



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**
REGION III
2443 WARRENVILLE ROAD, SUITE 210
LISLE, IL 60532-4352

August 23, 2010

EA-010-070

Mr. Mark A. Schimmel
Site Vice President
Prairie Island Nuclear Generating Plant
Northern States Power Company, Minnesota
1717 Wakonade Drive East
Welch, MN 55089

SUBJECT: FINAL SIGNIFICANCE DETERMINATION FOR A PRELIMINARY GREATER THAN GREEN FINDING; NRC INSPECTION REPORT NO. 05000282/2010011; 05000306/2010011; PRAIRIE ISLAND NUCLEAR GENERATING PLANT, UNITS 1 AND 2

Dear Mr. Schimmel:

The purpose of this letter is to provide you the results of our review, based on information you provided during a Regulatory Conference, of the preliminary Greater-than-Green finding identified in Inspection Report 05000282/2010010; 05000306/2010010. The inspection finding was assessed using the Significance Determination Process and was preliminarily characterized as Greater-than-Green, a finding of greater than very low safety significance that may require additional U.S. Nuclear Regulatory Commission (NRC) inspections. This Greater-than-Green finding was associated with the failure to establish measures to ensure that engineered safety features such as the emergency diesel generators, the auxiliary feedwater system, and the safety-related batteries were not adversely affected by events that caused turbine building flooding.

During a Regulatory Conference conducted at the NRC Region III, on July 13, 2010, you and your staff did not contest the characterization of the risk significance of this issue. In your staff's analyses and the information you provided at the Regulatory Conference, your staff has concluded that the issue is appropriately characterized as an issue with low to moderate increased importance to safety. This is equivalent to White in the Reactor Oversight Process. At this same meeting, you and your staff presented a position that no performance deficiency existed because the most recent review of licensing documentation developed by your staff did not identify any noncompliance with plant design. The NRC staff has not been able to fully confirm your position at this time. Consequently, the NRC is withdrawing the preliminary finding and will review the new information provided during the Regulatory Conference as an unresolved item as described in the enclosure to this letter.

Upon identification of the turbine building flooding issue, your staff performed an operability evaluation and determined that the operability of the safety-related equipment mentioned above could not be assured. As a result, several compensatory measures were implemented. The NRC has concluded that these compensatory measures would prevent a loss of safety function from occurring during a turbine building internal flooding event. Additionally, at the Regulatory Conference on July 13, 2010, you stated that your staff intends to maintain the compensatory measures in place at the Prairie Island Nuclear Generating Plant. Therefore, the NRC has confidence that the compensatory actions implemented will ensure public health and safety and is not requesting any additional information at this time.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response, if you choose to provide one, will be made available electronically for public inspection in the NRC Public Document Room or from the NRC's Agencywide Documents Access and Management System (ADAMS), accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html>. To the extent possible, your response should not include any personal privacy, proprietary, or safeguards information so that it can be made available to the public without redaction.

Sincerely,

/RA by Gary L. Shear for/

Steven West, Director
Division of Reactor Projects

Docket Nos. 50-282; 50-306
License Nos. DPR-42; DPR-60

Enclosure: Inspection Report 05000282/2010011; 05000306/2010011
w/Attachment: Supplemental Information

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U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket Nos: 50-282; 50-306

License Nos: DPR-42; DPR-60

Report No: 05000282/2010011; 05000306/2010011

Licensee: Northern States Power Company, Minnesota

Facility: Prairie Island Nuclear Generating Plant, Units 1 and 2

Location: Welch, MN

Dates: July 13 through August 20, 2010

Inspectors: K. Stodter, Senior Resident Inspector
P. Zurawski, Resident Inspector
D. Betancourt, Reactor Engineer
R. Lerch, Project Engineer
L. Kozak, Senior Reactor Analyst

Approved by: R. Orlikowski, Acting Chief
Branch 4
Division of Reactor Projects

Enclosure

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Enclosure

SUMMARY OF FINDINGS

IR 05000282/2010011, 05000306/2010011; 07/13/10 – 08/17/10; Prairie Island Nuclear Generating Plant, Units 1 and 2; Inspection of turbine building internal flooding vulnerability.

This report covers the review of information provided by the licensee at a Regulatory Conference on July 13, 2010, concerning an apparent performance deficiency associated with the failure to protect several safety-related systems from a loss of safety function following a turbine building internal flooding event. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 4, dated December 2006.

A. NRC-Identified and Self-Revealed Findings

No violations of significance were identified.

B. Licensee-Identified Violations

No violations of significance were identified.

REPORT DETAILS

4. OTHER ACTIVITIES

4OA5 Other Activities

.1 (Closed) Apparent Violation 05000282/2010010-01; 05000306/2010010-01, Failure to Ensure Design Measures Were Appropriately Established for the Emergency Diesel Generator, Auxiliary Feedwater, and Safety-Related Battery Systems

a. Inspection Scope

The NRC reviewed the information provided by the licensee at a Regulatory Conference conducted in Region III on July 13, 2010, and in a licensee evaluation, "Licensing Bases for Prairie Island Nuclear Generating Plant Turbine Building Internal Flooding" dated July 16, 2010. Other documents reviewed included references from the evaluation and are available in ADAMS under ML102090734. In Inspection Report 05000282/2010010; 05000306/2010010, an apparent violation (AV) of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," was identified by the inspectors due to the licensee's failure to establish measures to ensure that engineered safety features such as the emergency diesel generators (EDGs), the auxiliary feedwater system, and the safety-related batteries were not adversely affected following a turbine building internal flooding event.

b. Findings

Introduction: An unresolved item (URI) was identified regarding the AV of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," relating to failure to establish measures to ensure that engineered safety features such as the EDGs, the auxiliary feedwater system, and the safety-related batteries were not adversely affected following a turbine building internal flooding event. Specifically, the licensee's position that flooding caused by a high energy line break (HELB) pipe whip causing the rupture of a high capacity nonsafety-related pipe was not part of the licensing bases has not been verified. Licensee conclusions that random or seismic breaks should not be considered as flood sources also had not been inspected. Additional NRC inspection is necessary to determine the validity of these conclusions and to evaluate if any performance deficiencies exist.

Description: Inspection Report 05000282/2010010; 05000306/2010010 documented a performance deficiency for the failure to adequately protect the safety-related components from the affects of license bases events. Specifically, the licensee failed to ensure that engineered safety features such as the EDGs, the auxiliary feedwater system, and the safety-related batteries were not adversely affected by events that caused turbine building flooding. During a Regulatory Conference conducted in Region III, on July 13, 2010, representatives of Northern States Power Company – Minnesota presented a position that no performance deficiency existed because the most recent review of licensing documentation did not identify any noncompliance with

plant design. The licensee provided an evaluation and supporting documentation that constituted its argument for how Prairie Island has met the licensing bases. Many of the documents provided were 1970's era correspondence between the Atomic Energy Commission and Northern States Power Company. Upon initial review by the NRC, the documentation appears that it may be incomplete. The inspectors recognized that the licensee performed an appropriate search for the documentation and acknowledged that the age of these documents is a factor in their retrieval.

In January 2010, the licensee had presented a position to the inspectors that HELB generated flooding was a part of the licensing bases. Subsequent to the Regulatory Conference, the revised evaluation that reversed the licensee's original conclusion was provided. In light of the new information provided at the Regulatory Conference, the NRC has determined that a comprehensive review of the documentation provided by the licensee is necessary to fully understand Prairie Island's licensing bases with respect to flooding in the turbine building. This additional NRC inspection is necessary to validate the licensee's evaluation and to determine if any performance deficiency exists. Therefore, the AV is closed. A determination of the plant licensing bases related to turbine building flooding is considered a URI (**URI 05000282/2010011-01; 05000306/2010011-01, License Bases Requirements For Flooding In The Turbine Building And Preserving The Safety Function of the Emergency Diesel Generator, Auxiliary Feedwater, and Safety-Related Battery Systems.**)

4OA6 Management Meetings

.1 Exit Meeting Summary

On August 23, 2010, the inspectors presented the inspection results to M. Schimmel and other members of the licensee staff. The licensee acknowledged the issues presented.

LIST OF ITEMS OPENED, CLOSED AND DISCUSSED

Opened

| | | |
|---|-----|---|
| 05000282/2010011-01; 05000306/2010011-01 | URI | License Bases Requirements for Flooding in the Turbine Building and Preserving the Safety-Related Function of the Emergency Diesel Generator, Auxiliary Feedwater, and Safety-Related Battery Systems |
|---|-----|---|

Closed

| | | |
|---|----|--|
| 05000282/2010010-01; 05000306/2010010-01 | AV | Failure to Ensure Design Measures Were Appropriately Established for the Emergency Diesel Generator, Auxiliary Feedwater, and Safety-Related Battery Systems |
|---|----|--|

Upon identification of the turbine building flooding issue, your staff performed an operability evaluation and determined that the operability of the safety-related equipment mentioned above could not be assured. As a result, several compensatory measures were implemented. The NRC has concluded that these compensatory measures would prevent a loss of safety function from occurring during a turbine building internal flooding event. Additionally, at the Regulatory Conference on July 13, 2010, you stated that your staff intends to maintain the compensatory measures in place at the Prairie Island Nuclear Generating Plant. Therefore, the NRC has confidence that the compensatory actions implemented will ensure public health and safety and is not requesting any additional information at this time.

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Sincerely,

/RA by Gary L. Shear for/

Steven West, Director
Division of Reactor Projects

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Letter to M. Schimmel from S. West dated August 23, 2010.

SUBJECT: FINAL SIGNIFICANCE DETERMINATION FOR A PRELIMINARY GREATER THAN GREEN FINDING; NRC INSPECTION REPORT NO. 05000282/2010011; 05000306/2010011; PRAIRIE ISLAND NUCLEAR GENERATING PLANT, UNITS 1 AND 2

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