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June 13, 2017

L-MT-17-049
10 CFR 50.73

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

Monticello Nuclear Generating Plant
Docket No. 50-263
Renewed Facility Operating License No. DPR-22

LER 2017-001-00 "Reactor Scram and Group II Isolation Due to 11 Reactor Feed Pump (RFP) Removal from Service with 12 RFP Isolated"

Enclosed is the Monticello Nuclear Generating Plant (MNGP) Licensee Event Report (LER) 2017-001-00, "Reactor Scram and Group II Isolation Due to 11 Reactor Feed Pump (RFP) Removal from Service with 12 RFP Isolated." This condition is reportable to the NRC 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), specifically the Reactor Protection and Primary Containment Isolation Systems.

Summary of Commitments

This letter makes no new commitments and no revisions to existing commitments.

Kent Scott for P. Gardner

Peter A. Gardner
Site Vice President, Monticello Nuclear Generating Plant
Northern States Power Company – Minnesota

Enclosure

cc: Administrator, Region III, USNRC
Project Manager, Monticello Nuclear Generating Plant, USNRC
Resident Inspector, Monticello Nuclear Generating Plant, USNRC

NRC FORM 366 (04-2017) U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB: NO. 3150-0104 EXPIRES: 03/31/2020

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, 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)

(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/)

1. FACILITY NAME	2. DOCKET NUMBER	3. PAGE
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4. TITLE

Reactor Scram and Group II Isolation Due to 11 Reactor Feed Pump (RFP) Removal from Service with 12 RFP Isolated

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 05000
04	15	2017	2017	- 001	- 0	06	13	2017	FACILITY NAME	DOCKET NUMBER 05000

9. OPERATING MODE	11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: *(Check all that apply)*			
3	☐ 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)(viii)(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	☐ 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)
000	☐ 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 366A	

12. LICENSEE CONTACT FOR THIS LER

LICENSEE CONTACT	TELEPHONE NUMER *(Include Area Code)*
Rick Loeffler, Senior Licensing Engineer	763-295-1247

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

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

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

On April 15, 2017 at 0436 hours, the 11 Reactor Feedwater Pump (RFP) was removed from service and the discharge valve closed. With the discharge valve closed and 12 RFP previously isolated no flow path was lined-up for the Condensate pumps to supply water to the vessel. Reactor water level lowered resulting in valid Reactor Protection System (RPS) actuation and Primary Containment Group II Isolation signals. The 11 RFP discharge valve was reopened to reestablish a flowpath to restore level. The RPS and Group II isolation logic was reset when cleared. Two apparent causes were identified: 1) Failure to identify and address the unusual Feedwater System configuration prior to execution of the 11 RFP shutdown. 2) Guidance for shutdown of the RFP did not take into account the state of the other train when shutting down a RFP. The corrective actions were: 1) Revise plant startup and shutdown procedures to ensure abnormal equipment lineups are addressed to avoid unexpected interactions. 2) Revise the Feedwater System operation procedure to maintain a flow path when the opposite train Reactor Feed Pump is isolated

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NARRATIVE

EVENT DESCRIPTION

On April 10, 2017, at approximately 1140 hours, prior to the 2017 Refueling Outage (RFO), the 12 Reactor Feedwater Pump (RFP) [EIIS: P] was removed from service and isolated for maintenance. On April 15, 2017, at 0142 hours, a manual reactor scram was inserted to shutdown the plant for the 2017 RFO.

On April 15, 2017 at 0436 hours, with the unit in Mode 3, the 11 RFP in the Feedwater System [SJ] was removed from service in accordance with plant shutdown procedures and the 11 RFP discharge valve (FW-68-1) [ISV] was closed. With the 11 RFP discharge valve closed and the 12 RFP previously isolated, there was no make-up flow path lined-up for the Condensate pumps to supply water to the reactor vessel [RPV]. Reactor water level lowered, and at approximately 0441 hours, resulted in a valid Reactor Protection System (RPS) [JD] actuation (scram) signal and a valid Primary Containment Group II Isolation [JM] signal when level decreased below +9 inches as indicated on the Safeguards level instrumentation. The 11 RFP discharge valve was reopened to reestablish a flowpath from the Condensate pumps restoring reactor water level. The RPS and Group II isolation logic was reset at 0452 and 0500 hours, respectively, as stated in the station log. An eight hour event notification was made pursuant to 10 CFR 50.72(b)(3)(iv)(A). All systems functioned as required.

EVENT ANALYSIS

This event is being reported in accordance with 10 CFR 50.73(a)(2)(iv)(A), “Any 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).” Specifically, the RPS and the Primary Containment Isolation System (PCIS) actuations. This event is not classified as a safety system functional failure.

CAUSE

Two apparent causes were identified:

1. Operators failed to identify and address the unusual Condensate and Feedwater System configuration prior to execution of the 11 RFP shutdown.

2. The guidance for shutdown of the RFP in the Condensate and Reactor Feedwater System operation procedure did not take into account the state of the other train when shutting down a RFP.

SAFETY SIGNIFICANCE

The safety objective of both the RPS and PCIS are to provide timely protection at the onset of conditions that could challenge the integrity of the fuel barrier and nuclear system process barriers. The RPS prevents the release of radioactive material from the fuel and nuclear system process barriers by terminating excessive temperature and pressure increases through the initiation of an automatic plant shutdown. The reactor was subcritical with all rods inserted at the time of the actuation. PCIS prevents release of radioactive materials by isolating the reactor vessel and closing containment where required. The RPS, PCIS, and plant safety systems functioned as designed and fuel and nuclear system process barriers remained intact. Consequently, this event did not have an adverse impact on the health and safety of the public.

CORRECTIVE ACTIONS

The immediate corrective actions were:

1. An Operations Memo was issued to reinforce operator fundamentals and performance expectations, and Operations management personnel were assigned to monitor the Control Room during major plant maneuvers throughout the remainder of the outage.

The long-term corrective actions are:

1. Revise the plant startup and shutdown procedures to ensure abnormal equipment lineups are addressed such that unexpected procedural interactions are avoided.

2. Revise the Condensate and Reactor Feedwater System operation procedure to maintain a flow path when the opposite train Reactor Feed Pump is isolated.

PREVIOUS SIMILAR EVENTS

There were no previous similar licensee event reports in the past three years.

ADDITIONAL INFORMATION

The Institute of Electrical and Electronics Engineer codes for equipment are denoted by [XX].