

Thomas A. Lynch
Plant General Manager

P.O. Box 63
Lycoming, New York 13093
315.349.5205
315.349.1321 Fax

CENG

a joint venture of



NINE MILE POINT
NUCLEAR STATION

U. S. Nuclear Regulatory Commission
Washington, DC 20555-0001

May 5, 2010

ATTENTION: Document Control Desk

SUBJECT: Nine Mile Point Nuclear Station
Unit No. 2; Docket No. 50-410

Licensee Event Report 2010-001, Revision 1, Reactor Scram Due to Inadvertent Actuation of the Redundant Reactivity Control System During Maintenance

On March 8, 2010, Nine Mile Point Nuclear Station, LLC (NMPNS) submitted Licensee Event Report (LER) 2010-001, Reactor Scram Due to Inadvertent Actuation of the Redundant Reactivity Control System During Maintenance. In the submittal, NMPNS committed to provide a supplemental report by May 7, 2010, that identified the root cause(s) for the event and corrective actions taken.

LER 2010-001, Rev 1, attached, identifies the root cause for the event and corrective actions taken.

There are no regulatory commitments in this submittal.

Should you have questions regarding the information in this submittal, please contact T. F. Syrell, Licensing Director, at (315) 349-5219.

Very truly yours,

A handwritten signature in black ink, appearing to read "T. Lynch".

TAL/MHS

JE22
NRK

Document Control Desk

May 5, 2010

Page 2

Attachment: Licensee Event Report 2010-001, Rev. 1, Reactor Scram Due to Inadvertent Actuation of the Redundant Reactivity Control System During Maintenance

cc: S. J. Collins, NRC
R. V. Guzman, NRC
Resident Inspector, NRC
R. A. Hathaway, INPO

ATTACHMENT

LICENSEE EVENT REPORT 2010-001, REV. 1

**REACTOR SCRAM DUE TO INADVERTENT ACTUATION OF
THE REDUNDANT REACTIVITY CONTROL SYSTEM
DURING MAINTENANCE**

**Nine Mile Point Nuclear Station, LLC
May 5, 2010**

LICENSEE EVENT REPORT (LER)
(See reverse for required number of digits/characters for each block)

Estimated burden per response to comply with this mandatory collection request: 50 hours. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the Records and FOIA/Privacy Service Branch (T-5 F52), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to infocollects@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOF-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
Reactor Scram Due to Inadvertent Actuation of the Redundant Reactivity Control System During Maintenance

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
01	07	2010	2010	001	01	05	05	2010	None	NA
									None	NA

9. OPERATING MODE 1	11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR§: (Check all that apply)									
10. POWER LEVEL 100	<input type="checkbox"/> 20.2201(b)	<input type="checkbox"/> 20.2203(a)(3)(i)	<input type="checkbox"/> 50.73(a)(2)(i)(C)	<input type="checkbox"/> 50.73(a)(2)(vii)						
	<input type="checkbox"/> 20.2201(d)	<input type="checkbox"/> 20.2203(a)(3)(ii)	<input type="checkbox"/> 50.73(a)(2)(ii)(A)	<input type="checkbox"/> 50.73(a)(2)(viii)(A)						
	<input type="checkbox"/> 20.2203(a)(1)	<input type="checkbox"/> 20.2203(a)(4)	<input type="checkbox"/> 50.73(a)(2)(ii)(B)	<input type="checkbox"/> 50.73(a)(2)(viii)(B)						
	<input type="checkbox"/> 20.2203(a)(2)(i)	<input type="checkbox"/> 50.36(c)(1)(i)(A)	<input type="checkbox"/> 50.73(a)(2)(iii)	<input type="checkbox"/> 50.73(a)(2)(ix)(A)						
	<input type="checkbox"/> 20.2203(a)(2)(ii)	<input type="checkbox"/> 50.36(c)(1)(ii)(A)	<input checked="" type="checkbox"/> 50.73(a)(2)(iv)(A)	<input type="checkbox"/> 50.73(a)(2)(x)						
	<input type="checkbox"/> 20.2203(a)(2)(iii)	<input type="checkbox"/> 50.36(c)(2)	<input type="checkbox"/> 50.73(a)(2)(v)(A)	<input type="checkbox"/> 73.71(a)(4)						
	<input type="checkbox"/> 20.2203(a)(2)(iv)	<input type="checkbox"/> 50.46(a)(3)(ii)	<input type="checkbox"/> 50.73(a)(2)(v)(B)	<input type="checkbox"/> 73.71(a)(5)						
<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)(C)	<input type="checkbox"/> OTHER							
<input type="checkbox"/> 20.2203(a)(2)(vi)	<input type="checkbox"/> 50.73(a)(2)(i)(B)	<input type="checkbox"/> 50.73(a)(2)(v)(D)	Specify in Abstract below or in NRC Form 366A							

12. LICENSEE CONTACT FOR THIS LER

NAME Terry Syrell, Licensing Director	TELEPHONE NUMBER (Include Area Code) (315) 349-5219
--	--

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
NA	NA	NA	NA	N	NA	NA	NA	NA	NA

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

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

At 0100 on January 7, 2010, Nine Mile Point Unit 2 scrambled from full power following receipt of an invalid Low-Low Reactor Pressure Vessel (RPV) level signal (Level 2). The Level 2 signal caused a Division II Redundant Reactivity Control System (RRCS) initiation signal that caused an Alternate Rod Insertion (ARI) scram initiation and a trip of the reactor recirculation pumps. The Level 2 signal also initiated Reactor Core Isolation Cooling (RCIC).

The invalid RPV Level 2 signal was caused by maintenance technicians performing fill and vent activities on Residual Heat Removal (RHS) instrumentation as part of a planned maintenance window for Division II RHS.

The direct cause of this event was venting of RHS instrumentation during planned maintenance.

The root cause of this event is, Operations Management has not sufficiently monitored and reinforced standards associated with plant impact assessment during work planning.

To address this issue, additional training will be provided to personnel performing the Operations planning functions. In addition, quarterly Management Review Meetings will be implemented for Operations planning personnel to provide continual reinforcement of the standards and provide for monitoring and feedback. The operating procedure involved in this event will be revised to provide precautions and limitations when venting.

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

1. FACILITY NAME	(2) DOCKET	(6) LER NUMBER			(3) PAGE
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
Nine Mile Point Unit 2	05000410	2010	001	01	2 OF 5

NARRATIVE

I. DESCRIPTION OF EVENT:

A. PRE-EVENT PLANT CONDITIONS:

Prior to this event Nine Mile Point Unit 2 (NMP2) was operating steady state at 100 percent power with no inoperable systems which would affect this event.

B. EVENT:

At 0100 on January 7, 2010, NMP2 scrambled from full power following receipt of an invalid Low-Low Reactor Pressure Vessel (RPV) level signal (Level 2). The Level 2 signal caused a Division II Redundant Reactivity Control System (RRCS) initiation signal that caused an Alternate Rod Insertion (ARI) scram initiation and trip of the reactor recirculation pumps. The plant responded as expected to the reduction in core flow and control rod insertion. The invalid RPV Level 2 signal was caused by maintenance technicians performing fill and vent activities on Residual Heat Removal (RHS) instrumentation as part of a planned maintenance window for Division II RHS. The RHS instrumentation was interconnected to the RPV instrumentation through a common reference leg. This interconnection was not recognized during the work planning process or by the technicians who performed the activity. When the RHS instrument was vented, the activity induced a pressure perturbation that generated an invalid Level 2 signal.

As required by plant procedures following the ARI, the Operator at the Controls (OATC) initiated a manual scram by placing the reactor mode switch in SHUTDOWN and verified all control rods fully inserted. Per design, the Level 2 signal also generated a Reactor Core Isolation Cooling (RCIC) initiation signal. The system started normally and injected to the RPV for approximately four minutes until RPV level on wide range reached the high level set point and closed the RCIC steam admission valve, terminating injection.

Following the scram, the operating crew stabilized the plant in accordance with plant procedures. During the event, the RPV bottom head cool down rate limit of 100 Degrees F/hr. was exceeded due to no Reactor Recirculation Pumps in operation with control rod drive flow into the bottom head. The maximum cool down rate recorded was 102 Degrees F/hr.

C. INOPERABLE STRUCTURES, COMPONENTS, OR SYSTEMS THAT CONTRIBUTED TO THE EVENT: There were no inoperable components that contributed to this event.

D. DATES AND APPROXIMATE TIMES OF MAJOR OCCURRENCES:

12/17/09 – 12/31/09 During development of a work order to fill and vent RHS flow transmitters as part of a plant modification, a common reference leg shared by RHS differential pressure transmitter 2RHS*PDT24C and RPV level instrument 2ISC*PT4B was not recognized.

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

1. FACILITY NAME	(2) DOCKET	(6) LER NUMBER			(3) PAGE
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
Nine Mile Point Unit 2	05000410	2010	001	01	3 OF 5

NARRATIVE

01/04/10 – 01/07/10 Field walk downs of the planned work performed by maintenance technicians failed to detect the common reference leg shared by RHS differential pressure transmitter 2RHS*PDT24C and RPV level instrument 2ISC*PT4B.

01/07/10 @ 0100 Workers opened and then reclosed the drain valve for RHS differential pressure transmitter 2RHS*PDT24C. This action initiated a transient in RPV level instrumentation that caused an invalid Low-Low RPV water level signal (Level 2). The Level 2 signal caused a Division II RRCS initiation signal that caused ARI scram initiation, trip of the Reactor Recirculation Pumps, and RCIC initiation.

E. OTHER SYSTEMS OR SECONDARY FUNCTIONS AFFECTED:

Reactor Recirculation Pumps could not initially be re-started following the plant trip. This condition was subsequently determined to be caused per design by the thermal shock prevention logic circuit.

Division II Automatic Depressurization System (ADS) Low RPV Level Confirmatory signal was not received following the scram. This condition was subsequently determined to be caused by the fill and vent activity on RHS differential pressure transmitter 2RHS*PDT24C that initiated this event.

F. METHOD OF DISCOVERY:

The reactor scram was self-revealing via multiple control room indications.

After the plant scram, the technicians performed a hand over hand piping inspection and discovered the common reference leg of RHS differential pressure transmitter 2RHS*PDT24C with RPV level instrument 2ISC*PT4B.

G. MAJOR OPERATOR ACTION:

Following receipt of the Division II RRCS initiation signal, the operating crew initiated a manual scram by placing the reactor mode switch in SHUTDOWN, verified all control rods fully inserted, and stabilized the plant in accordance with plant procedures.

H. SAFETY SYSTEM RESPONSES:

Division II Emergency Core Cooling System (ECCS) Residual Heat Removal (RHS) subsystems B and C were inoperable and unavailable due to planned maintenance.

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

1. FACILITY NAME	2. DOCKET	6. LER NUMBER			3. PAGE
Nine Mile Point Unit 2	05000410	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	4 OF 5
		2010	001	01	

NARRATIVE

Divisions I and III ECCS were operable and capable of performing their intended function during the event.

RCIC initiated due to the invalid RPV Level 2 signal. The RCIC system injected to the vessel and responded as designed.

II. CAUSE OF EVENT:

The direct cause of this event was venting of RHS instrumentation during planned maintenance.

The root cause of this event is, Operations Management has not sufficiently monitored and reinforced standards associated with plant impact assessment during work planning.

Condition Report 2010-000192 applies to this LER.

III. ANALYSIS OF THE EVENT:

This event is reportable in accordance with 10 CFR 50.73(a)(2)(iv)(A) as an event or condition that resulted in manual or automatic actuation of any of the systems listed in paragraph 10 CFR 50.73(a)(2)(iv)(B). The Reactor Protection System (RPS) and the RCIC system were actuated during this event. Both systems are listed in 10 CFR 50.73(a) (2) (iv)(B).

The actual consequences of this event were a reactor scram, initiation of RCIC, and exceeding the 100 Degrees F/hr. cooldown rate limit for the RPV. The maximum cooldown in 1 hour was 102 degrees F. Cooldown rate was returned to less than 100 degrees/hr. within 30 minutes. An engineering assessment of the cooldown concluded that RPV allowable stress loadings were not exceeded. Plant response to the initiation of Redundant Reactivity Control System was per design.

Based on the above, 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 affects the NRC Regulatory Oversight Process (ROP) Index for Unplanned Scrams. Due to this scram, the Unplanned Scram Index value will be 0.8 compared to a Green-to-White threshold value of greater than 3. This reduction in margin will not result in entry into the Increased Regulatory Response (White) Band.

IV. CORRECTIVE ACTIONS:

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

The operating crew stabilized the plant in accordance with plant procedures.

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

1. FACILITY NAME	2. DOCKET	6. LER NUMBER			3. PAGE
Nine Mile Point Unit 2	05000410	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	5 OF 5
		2010	001	01	

NARRATIVE

B. ACTION TAKEN OR PLANNED TO PREVENT RECURRENCE:

To address this issue, additional training will be provided to personnel performing the Operations planning functions. In addition, quarterly Management Review Meetings will be implemented for Operations planning personnel to provide continual reinforcement of the standards and provide for monitoring and feedback. The operating procedure involved in this event will be revised to provide precautions and limitations when venting.

V. ADDITIONAL INFORMATION:

A. FAILED COMPONENTS:

None

B. PREVIOUS LERs ON SIMILAR EVENTS:

On November 8, 2007, Nine Mile Point Unit 2 experienced a Loss of Shutdown Cooling. The root cause for the associated CR-2007-6769 was determined to be inadequate plant impact assessment during application of a clearance for emergent work. This event was reported to the NRC in accordance with 10 CFR 50.73(a)(1) using telephone notification in lieu of submitting a written LER on December 20, 2007. The corrective actions taken as a result of the root cause evaluation were found to be ineffective. The corrective actions for the 2007 event have subsequently been subsumed into the corrective actions for the January 7, 2010 event (CR-2010-000192).

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

COMPONENT	IEEE 803 FUNCTION IDENTIFIER	IEEE 805 SYSTEM IDENTIFICATION
Plant Protection System	-	JC
Engineered Safety Features Actuation System	-	JE
Reactor Core Isolation Cooling	P	BN
Residual Heat Removal	PDIT	BO
Reactor Recirculation System	P	AD

D. SPECIAL COMMENTS: None