



10 CFR 50.73

NMP2L2720  
December 31, 2019

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

Nine Mile Point Nuclear Station, Unit 2  
Renewed Facility Operating License No. NPF-69  
Docket No. 50-410

Subject: NMP2 Licensee Event Report 2019-001, High Pressure Core Spray Declared Inoperable

In accordance with the reporting requirements contained in 10 CFR 50.73(a)(2)(v)(D), please find enclosed NMP2 Licensee Event Report 2019-001, High Pressure Core Spray Declared 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 black ink, appearing to read "Glen K. Morrow", written over a horizontal line.

Glen K. Morrow  
Director Organizational Performance and Regulatory, Nine Mile Point Nuclear Station  
Exelon Generation Company, LLC

GKM/RMD

Enclosure: NMP2 Licensee Event Report 2019-001, High Pressure Core Spray Declared Inoperable

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

IEZZ  
NRR

**Enclosure**

NMP2 Licensee Event Report 2019-001, High Pressure Core Spray Declared Inoperable

Nine Mile Point Nuclear Station, Unit 2

Renewed Facility Operating License No. NPF-69

**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 Services Branch (T-2 F43), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by e-mail to [InfoCollects.Resource@nrc.gov](mailto: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 2

**2. DOCKET NUMBER**

05000410

**3. PAGE**

1 OF 5

**4. TITLE**

High Pressure Core Spray Declared Inoperable

**5. EVENT DATE**

MONTH	DAY	YEAR
11	01	2019

**6. LER NUMBER**

YEAR	SEQUENTIAL NUMBER	REV NO
2019	- 001	- 00

**7. REPORT DATE**

MONTH	DAY	YEAR
12	31	2019

**8. OTHER FACILITIES INVOLVED**

FACILITY NAME

N/A

DOCKET NUMBER

N/A

FACILITY NAME

N/A

DOCKET NUMBER

N/A

**9. OPERATING MODE****11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check all that apply)**

1

☐ 20.2201(b)☐ 20.2203(a)(3)(I)☐ 50.73(a)(2)(II)(A)☐ 50.73(a)(2)(VIII)(A)☐ 20.2201(d)☐ 20.2203(a)(3)(II)☐ 50.73(a)(2)(II)(B)☐ 50.73(a)(2)(VII)(B)☐ 20.2203(a)(1)☐ 20.2203(a)(4)☐ 50.73(a)(2)(III)☐ 50.73(a)(2)(IX)(A)☐ 20.2203(a)(2)(I)☐ 50.36(c)(1)(I)(A)☐ 50.73(a)(2)(IV)(A)☐ 50.73(a)(2)(X)**10. POWER LEVEL**

100

☐ 20.2203(a)(2)(II)☐ 50.36(c)(1)(II)(A)☐ 50.73(a)(2)(V)(A)☐ 73.71(a)(4)☐ 20.2203(a)(2)(III)☐ 50.36(c)(2)☐ 50.73(a)(2)(V)(B)☐ 73.71(a)(5)☐ 20.2203(a)(2)(IV)☐ 50.46(a)(3)(II)☐ 50.73(a)(2)(V)(C)☐ 73.77(a)(1)☐ 20.2203(a)(2)(V)☐ 50.73(a)(2)(I)(A)☒ 50.73(a)(2)(V)(D)☐ 73.77(a)(2)(I)☐ 20.2203(a)(2)(VI)☐ 50.73(a)(2)(I)(B)☐ 50.73(a)(2)(VII)☐ 73.77(a)(2)(II)☐ 50.73(a)(2)(I)(C)☐ OTHER

Specify in Abstract below or in NRC Form 386A

**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 EPIX	CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX
X	BG	JX	TDKL	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

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

At 03:16 on November 1, 2019, the Nine Mile Point Unit 2 (NMP2) High Pressure Core Spray (HPCS) System was declared inoperable when the Control Room Annunciation for HPCS SYSTEM INOPERABLE and INOP Status Light Indication for TRIP UNITS OUT OF FILE/POWER FAIL was received. The unplanned inoperability of the HPCS System per T.S. 3.5.1 is reportable in accordance with 10 CFR 50.72(b)(3)(v)(D) and 10 CFR 50.73(a)(2)(v)(D). Further investigation determined the 24VDC HPCS Trip Unit Power Supply (E22A-PS1) had failed. The Power Supply was replaced, and HPCS was declared operable on 11/01/19 at 15:55.

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

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1. FACILITY NAME	2. DOCKET NUMBER	3. LER NUMBER		
		YEAR	SEQUENTIAL NUMBER	REV NO.
Nine Mile Point Unit 2	05000410	2019	- 001	- 00

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

Prior to the event, NMP2 was operating at rated reactor power.

**B. EVENT:**

At 03:16 on November 1, 2019, NMP2 received Control Room Annunciation for HPCS SYSTEM INOPERABLE and INOP Status Light Indication for TRIP UNITS OUT OF FILE/POWER FAIL. Operators attempted to close 2CSH\*MOV105, HPCS Minimum Flow Valve, to secure draining Condensate Storage Tanks (CST's) to Suppression Pool. However, the valve immediately re-opened. At that time, the HPCS pump suction was swapped from Condensate Storage Tanks (CSTs) to Suppression Pool per N2-OP-33 H.6.0. As a result, Operations declared the HPCS System Inoperable. The 04:03, the failed 24VDC Power Supply E22A-PS1 was identified. It was then replaced at 13:30.

At 15:55, 2CSH\*MOV105, the HPCS Diesel, and HPCS were declared OPERABLE. Subsequently, T.S. 3.6.1.3 Condition C.1, T.S. 3.8.1, and T.S. 3.5.1 Condition B were exited.

Nine Mile Point Unit 1 (NMP1) was unaffected by the HPCS System Inoperability at NMP2.

Operations performed the ENS notification (#54364) required by 10 CFR 50.72(b)(3)(v)(D) and 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.

This event has been entered into the plant's corrective action program as IR 04293482.

**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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**NARRATIVE****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.

November 1, 2019

- 03:16 – Received annunciator 601706 for “HPCS SYSTEM INOPERABLE” and associated computer point CSHBC01. Inop Status Light “TRIP UNITS OUT OF FILE/POWER FAIL” lit concurrently. Multiple HPCS trip units were indicating incorrectly, and HPCS minimum flow valve 2CSH\*MOV105 repositioned open.
- 03:16 HPCS is INOPERABLE but remains AVAILABLE. T.S. 3.5.1 Condition B entered with B.1 met with “RCIC OPERABLE”. Restoration is required within 14 days per B.2.
- 03:22 Operator attempted to close 2CSH\*MOV105 to secure draining Condensate Storage Tanks (CST’s) to Suppression Pool. Valve immediately re-opened.
- 03:24 HPCS pump suction swapped from CST to Suppression Pool per N2-OP-33 H.6.0.
- 04:03 HPCS Trip Unit Power Supply Breaker verified on and fuses verified good in accordance with N2-ARP-601700. Suspect Power Supply E22A-PS1 has failed.
- 10:03 Contacted NRC Operations Center, and notified of Unplanned HPCS Inoperability pursuant to 10CFR50.72(b)(3)(v)(D). Event Notification #54364.
- 13:30 Power Supply E22A-PS1 replaced.
- 14:00 HPCS Pump placed in Pull-To-Lock (PTL). Declared HPCS Diesel INOPERABLE per T.S. 3.8.1.
- 15:39 Performed N2-OSP-LOG-S001 for HPCS Trip Units to verify surveillance criteria met and consistent with associated reading prior to HPCS INOPERABILITY.
- 15:55 Declared HPCS Diesel OPERABLE, EXIT T.S. 3.8.1.  
Declared HPCS OPERABLE, EXIT T.S. 3.5.1 Condition B.

**E. METHOD OF DISCOVERY:**

This event was discovered by Reactor Operators when the Control Room Annunciation for HPCS SYSTEM INOPERABLE and INOP Status Light Indication for TRIP UNITS OUT OF FILE/POWER FAIL was received.

**F. SAFETY SYSTEM RESPONSES:**

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

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**NARRATIVE****II. CAUSE OF EVENT:**

The cause of the HPCS Inoperability was determined to be the failure of 24VDC Power Supply E22A-PS1. Failure of this component was confirmed by Exelon Powerlabs. The power supply has been sent to the manufacturer, TDK-Lambda, for component level analysis.

**III. ANALYSIS OF THE EVENT:**

This event is reportable under 10 CFR 50.72(b)(3)(v)(D) and 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 direct cause of the HPCS System being declared Inoperable was the failed 24VDC Power Supply, E22A-PS1. Operators were able to stabilize HPCS System conditions by executing the respective operating procedures.

In accordance with T.S. 3.5.1 Condition B.1, Reactor Core Isolation Cooling (RCIC) was available throughout the event. Additionally, Low Pressure Core Spray (LPCS), Low Pressure Coolant Injection (LPCI), and Automatic Depressurization (ADS) Systems remained available. In accordance with T. S. LCO 3.5.1 ACTIONS B.1 and B.2, If the HPCS System is inoperable, and the RCIC System is immediately verified to be OPERABLE (when RCIC is required to be OPERABLE), the HPCS System must be restored to OPERABLE status within 14 days. In this condition, adequate core cooling is ensured by the OPERABILITY of the redundant and diverse low pressure ECCS injection/spray subsystems in conjunction with the ADS.

Based on these conditions, it is concluded that the safety significance of this event is low.

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

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

Replacement of the failed Power Supply, E22A-PS1, was completed.

**B. ACTION TAKEN OR PLANNED TO PREVENT RECURRENCE:**

Annunciators, computer points, and status lights provide adequate detection. PM Strategy requires replacement every 10 years, which is more conservative than the template recommendation of every 12 years. The power supply had only been

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		2019	- 001	- 00

**NARRATIVE**

installed for three years at the time of the failure, so it was well within the PM Strategy requirements. PM strategy is currently deemed sufficient, pending complete failure analysis. Operation of the equipment is within manufacturer specifications. The potential for creating an auctioneered, redundant power supply is being evaluated by strategic engineering.

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

The failed HPCS 24VDC power supply is currently with the manufacturer, TDK Lambda, for component level analysis.

**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>
24VDC Power Supply	JX	BG
High Pressure Core Spray System (HPCS)	N/A	BG