



April 27, 2000  
NMP2L 1960

U. S. Nuclear Regulatory Commission  
Attn: Document Control Desk  
Washington, DC 20555

RE: Docket No. 50-410  
Licensee Event Report: 00-06

Gentlemen:

In accordance with 10 CFR 50.73(a)(2)(iv), we are submitting Licensee Event Report 00-06,  
"Division I Service Water System Isolation of the Non-essential Portions."

Very truly yours,

A handwritten signature in black ink, appearing to read "M. Peckham", written over the printed name.

Michael F. Peckham  
Plant Manager - NMP2

MFP/CES/tmk  
Attachment

xc: Mr. H. J. Miller, NRC Regional Administrator, Region I  
Mr. G. K. Hunegs, NRC Senior Resident Inspector  
Records Management

JE22

## LICENSEE EVENT REPORT (LER)

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-530), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503

FACILITY NAME (1)

Nine Mile Point Unit 2

DOCKET NUMBER (2)

05000410

PAGE (3)

01 OF 04

TITLE (4) Division I Service Water System Isolation of the Non-essential Portions

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)
04	04	00	00	06	00	04	27	00	N/A	
OPERATING MODE (9)			THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)							
POWER LEVEL (10) 0			<input type="checkbox"/> 20.2201(b) <input type="checkbox"/> 20.2203(a)(1) <input type="checkbox"/> 20.2203(a)(2)(I) <input type="checkbox"/> 20.2203(a)(2)(ii) <input type="checkbox"/> 20.2203(a)(2)(iii) <input type="checkbox"/> 20.2203(a)(2)(iv)		<input type="checkbox"/> 20.2203(a)(2)(v) <input type="checkbox"/> 20.2203(a)(3)(I) <input type="checkbox"/> 20.2203(a)(3)(ii) <input type="checkbox"/> 20.2203(a)(4) <input type="checkbox"/> 50.36(c)(1) <input type="checkbox"/> 50.36(c)(2)		<input type="checkbox"/> 50.73(a)(2)(I) <input type="checkbox"/> 50.73(a)(2)(ii) <input type="checkbox"/> 50.73(a)(2)(iii) <input checked="" type="checkbox"/> 50.73(a)(2)(iv) <input type="checkbox"/> 50.73(a)(2)(v) <input type="checkbox"/> 50.73(a)(2)(vii)		<input type="checkbox"/> 50.73(a)(2)(viii) <input type="checkbox"/> 50.73(a)(2)(x) <input type="checkbox"/> 73.71 <input type="checkbox"/> OTHER <i>(Specify in Abstract below and in Text, NRC Form 366A)</i>	
LICENSEE CONTACT FOR THIS LER (12)										
NAME Ray Dean - Manager Technical Support						TELEPHONE NUMBER (315) 349-4240				
COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)										
CAUSE	SYSTEM	COMPONENT	MANUFAC-TURER	REPORTABLE TO EPIX		CAUSE	SYSTEM	COMPONENT	MANUFAC-TURER	REPORTABLE TO EPIX
SUPPLEMENTAL REPORT EXPECTED (14)						EXPECTED SUBMISSION DATE (15)		MONTH	DAY	YEAR
<input type="checkbox"/> YES (If yes, complete EXPECTED SUBMISSION DATE)						<input checked="" type="checkbox"/> NO				

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

On April 4, 2000, while the plant was shutdown, the Division I Service Water System isolated the non-essential portions of service water, which is an automatic engineered safety feature actuation.

The investigation team for the service water isolation could not identify any cause or failure. The investigation team determined that the most probable cause was an intermittent failure of at least one of three specific components.

Non-intrusive testing was performed in an effort to identify possible causes for the service water isolation. The investigation team identified and interviewed personnel that where in the relay room and the Division 2 Emergency Switchgear Room prior to the service water isolation. All three components suspected as a possible cause were replaced and each will undergo failure analysis.

NRC FORM 366A  U.S. NUCLEAR REGULATORY COMMISSION  <div style="text-align: center;"> <b>LICENSEE EVENT REPORT (LER)</b>  <b>TEXT CONTINUATION</b> </div>		APPROVED OMB NO. 3150-0104 EXPIRES:  <small>ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-530), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.</small>															
FACILITY NAME (1)  Nine Mile Point Unit 2	DOCKET NUMBER (2)  05000410	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th colspan="4">LER NUMBER (6)</th> <th rowspan="2">PAGE (3)</th> </tr> <tr> <th>YEAR</th> <th></th> <th>SEQUENTIAL NUMBER</th> <th>REVISION NUMBER</th> </tr> <tr> <td style="text-align: center;">00</td> <td style="text-align: center;">-</td> <td style="text-align: center;">06</td> <td style="text-align: center;">-</td> <td style="text-align: center;">00</td> </tr> </table>	LER NUMBER (6)				PAGE (3)	YEAR		SEQUENTIAL NUMBER	REVISION NUMBER	00	-	06	-	00	02 OF 04
LER NUMBER (6)				PAGE (3)													
YEAR		SEQUENTIAL NUMBER	REVISION NUMBER														
00	-	06	-	00													

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

## I. DESCRIPTION OF EVENT

On April 4, 2000, while the plant was shutdown, the Division I Service Water System isolated the non-essential portions of service water. The system was operating normally with Service Water Pumps 2SWP\*P1A, 2SWP\*P1B, 2SWP\*P1C, and 2SWP\*P1E running. The non-essential service water isolation valves (2SWP\*MOV3A, 2SWP\*MOV19A, 2SWP\*MOV93A, and 2SWP\*MOV599) closed with no related control room annunciation. Following the closure of the non-essential isolation valves, three service water pumps tripped on low flow. Service Water Pump 2SWP\*P1C continued to run, supplying cooling water to the essential loads.

A multi-discipline team was assembled to investigate the event. The investigation team was able to narrow the initiating signal for the service water isolation to either the loss of Division I offsite electrical power or the loss of all Division II Service Water Pumps. The investigation team determined that neither of the two initiating signals occurred; therefore, the team focused on the components of the two circuits. Non-intrusive testing (verified relays were in the correct state, verified wiring termination tightness, and measured voltages) was performed to identify a possible cause for the service water isolation. No discrepancies were identified.

The investigation team identified and interviewed personnel that where in the relay room and the Division 2 Emergency Switchgear Room prior to the service water isolation. From the interviews and work area reviews, the potential for a human performance deficiency was discounted.

The investigation team identified three components (Relay 52XB-2SWPB63, Optical Isolator 99-11-2SWPA65, and Relay 99-11X-2SWPA65) that if any one of the three intermittently failed would result in a service water isolation without initiating an alarm.

## II. CAUSE OF EVENT

The investigation team could not identify any cause of failure that would cause a service water isolation. The investigation team determined that the most likely cause was an intermittent failure of at least one of three components: Relay 52XB-2SWPB63, Optical Isolator 99-11-2SWPA65, and Relay 99-11X-2SWPA65.

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

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FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)				PAGE (3)
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Nine Mile Point Unit 2	05000410	00	-	06	00	03 OF 04

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

**III. ANALYSIS OF EVENT**

This event is reportable in accordance with 10 CFR 50.73(a)(2)(iv), which requires a report when any event or condition resulted in a manual or automatic actuation of any engineered safety features, including the reactor protection system. The non-essential portions of service water automatically isolated which is an engineered safety feature actuation.

The service water system is designed with three loops (two essential loops and one non-essential loop). During an accident the non-essential loop is isolated. Even though three service water pumps tripped on low flow after the isolation, one service water pump continued to supply cooling water to the essential loads. One service water pump provided enough flow to satisfy the cooling requirements of the essential loads in service at the time of the service water isolation.

Niagara Mohawk Power Corporation performed a probabilistic risk analysis for the service water isolation and determined that this event is considered to have a very low risk significance.

Based on the information provided above, there were no adverse safety consequences as a result of this event. The automatic isolation of the non-essential loads of service water posed no threat to the health and safety of the general public or plant personnel.

**IV. CORRECTIVE ACTIONS**

1. Non-intrusive testing (verified relays were in the correct state, verified wiring termination tightness, and measured voltages) was performed in an effort to identify a possible cause for the service water isolation.
2. The investigation team identified and interviewed personnel that were in the relay room and the Division 2 Emergency Switchgear Room prior to the service water isolation.
3. Maintenance personnel replaced Relay 52XB-2SWPB63, Optical Isolator 99-11-2SWPA65, and Relay 99-11X-2SWPA65 and the removed components were sent to a vendor for failure analysis
4. Deviation/Event Report 2-2000-1334 will be revised, as appropriate, and preventive action will be developed based on the results of the failure analysis by July 28, 2000.

**V. ADDITIONAL INFORMATION**

Failed components: No component failures could be identified, but three components were replaced and will undergo failure analysis.

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TEXT CONTINUATION**

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**V. ADDITIONAL INFORMATION (Cont'd)**

Previous similar events:

Licensee Event Report 00-04 documents two service water isolations. The causes of both service water isolations were known (control room operators did not effectively assimilate and use available information, and a supervisor stepped out of his supervisory role). The most likely cause for Licensee Event Report 00-06 was intermittent failure of at least one of three components, and therefore, the corrective actions associated with Licensee Event Report 00-04 would not have prevented Licensee Event Report 00-06.

Identification of components referred to in this licensee event report:

Components	IEEE 803A Function	IEEE 805 System ID
Service Water System	N/A	BI
Pumps	P	BI
Valves	ISV	BI
Annunciator	ANN	IB
Relay	RLY	BI
Terminals	N/A	BI
Optical Isolator	OB	BI
Circuit	N/A	BI
Division I Offsite Electrical Power	N/A	EA