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April 11, 2014

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

ATTENTION: Document Control Desk

SUBJECT: Nine Mile Point Nuclear Station, Unit 1
Renewed Facility Operating License No. DPR-63
Docket No. 50-220

Licensee Event Report 2014-001, Reportable Conditions Not Reported During the Previous 3 Years Involving Average Power Range Monitors Inoperability

In accordance with 10 CFR 50.73(a)(2)(v)(A), please find attached Licensee Event Report 2014-001, Reportable Conditions Not Reported During the Previous 3 Years Involving Average Power Range Monitors Inoperability.

There are no regulatory commitments in this submittal.

Should you have questions regarding the information in this submittal, please contact Everett (Chip) Perkins, Director Licensing, at (315) 349-5219.

Sincerely,

JJS/KP

Attachment: Licensee Event Report 2014-001, Reportable Conditions Not Reported During the Previous 3 Years Involving Average Power Range Monitors Inoperability

cc: NRC Project Manager
NRC Resident Inspector
NRC Regional Administrator

IE22
NRR

ATTACHMENT

LICENSEE EVENT REPORT 2014-001

REPORTABLE CONDITIONS NOT REPORTED DURING THE PREVIOUS 3 YEARS INVOLVING AVERAGE POWER RANGE MONITORS INOPERABILITY

Nine Mile Point Nuclear Station, LLC
April 11, 2014

NRC FORM 366 (02-2014) U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB: NO. 3150-0104 EXPIRES: 01/31/2017

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.

LICENSEE EVENT REPORT (LER)

(See Page 2 for required number of digits/characters for each block)

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4. TITLE

Reportable Conditions Not Reported During the Previous 3 Years Involving Average Power Range Monitors Inoperability

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
2	12	2014	2014	- 001	- 00	4	11	2014	NA	NA
									FACILITY NAME: NA	DOCKET NUMBER: NA

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)(i)(C)	☐ 50.73(a)(2)(vii)
	☐ 20.2201(d)	☐ 20.2203(a)(3)(ii)	☐ 50.73(a)(2)(ii)(A)	☐ 50.73(a)(2)(viii)(A)
	☐ 20.2203(a)(1)	☐ 20.2203(a)(4)	☐ 50.73(a)(2)(ii)(B)	☐ 50.73(a)(2)(viii)(B)
	☐ 20.2203(a)(2)(i)	☐ 50.36(c)(1)(i)(A)	☐ 50.73(a)(2)(iii)	☐ 50.73(a)(2)(ix)(A)
10. POWER LEVEL	☐ 20.2203(a)(2)(ii)	☐ 50.36(c)(1)(ii)(A)	☐ 50.73(a)(2)(iv)(A)	☐ 50.73(a)(2)(x)
	☐ 20.2203(a)(2)(iii)	☐ 50.36(c)(2)	☒ 50.73(a)(2)(v)(A)	☐ 73.71(a)(4)
100	☐ 20.2203(a)(2)(iv)	☐ 50.46(a)(3)(ii)	☐ 50.73(a)(2)(v)(B)	☐ 73.71(a)(5)
	☐ 20.2203(a)(2)(v)	☐ 50.73(a)(2)(i)(A)	☐ 50.73(a)(2)(v)(C)	☐ OTHER
	☐ 20.2203(a)(2)(vi)	☐ 50.73(a)(2)(i)(B)	☐ 50.73(a)(2)(v)(D)	Specify in Abstract below or in NRC Form 366A

12. LICENSEE CONTACT FOR THIS LER

LICENSEE CONTACT	TELEPHONE NUMBER *(Include Area Code)*
Everett Perkins, Director - Licensing	(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
A	JC	NA	GE	N	NA	NA	NA	NA	NA

14. SUPPLEMENTAL REPORT EXPECTED	15. EXPECTED SUBMISSION DATE	MONTH	DAY	YEAR
☐ YES *(If yes, complete 15. EXPECTED SUBMISSION DATE)* ☒ NO		NA	NA	NA

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

This LER is submitted to acknowledge that Nine Mile Point (NMP) missed providing LERs for past occurrences reportable in accordance with10 CFR 50.72(b)(3)(v)(A) and 10 CFR 50.73(a)(2)(v)(A) as conditions that could have prevented the fulfillment of the safety function of a structure or system needed to shutdown the reactor and maintain it in a safe shutdown condition. This condition was discovered on February 12, 2014. The reportable conditions occurred twice within the past three years when APRMs were declared inoperable as a result of reactor recirculation pump (RRP) trips. In each occurrence, the APRM flow-biased control rod block and scram function remained available, though, non-conservative. The cause of Operations personnel not recognizing the APRM conditions as reportable was due to ineffective training of Operations personnel. Corrective actions taken or planned include briefings and detailed training on reporting requirements and revisions to procedures that clarify event reporting requirements.

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I. DESCRIPTION OF EVENT

A. PRE-EVENT PLANT CONDITIONS:

Prior to the first reportable condition on March 20, 2011, NMP1 was operating at 89% rated reactor power. The plant was at rated thermal power for the reportable condition that occurred January 2, 2012.

B. EVENT:

This LER is submitted to acknowledge that NMP missed providing an LER for the two events described in this Section. It also summarizes the events and assesses their safety implication. On February 12, 2014, it was discovered that NMP1 had not reported conditions associated with APRM inoperabilities in accordance with the administrative guidance in NUREG-1022, Rev. 3, and the requirements of 10 CFR 50.72(b)(3)(v)(A) and 50.73(a)(2)(v)(A). Each of the events represented a condition that could have prevented the fulfillment of the safety function of a structure or system needed to shutdown the reactor and maintain it in a safe shutdown condition. In both events, the APRMs were declared inoperable as a result of RRP trips resulting in the flow-biased control rod block and scram functions being non-conservative.

The first reportable condition occurred on March 20, 2011, at 1548. The plant was operating at 89% power in five recirculation pump operation. When personnel attempted to remove RRP 14 discharge and discharge bypass valves from their backseated positions per operations special order, RRP 14 tripped. Operations entered N1-SOP-1.3, Reactor Recirculation Pump Trip at Power, for the recirculation pump trip. N1-SOP-1.5, Unplanned Power Change, was performed for the unplanned power change. The plant subsequently commenced shutdown to start the refueling outage.

The second reportable condition occurred on January 3, 2012, while the plant was operating at rated thermal power. The unit was operating in four loop operation. Operators inappropriately removed a potential transformer drawer to verify the transformers were properly racked in, opening the metering circuit which resulted in tripping RRP 13. N1-SOP-1.3 and N1-SOP-1.5 were entered as required. The plant returned to rated thermal power on January 4, 2012.

Nine Mile Point Unit 2 (NMP2) was unaffected by the occurences of a RRP trip at NMP1.

NMP did not submit an LER for these reportable occurrences because the training of personnel to consistently recognize reportable conditions of safety systems had not been effective. The result was Operations did not recognize the events involving APRM inoperability as reportable. In recent training, personnel have questioned potentially reportable conditions against NUREG 1022 guidance. This outcome has clarified the understanding of NUREG 1022 and resulted in the submission of this LER.

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

There were no other inoperable systems, structures, or components that contributed to the event.

D. DATES AND APPROXIMATE TIMES OF MAJOR OCCURRENCES:

On March 20, 2011 at 1548 NMP1 was operating at approximately 89% rated thermal power. RRP 14 tripped placing the unit in a 4 operating loop configuration. Reactor power dropped to approximately 82% of rated power as expected and operators executed special operating procedures N1-SOP-1.3 and N1-SOP-1.5, as required. The APRMs were inoperable for ten minutes. This event is documented in the corrective action program as CR 2011-002221.

On January 3, 2012 at 2130 with the reactor operating at rated thermal power, RRP 13 tripped placing the unit in a three loop operating condition. RRP 15 was already out of service for maintenance. The direct cause of the RRP13 trip was attributed to operators inappropriately removing a potential transformer drawer to verify that the potential transformers were properly racked-in in preparation for maintenance. Reactor power dropped to approximately 84% of rated reactor power as expected and operators executed special operating procedures N1-SOP-1.3 and N1-SOP-1.5 as required. The APRMs were inoperable for five minutes. Subsequently, on January 4, 2012 at 0140 RRP 13 was started and the reactor returned to rated power on January 4, 2012 at 0524. This event is documented in the corrective action program as CR 2012-000052.

In each case the APRM scram and rod block functions were declared inoperable and TS Action Statements 3.6.2.a(1) and 3.6.2.a(7) entered requiring that control rods be inserted (plant shutdown commenced within one hour) and no control rods be withdrawn. When the respective RRP discharge valve was closed the APRMs were declared operable.

E. OTHER SYSTEMS OR SECONDARY FUNCTIONS AFFECTED:

No other systems or secondary functions were affected.

F. METHOD OF DISCOVERY:

During operator simulator training, the reportability of APRM inoperability following a RRP trip was questioned as a result of recent briefings on reportability guidance contained in NUREG-1022, Rev. 3. On February 12, 2014, it was determined that NMP1 had not reported two occurrences of APRMs inoperability within the past three years.

G. MAJOR OPERATOR ACTION:

No operator actions were required as a result of the identification of this condition.

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H. SAFETY SYSTEM RESPONSES:

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

II. CAUSE OF EVENT:

The cause of not recognizing the two reportable occurrences is that training had not been effective in providing operations personnel the level of understanding required in order to consistently recognize when the failure of safety systems are reportable under 10 CFR 50.72(b)(3)(v) and 10 CFR 50.73(a)(2)(v). This cause was identified earlier in CR 2013-010111. This condition report documented a similar event and was reported in LER 2013-005.

The event discovered February 12 has been entered into the station's corrective action program as condition report number CR 2014-001246.

III. ANALYSIS OF THE EVENT:

Each occurrence of APRM inoperability is reportable in accordance with 10 CFR 50.72(b)(3)(v)(A) and 10 CFR 50.73(a)(2)(v)(A) as any event or condition that could have prevented the fulfillment of the safety function of structures or systems that are needed to shutdown the reactor and maintain it in a safe shutdown condition.

There were no actual nuclear safety consequences associated with either occurrence. For the missed reportable conditions, there were no actual plant conditions requiring the APRM rod block or scram functions to initiate. In addition, though the flow-biased portion of the high neutron flux trips was not conservative, the trip functions remained available. A portion of the flow-biased trip function curve is clamped at a maximum value of 122% of rated thermal power. This portion of the setpoint curve was not impacted by the non-conservative flow signal and remained available to provide the scram trip function as designed.

An assessment of the potential impact on the safety limit minimum critical power ratio (SLMCPR) was performed. This assessment included a review of thermal hydraulic stability and transients. NMP1 is analyzed for thermal-hydraulic instability using the Boiling Water Reactor Owners' Group Option II. The Option II analysis is performed to demonstrate the SLMCPR protection for postulated instability events by the APRM flow-biased flux scram setpoints. Should oscillations occur, they will be automatically detected and suppressed by the flow-biased APRM neutron flux scram. This analysis credits the flow bias flux scram, as such when APRMs are declared inoperable, operators are required to use procedures in conjunction with the Exclusion and Restricted regions on the power to flow map, to protect the SLMCPR. At rated conditions during the APRM inoperable scenario, instability is not a concern barring additional reactor recirculation flow reduction and entrance into the Restricted region.

For transient review, the Recirculation Pump Trip and Stall Malfunctions are inherent power decay situations in which the core thermal transients remain within permissible limits. Transient results from tripping various combinations of recirculation pumps do not result in a scram or trip. With respect to cycle specific transient analyses performed for Anticipated Operational Occurrences (AOOs), these events terminate on a direct

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scram (Turbine Stop Valve Closure, Generator Load Reject, MSIV closure) and are therefore, unaffected by APRM reading. As such, if one of these events were to occur after a RRP trip and before the APRMs could be declared operable again, the SLMCPR would still be protected.

The direct causes of the APRMs being declared inoperable were trips associated with the RRPs. In each of the two cases, operators were able to stabilize plant conditions quickly by properly executing the respective abnormal operating procedures and remaining in compliance with TS requirements.

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.

IV. CORRECTIVE ACTIONS:

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

For the reportable condition identified on March 20, 2011, operators executed special operating procedures N1-SOP-1.3 and N1-SOP-1.5.

For the reportable condition identified on January 3, 2012, operators also entered N1-SOP-1.3 and N1-SOP-1.5.

B. ACTION TAKEN OR PLANNED TO PREVENT RECURRENCE:

The following actions are planned or taken to prevent missed reportable conditions:

1. Briefed Senior Reactor Operators on NUREG-1022, Rev. 3 associated with 10 CFR 50.72(b)(3)(v)(C) and 50.73(a)(2)(v)(C) reporting requirements. This action has been identified previously in LER 2013-005.

2. Detailed training on 10 CFR 50.72(b)(3)(v)(C) and 50.73(a)(2)(v)(C) reporting requirements will be conducted for Senior Reactor Operators and Licensed Operator Training Instructors. This action has also been identified previously in LER 2013-005.

3. Revisions to procedures that clarify reporting requirements associated with 10 CFR50.72(b)(3).

V. ADDITIONAL INFORMATION:

A. FAILED COMPONENTS:

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

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B. PREVIOUS LERs ON SIMILAR EVENTS:

NMP1 LER 2012-003 was issued to report that Shutdown Cooling Primary Containment Isolation Valves were de-energized in an open position effectively defeating the isolation safety function. NMP2 LER 2011-004 was issued to report that during troubleshooting, Reactor Water Cleanup System delta-flow Isolation Instrumentation was defeated.

NMP2 LER 2013-005 was submitted in February 2014 to identify instances of not reporting the inoperability of secondary containment. Implementation of corrective actions associated with the above LER resulted in the identification of the missed reportable conditions documented in this LER.

C. THE ENERGY INDUSTRY IDENTIFICATION SYSTEM (EIIS) 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
Average Power Range Monitor (APRM)	NA	JC
Reactor Recirculation Pumps	P	AD

D. SPECIAL COMMENTS:

None