



10 CFR 50.73

NMP2L 2599
October 5, 2015

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 2014-007, Revision 1, Secondary Containment Inoperable Due to Simultaneous Opening of Airlock Doors

In accordance with the reporting requirements contained in 10 CFR 50.73(a)(2)(v)(C), please find enclosed NMP2 Licensee Event Report (LER) 2014-007, Revision 1, Secondary Containment Inoperable Due to Simultaneous Opening of Airlock Doors. The LER is being revised to add a second occurrence of the airlock doors being opened on the same day. This was identified during an internal review of records. The causes and actions taken were not changed.

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,

A handwritten signature in black ink, appearing to read "William J. Trafton".

William J. Trafton
Plant Manager, Nine Mile Point Nuclear Station
Exelon Generation Company, LLC

WJT/KJK

Enclosure: NMP2 Licensee Event Report 2014-007, Revision 1, Secondary Containment Inoperable Due to Simultaneous Opening of Airlock Doors

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

JE22
NRL

Enclosure

NMP2 Licensee Event Report 2014-007, Revision 1

Secondary Containment Inoperable Due to Simultaneous Opening of Airlock Doors

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)

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 2 | | 2. DOCKET NUMBER 05000410 | 3. PAGE 1 OF 6 |
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4. TITLE
Secondary Containment Inoperable Due to Simultaneous Opening of Airlock Doors

| 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 |
| 4 | 2 | 2014 | 2014 | 007 | 01 | 10 | 5 | 2015 | 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)**

| | | | | |
|---------------------------|---|---|---|---|
| 5 | <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) |
| 10. POWER LEVEL 0% | <input type="checkbox"/> 20.2203(a)(2)(ii) | <input type="checkbox"/> 50.36(c)(1)(ii)(A) | <input 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 checked="" 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

| | |
|---|--|
| LICENSEE CONTACT Dennis Moore, Site Regulatory Assurance Manager | TELEPHONE NUMBER (Include Area Code) (315) 349-5219 |
|---|--|

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

| CAUSE | SYSTEM | COMPONENT | MANUFACTURER | REPORTABLE TO EPIX | CAUSE | SYSTEM | COMPONENT | MANUFACTURER | REPORTABLE TO EPIX |
|-------|--------|-----------|--------------|--------------------|-------|--------|-----------|--------------|--------------------|
| A | NG | DR | N/A | N | 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 N/A | DAY N/A | YEAR N/A |

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

On April 2, 2014, at approximately 0123 hours, the secondary containment of the Nine Mile Point Unit 2 (NMP2) Reactor Building was breached when workers opened both inner and outer airlock doors, R261-1 and R261-2, simultaneously while passing through. The integrity of the airlock was re-established within 4 to 5 seconds when one of the doors was closed and latched. A second opening of both airlock doors occurred at 1140 that same day. Secondary containment differential pressure never exceeded the minimum Technical Specification limit of 0.25 inch of vacuum water gauge. These events are significant in that the secondary containment was momentarily breached during replacement of the Reactor Recirculation Pump "B" seal, an activity which had the potential for draining the reactor vessel (OPDRV). The causal analysis identified that workers did not use their human performance verification tools to ensure the opposing outer door of the airlock was closed prior to opening the inner door. Corrective actions taken include coaching and counseling for workers involved in the event on the importance of applying their human performance tools of self-checking and peer-checking when passing through secondary containment doors. A previous LER submitted on a similar event could not be identified.



**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.

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| Nine Mile Point Unit 2 | 05000410 | 2014 | - 007 | - 01 | 2 OF 6 |
| | | | | | |

NARRATIVE

I. DESCRIPTION OF EVENT

A. PRE-EVENT PLANT CONDITIONS:

Prior to the event, Nine Mile Point Unit 2 (NMP2) was in Mode 5 on the 10th day of its refueling outage and operating at 0% reactor power. The plant was in a condition of operation with the potential for draining the reactor vessel (OPDRV). The reactor coolant temperature was approximately 95°F and pressure was 0 psig. The reactor cavity was flooded twenty-two feet and three inches above the reactor flange and the refueling gates were removed.

B. EVENT:

On April 2, 2014 at 0123, the simultaneous opening of Reactor Building airlock doors resulted in a momentary loss of secondary containment safety function. NMP2 was in Mode 5 and in the other specified condition of OPDRV as noted above. The incident occurred during the refueling outage in the main airlock for entry and egress for the Reactor Building. The badging transaction report indicated that three outage workers carded into R261-2 (outer door) and entered the airlock toward the Reactor Building. Before the outer door could close, one of the workers within the airlock opened R261-1 (inner door) to the Reactor Building resulting in both doors being open concurrently for several seconds. Station personnel in the area of the Reactor Building airlock doors witnessed a rush of air and the sound associated with the simultaneous opening of airlock doors. An event investigation confirmed the outer door was opened first, the inner door was opened second; both doors were open at the same time for 4 to 5 seconds. In response to this condition, operators entered Technical Specification (TS) action statement 3.6.4.1, Condition C then promptly exited this action statement when the inner airlock door was closed. At 1140, a similar condition occurred with both airlock doors being opened simultaneously and closed within a few seconds.

Following these incidents, personnel associated with both events were coached on the importance of using their human performance tools to ensure the airlock doors were properly closed.

The 0123 event has been documented in the plant's corrective action program as CR 2014-002881. The 1140 event is documented in CR-2014-002909.

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:

The dates, times and major occurrences for this event are as follows:

April 2

- 0123 Workers carded in R261-2 (outer door)
- 0123 Secondary containment was breached
R261-1 (inner door) is shut
Entered TS action statement 3.6.4.1, Condition C and exited.
- 1140 Workers opened R261-1 (inner door) nearly at the same time as workers inside the airlock opened R261-2 (outer door) to exit the airlock.
- 1140 Secondary containment was breached.
The inner door was shut immediately until workers exited through the outer door.
Entered TS action statement 3.6.4.1, Condition C and exited.

E. OTHER SYSTEMS OR SECONDARY FUNCTIONS AFFECTED:

No other systems or secondary functions were affected beyond the systems discussed in Section I.B.

F. METHOD OF DISCOVERY:

This event was discovered by station personnel in the area of the Reactor Building airlock doors. Personnel heard a rush of air through the airlock and felt the air pressure from the concurrent opening of the airlock doors.

G. MAJOR OPERATOR ACTION:

NMP2 entered TS action statement 3.6.4.1, Condition C, then, exited it when the inner door was shut.

H. SAFETY SYSTEM RESPONSES:

The duration of each event was 4 to 5 seconds, or less. There was no impact on building differential pressure. Operators entered the applicable TS action statement then exited it soon afterwards. At the time of the events, the Reactor Building was isolated for other outage related activities and the Division I Standby Gas Treatment System (GTS) was operable and in operation. Both events concluded when the inner airlock door was shut.

II. CAUSE OF EVENT:

This event was caused by the simultaneous opening of Airlock Doors R261-1 and R261-2 by workers as they passed through the doors.

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III. ANALYSIS OF THE EVENT:

The reportable condition associated with airlock doors R261-1 and R261-2 being open simultaneously represents a loss of secondary containment safety function. This condition is reportable under 10 CFR 50.72(b)(3)(v)(C) and 10 CFR 50.73(a)(2)(v)(C).

It is defined under paragraph 10 CFR 50.73(a)(2)(v)(C) 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 release of radioactive material. While the doors were opened simultaneously for approximately 4 to 5 seconds, the mechanical pump seal for Reactor Recirculation Pump "B" was in the process of being replaced. This activity represents an OPDRV. Not having secondary containment integrity established while in an OPDRV condition temporarily placed the plant outside the condition established per TS 3.6.4.1, Condition C.

During the outage, the primary access to the NMP2 Reactor Building is through the airlock doors R261-1 and R261-2. In the sequence of actions leading to the two breaches of secondary containment, three workers entered the Reactor Building. In each event, the group did not perform an adequate peer-check of each other and the individual who opened the inner door did not perform a self-check and verify the outer door was closed before opening the inner door. The failure to adequately use human performance verification tools prior to opening the inner door was identified in the causal analysis as the apparent cause of this event.

In response to the event, the station entered the action statement for TS 3.6.4.1 then promptly exited it when the airlock doors were shut. Computer data identified that secondary containment differential pressure was unaffected by this event. Secondary containment structural integrity, the ability to automatically isolate the non-safety related Reactor Building ventilation system, and the GTS availability were not impacted. 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 not affect the NRC Regulatory Oversight Process Indicators.

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NARRATIVE

IV. CORRECTIVE ACTIONS:

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

Compensatory measures taken to restore secondary containment to pre-event status include:

A door coach was posted at the outer door during high traffic periods for a period of 4 shifts (2 days) to provide coaching on door use.

Clarifying signage was placed at airlock doors (Units 1 and 2). Signage reads as follows: "NOTICE: Check for green light then pause for five (5) seconds to allow for personnel who may be traversing to exit. Then re-check that the light is still green before proceeding to open the door. Immediately notify the Control Room if both doors are opened at the same time."

Communication provided to all Maintenance, Projects, and Contractor personnel on the event, appropriate practices for use of airlocks (i.e. observation of lights prior to entry), and the importance of maintaining secondary integrity by keeping one door closed at all times.

B. ACTION TAKEN OR PLANNED TO PREVENT RECURRENCE:

Workers involved in the events were coached and counseled on the importance of applying their human performance tools of self-checking and peer-checking especially when passing through secondary containment doors.

V. ADDITIONAL INFORMATION:

A. FAILED COMPONENTS:

There were no other failed components that contributed to this event.

B. PREVIOUS LERs ON SIMILAR EVENTS:

There were no previously submitted similar LERs identified.

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C. THE ENERGY INDUSTRY IDENTIFICATION SYSTEM (EII) 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> |
|-------------------------------------|-------------------------------------|---------------------------------------|
| Reactor Building (BWR) | N/A | NG |
| Reactor Building Ventilation System | PDIC | VA |
| Standby Gas Treatment System | N/A | BH |
| Airlock Door | DR | NG |

D. SPECIAL COMMENTS:

None