 10 CFR 50.73(a)(2)(v)(B) as any event or condition that could have prevented the fulfillment of the safety function of structures or systems that are needed to control the removal of residual heat.

IV. CORRECTIVE ACTIONS:

A. ACTION TAKEN TO RETURN AFFECTED SYSTEMS TO PRE-EVENT NORMAL STATUS:

Operations took immediate actions and verified that RPS Instrument Bus 11 re-energized when the Instrument Bus automatically transferred to its bypass power supply. The ECs were returned to full standby service at 0045 hours. The RPS 11 Instrument Bus was placed on its redundant UPS power supply UPS 162A, at 0435 hours.

B. ACTION TAKEN OR PLANNED TO PREVENT RECURRENCE:

The UPS 162B capacitor and blown fuses were replaced. A new higher temperature capacitor will be selected and installed. The set point for the low voltage transfer will be adjusted to the optimum setting for low voltage transfer.

V. ADDITIONAL INFORMATION:

A. FAILED COMPONENTS:

Uninterruptible Power Supply

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NARRATIVE

B. PREVIOUS LERs ON SIMILAR EVENTS:

None

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

<u>COMPONENT</u>	<u>IEEE 803 FUNCTION IDENTIFIER</u>	<u>IEEE 805 SYSTEM IDENTIFICATION</u>
Uninterruptible Power Supply	UJX	EF
Reactor Protection System	N/A	JC
Emergency Condenser System	BN	BL

D. SPECIAL COMMENTS:

None