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Monticello Nuclear Generating Plant
2807 W County Road 75
Monticello, MN 55362

December 19, 2013

L-MT-13-125
10 CFR 50.73

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

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

Revision 1 to LER 2013-006 "Unanalyzed Condition for Emergency Diesel Generator Fuel Oil Pumps Train Separation"

A revision to the Licensee Event Report (LER) was developed to address the root cause evaluation and corrective actions resulting from NSPM investigation into the event. Revision 1 of LER 2013-006 is attached.

Summary of Commitments

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

Karen D. Fili
Site Vice President, Monticello Nuclear Generating Plant
Northern States Power Company-Minnesota

Enclosure

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

NRC FORM 366 (10-2010) U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB NO. 3150-0104 EXPIRES 10/31/2013

Estimated burden per response to comply with this mandatory information 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 Section (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 reverse for required number of digits/characters for each block)

1. FACILITY NAME	2. DOCKET NUMBER	3. PAGE
Monticello Nuclear Generating Plant	05000 - 263	1 OF 4

4. TITLE

Unanalyzed Condition for Emergency Diesel Generator Fuel Oil Pumps Train Separation

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
08	21	2013	2013	- 006 -	01	12	20	2013	FACILITY NAME	DOCKET NUMBER 05000

9. OPERATING MODE

1

10. POWER LEVEL

100%

11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check all that apply)

☐ 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)
☐ 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)
☐ 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 Specify in Abstract below or in NRC Form 366A
☐ 20.2203(a)(2)(vi)	☒ 50.73(a)(2)(i)(B)	☒ 50.73(a)(2)(v)(D)	

12. LICENSEE CONTACT FOR THIS LER

NAME	TELEPHONE NUMBER (*Include Area Code*)
Lenny Sueper, Senior Licensing Engineer	612-330-6917

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
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

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 August 21, 2013, it was determined following receipt and review of NRC Task Interface Agreement 2012-03, that the design of the Monticello Nuclear Generating Plant (MNGP) diesel fuel oil supply system was not consistent with current and historical licensing and design basis documents. This condition affected the fuel oil supply from the diesel fuel oil storage tank to both emergency diesel generators. As a result, Northern States Power Minnesota submitted Event Notification 49293 for an unanalyzed condition.

The root cause for this event is that MNGP personnel institutionalized the acceptability of manual operator actions to meet single failure requirements in the diesel fuel oil system without formalizing it into an NRC docketed licensing basis.

The corrective action to address the root cause requires the Fleet Design Engineering Manager to review and revise the existing 10 CFR 50.59 and Time Critical Operator Action processes to ensure robust barriers are in place to prevent incorporating manual operator actions that do not comply with current licensing bases.

NARRATIVE

EVENT DESCRIPTION

On August 21, 2013, with Monticello Nuclear Generating Plant (MNGP) in Mode 1, at 100% power, it was determined following receipt and review of Nuclear Regulatory Commission (NRC) Task Interface Agreement (TIA) 2012-03, issued August 20, 2013, that the design of the MNGP diesel fuel oil supply system [DC] was not consistent with the current and historical licensing and design basis documents. This condition affected the fuel oil (FO) supply from the diesel FO storage tank [TK] to both emergency diesel generators (EDG) [DG]. As a result Northern States Power Minnesota (NSPM) submitted Event Notification 49293 for an unanalyzed condition.

The NRC stated in the TIA that the MNGP current and historical licensing and design basis requires a fully redundant and independent diesel FO supply system from the FO storage tank to the individual EDG day tanks, i.e. two safety-related pumps that are physically separated, provided with independent piping, and a safety-related power source.

Contrary to these requirements the NRC determined that the MNGP diesel FO supply system design did not follow the NRC approved design and licensing basis to provide for support of the EDG function. Specifically, the design was deficient in the following areas:

- Independence - The diesel FO supply pumps are not independent due to a crosstie line being open between the diesel FO supply pumps. The failure of the Division 2 EDG under loss of offsite power (LOOP) conditions renders the Division 1 diesel FO supply pump non-functional since the power supply will be inoperable.
- Redundancy - The Division 1 diesel FO supply pump was not redundant to the Division 2 diesel FO supply pump due to lack of separation since the cross connect line between pumps has been left open. In this configuration a single passive pipe failure of the cross connect line renders both division diesel FO supply pumps inoperable.

Further, the NRC concluded that the original licensing basis did not include the need for manual actions to maintain or restore the fuel oil transfer function for the EDGs during design-basis accidents and that the licensee changed the basis to include a necessary manual action in order to compensate for the original single failure vulnerable piping configuration without prior NRC approval.

Following completion of the immediate corrective actions listed below and after review of this notification on August 22, 2013, the Division 1 diesel FO system was determined to be Operable but Non-Conforming.

EVENT ANALYSIS

This event is reportable in accordance with 10 CFR 50.73(a)(2)(ii)(B) as an unanalyzed condition that significantly degraded plant safety and in accordance with 10 CFR 50.73(a)(2)(i)(B) as a condition prohibited by the Technical Specifications (TS).

This event is also reportable in accordance with 10 CFR 50.73(a)(2)(v) as an event or condition that could have prevented the fulfillment of the safety function of structures or systems that are needed to:

(A) Shut down the reactor and maintain it in a safe shutdown condition;
(B) Remove residual heat;

(C) Control the release of radioactive material; or
(D) Mitigate the consequences of an accident.

Finally, this event is reportable in accordance with 10 CFR 50.73(a)(2)(vii), as an event where a single cause or condition caused two independent trains to become inoperable in a single system designed to:

- Shut down the reactor and maintain it in a safe shutdown condition;
- Remove residual heat;
- Control the release of radioactive material; or
- Mitigate the consequences of an accident.

SAFETY SIGNIFICANCE

The MNGP is required to be designed and constructed in accordance with the approved design and licensing bases. The design inadequacies in the diesel FO supply system could have affected the ability to protect the reactor during a LOOP event. Since there has been no LOOP event where diesel FO system design inadequacies caused a problem, there were no adverse consequences to the health and safety of the public or the plant and its personnel as a result of the identified deficiencies.

A risk assessment determined that a minimal risk change occurs when the current diesel FO system configuration is compared to full compliance with the design and licensing basis.

CAUSE

The root cause evaluation determined that the root cause for this event is that MNGP personnel institutionalized the acceptability of manual operator actions to meet single failure requirements in the diesel fuel oil system without formalizing it into an NRC docketed licensing basis.

CORRECTIVE ACTION

Immediate corrective actions performed include:

- The cross connect line between the diesel FO supply pumps has been closed. Valves in the cross connect line were closed to provide independent diesel FO supply lines to each division EDG.
- The Division 1 diesel FO pump was repowered from an essential powered bus instead of one that is load shed following a LOOP.
- The diesel FO pump start/stop push buttons were replaced with maintained on/off switches which automatically restart each pump should an essential bus transfer occur. This modification coupled with the revised operation of these pumps, eliminates any operator action to manually start these pumps.

The corrective action to address the root cause requires the Fleet Design Engineering Manager to review and revise the existing 10CFR 50.59 and Time Critical Operator Action processes to ensure robust barriers are in place to prevent incorporating manual operator actions that do not comply with current licensing bases. Other corrective actions are proposed to fully restore the diesel FO supply system to the design and licensing bases requirements.

NARRATIVE

PREVIOUS SIMILAR EVENTS

A review of LERs identified three previous similar events for failure to understand or correctly incorporate design and licensing bases information into the plant design and implementing documentation.

On September 29, 2011, as supplemented on February 28, 2012, the site identified in LER 2011-007-01 that the surveillance test procedure used to demonstrate compliance with TS surveillance requirement (SR) 3.8.1.7, involving load reject testing of the EDG with the single largest post-accident load, did not satisfy the TS SR. The cause of the event was an inadequate surveillance test procedure resulting from a failure to fully reflect the changes enacted through the implementation of Improved TS (ITS) in 2006. The SR was not correctly translated into an adequate test to meet SR 3.8.1.7 and hence was not correctly implemented as part of the ITS implementation process.

On July 5, 2012, the site identified in LER 2012-001 that the degraded voltage transfer scheme was not in compliance with TS 3.3.8.1. The cause of the event was a failure to completely include the licensing basis for the 1AR Transformer time delay (5 seconds) degraded voltage requirements in the TSs. Corrective actions included revising the site TS through a license amendment to eliminate the time delay relay from the TSs and remove the relay from the plant.

On July 30, 2013, as supplemented on September 26, 2013, the site identified in LER 2013-003-01 that there was an institutionalized misunderstanding of the design and licensing bases associated with preparations and mitigation activities to support responding to a Probable Maximum Flood (PMF) event. The corrective actions from this event include clarifying the design and licensing bases in plant documents, preplanning for a PMF, and incorporating the PMF plan consistent with the licensing basis into a plant procedure.

ADDITIONAL INFORMATION

Energy industry identification system (EIIS) codes are identified in the text within brackets [xx].