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

January 27, 2015

L-MT-15-002
10 CFR 50.73

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

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

LER 2013-007-02 "Unanalyzed Condition Due to Inadequate Flooding Procedures"

A supplement to the Licensee Event Report (LER) for this occurrence is attached.

Summary of Commitments

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

Peter A. Gardner
Site Vice President (Acting), 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 (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)

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

Unanalyzed Condition Due to Inadequate Flooding Procedures

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	29	2013	2013	007	02	01	27	2015	FACILITY NAME	DOCKET NUMBER 05000

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)*
Carrie Fosaaen, Licensing Engineer	763-295-1357

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 August 28, 2013, Northern States Power Minnesota (NSPM) was notified of the NRC's final significance determination for a finding involving the failure to maintain for the Monticello Nuclear Generating Plant (MNGP) a procedure addressing all of the effects of an external flooding scenario. Specifically, NSPM failed to maintain flood Procedure A.6, "Acts of Nature," for MNGP such that it could support the timely implementation of flood protection activities within the 12-day timeframe credited in the design basis as stated in the Updated Safety Analysis Report.

The finding is not a current safety concern. Actions have been completed to reduce the flood mitigation plan timeline to less than 12 days by developing an alternate plan for flood protection features, pre-staging equipment and materials, improving the quality of the Procedure A.6, and preplanning work orders necessary to carry out Procedure A.6 actions. Compliance was restored on January 31, 2014.

The root cause of this event was determined to be that, management did not ensure proper validation of the external flooding mitigation strategy design bases commensurate with safety significance which led to non-conservative decisions. The Corrective Actions to Prevent Recurrence are included in the body of this Licensee Event Report.

NARRATIVE

EVENT DESCRIPTION

Prior to discovery of the condition Monticello Nuclear Generating Plant (MNGP) was in Mode 1 at 98% power. On August 28, 2013, Northern States Power Minnesota (NSPM) was notified of the NRC's final significance determination for a finding involving the failure to maintain a procedure addressing all of the effects of an external flooding scenario. Specifically, NSPM failed to maintain flood Procedure A.6, "Acts of Nature," for MNGP such that it could support the timely implementation of flood protection activities within the 12-day timeframe credited in the design basis as stated in the Updated Safety Analysis Report (USAR).

Licensee Event Report (LER) 2013-003-01, “Inadequate External Flooding Procedure,” provided an analysis of the issues related to the flooding deficiencies previously reported to the NRC.

This LER (2013-007) is focused on the issues, causes and corrective actions related to the preliminary NRC finding issued on June 11, 2013, and as finalized on August 28, 2013. The NRC identified a Yellow finding with substantial safety significance and associated apparent violation of Technical Specification 5.4.1 for the licensee's failure to maintain a flood plan to protect the MNGP from external flooding events (a probable maximum flood (PMF)).

NSPM did not maintain an adequate flood plan consistent with the USAR because the necessary flood mitigation actions could not be completed in the time required. The resultant flood waters could negatively impact much of the station's accident mitigation equipment.

Actions have been completed to reduce the flood mitigation plan timeline by developing an alternate plan for flood protection features, pre-staging equipment and materials, improving the quality of the Procedure A.6, and preplanning work orders necessary to carry out Procedure A.6 actions.

The flood mitigation strategy was restored to full compliance on January 31, 2014 when the external flood monthly surveillance procedure was revised to provide the necessary detail to perform flood projections. Revision 47 of procedure A.6 “Acts of Nature” was also in effect which provided adequate detail to mitigate the consequences of a flood at the site including details for sealing penetrations in plant buildings. The Updated Safety Analysis Report (USAR) was also updated to include the levee.

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. This event is also reportable in accordance with 10 CFR 50.73(a)(2)(i)(B) (multiple safety systems potentially unable to respond to a PMF event) as a condition prohibited by the plant’s Technical Specifications.

Finally, this event is also reportable in accordance with 10 CFR 50.73(a)(2)(v)(A), (B), (C) and (D), 10 CFR 50.73(a)(2)(vii) (for at least one train in multiple systems) and 10 CFR 50.73(a)(2)(ix)(A) (for two or more trains in different systems) as an event or condition that as a result of a single cause could have prevented the fulfillment of the safety function of structures or systems that are needed to:

NARRATIVE

- 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

MNGP is required to be protected from flooding as described in the licensing basis. The procedural inadequacies affected the ability to protect the site during a PMF event. Since there has been no external flood approaching the PMF elevation, 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. The root cause investigation did not identify any additional risks to the health and safety of the public resulting from this event.

CAUSE

After receipt of the finding, NSPM performed a RCE and identified the following root cause:

- Management did not ensure proper validation of the external flooding mitigation strategy design bases commensurate with safety significance which led to non-conservative decisions.

The contributing causes were that management:

- Had not provided the adequate guidance for appropriate screening of modifications and procedure revisions related to infrequent activities planned or anticipated.
- Had not ensured self- and independent assessments of station's external flood mitigation activities to assess performance and to identify areas of improvement.
- Had not reinforced Corrective Action Program behaviors required for a low threshold for identifying issues related to external flood mitigation.
- Did not consistently consider valid technical input from individuals.
- Did not provide adequate guidance in Fleet Procedures for performing Operating Experience Evaluations (OEE) for significant regulatory issues such as Level 1 and 2 Institute of Nuclear Power Operations (INPO) Event Reports (IERs) and NRC Red and Yellow Findings.

A contributing cause was also identified that individual contributors did not perform proper verification/validation of external flooding mitigation strategy design bases commensurate with safety significance which contributed to non-conservative decisions.

CORRECTIVE ACTION

Corrective Actions to Prevent Recurrence (CAPRs) identified in the RCE include the following to correct the identified root cause:

- Revise the Leadership Training Program Description to include delivery of a case study for the continual reinforcement of behaviors and attributes associated with ensuring proper validation of MNGP design bases.

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- Create a formal engineering program to manage MNGP External Flood Mitigation to ensure proper validation of the external flooding strategy design bases.
- Clarify in appropriate station documents, including, but not limited to, the USAR, external flooding section of Procedure A.6, and Design Bases Document for External Flooding, that the PMF antecedent conditions are required to be assumed present and that actions to mitigate a PMF must be preplanned.
- Revise Procedure A.6, Section 5.0 to be an 8000 Series Special procedure. Control as an Infrequently Performed Test or Evolution (IPTE).

Other corrective actions are identified in the RCE to address contributing causes, the extent of condition and the extent of cause. Effectiveness reviews have been established to ensure adequate review of the results of the corrective actions are achieved.

PREVIOUS SIMILAR EVENTS

On November 26, 1990, the site identified, in a LER, that there were procedural inadequacies with the external flooding procedure related to protective measures for the Emergency Diesel Generator Fuel Oil Transfer House. The LER was supplemented April 24, 1991 with additional detail, including the cause of the event, which was procedural inadequacy.

On September 30, 2013, the site identified in a LER, that there were inadequacies in the Procedure A.6, “Acts of Nature,” to protect the site from a Probable Maximum Flood (PMF). The root cause for that event was determined to be: Station personnel incorrectly understood the 1980 NRC Safety Evaluation Report licensing basis to allow time for preparation of a detailed flood plan based on the presence of identifiable preconditions required for a Probable Maximum Flood (PMF) as stated in USAR, Appendix G. This misunderstanding was institutionalized through inclusion of this position in station documentation.