



Northern States Power Company

Prairie Island Nuclear Generating Plant

1717 Wakonade Dr. East
Weich, Minnesota 55089

February 26, 1998

10 CFR Part 2

U S Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555

PRAIRIE ISLAND NUCLEAR GENERATING PLANT

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

Reply to Notice of Violation (Inspection Report 97023),
Procedural Adherence Issue

Your letter of January 30, 1998, which transmitted Inspection Report No. 97023, required a response to a Notice of Violation. Our response to the notice is contained in the attachment to this letter.

In this response we have made one new Nuclear Regulatory Commission commitment as noted by the italicized text under Corrective Steps to Avoid Further Violations.

Please contact Jeff Kivi (612-388-1121, Ext. 4713) if you have any questions related to this letter.

Joel P Sorensen
Plant Manager
Prairie Island Nuclear Generating Plant

c: Regional Administrator -- Region III, NRC
Senior Resident Inspector, NRC
NRR Project Manager, NRC
J E Silberg

Attachment: RESPONSE TO NOTICE OF VIOLATION

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RESPONSE TO NOTICE OF VIOLATION

VIOLATION

Technical Specification 6.5 requires that detailed written procedures be prepared and followed. Technical Specification 6.5.A.4 specifically requires procedures for surveillance and testing requirements that could have an effect on nuclear safety.

Contrary to the above, on December 10, 1997, Maintenance Procedure D32, "Temperature Coefficient Measurement At Hot Zero Power," Revision 6, a physics testing procedure that could have an effect on nuclear safety, was not followed for Unit 1 when the reactor operator and the nuclear engineer coordinating the procedure, on two separate occasions, failed to perform an approximately five degree cooldown and an approximately five degree heatup as required by procedure steps 7.2 and 7.3, respectively.

This is a Severity Level IV Violation (Supplement 1)

RESPONSE TO VIOLATION

Background

During the performance of the zero power physics testing at the beginning of Unit 1 Cycle 19, steps in the procedure for determining the isothermal temperature coefficient (ITC) were not fully complied with on multiple occasions, all resulting from a consistent interpretation of the steps. Procedure D32, Temperature Coefficient Measurement at Hot Zero Power, Rev. 6, requires that a slow and stable temperature decrease of approximately 5°F followed by a slow and stable increase of approximately 5°F be performed to determine the ITC. The average of the two measurements is the ITC of record. Contrary to the wording of the applicable steps, temperature changes of 2.2°F, 1.8°F, 2.4°F and 1.2°F were made in the determination of the ITC.

Reason for the Violation

The event was caused by the Nuclear Engineer's interpretation of the various parts of the procedural steps. The Nuclear Engineer was familiar with the procedure and had participated in its performance several times in the past. Past history had shown that maintaining a large "stable" temperature change was difficult and that a stable temperature change was more important than a

large temperature change. The phrase "stable temperature decrease of approximately 5°F" was therefore interpreted as a stable temperature decrease that may require up to a 5°F change. The temperature changes made in the performance of the ITC measurements were exceptionally stable and it was determined that a larger change was unnecessary. The Nuclear Engineer indicated that sufficient data had been gathered and the Operations staff suspended the temperature change.

Corrective Steps Taken and Results Achieved

We have performed a review to ensure that the performance of the test was acceptable per the standard (ANSI/ANS 19.6.1.1-1985, Reload Startup Physics Tests for Pressurized Water Reactors) even though the procedural steps were not literally complied with. Although the temperature change required by the procedure was not met, it has been determined that the measurement of the ITC, and the validation of the transient safety analysis, was not adversely impacted. The benchmarking studies performed in the development of the NSP Nuclear Analysis reload design methodology consisted primarily of heatup and cooldown data spanning from 1°F to 3°F and is therefore consistent with the data gathered during this event. Through discussions with Westinghouse it was concluded that a stable change of >1°F is sufficient to accurately determine the ITC.

ANSI/ANS 19.6.1.1-1985 contains a user's guide listed as Appendix A that is not a part of the standard and contains no requirements but is included as a guide for establishing a startup physics testing program. The guidelines addressing ITC measurement recommend a 3°F - 10°F temperature change, however, Appendix A specifically states, "The test criteria shown in this Guide are recommendations only. As industry experience changes, the criteria should change with it." Given the benchmarking studies performed by NSP Nuclear Analysis in combination with the opinion of Westinghouse, industry experience would indicate that the performance of the test was acceptable per the standard even though the procedural steps were not literally complied with.

Corrective Steps To Avoid Further Violations

- 1. Procedure D32, Temperature Coefficient Measurement at Hot Zero Power will be revised to reflect the required test criteria. This action will be completed prior to the next use of procedure D32.**

2. There exists an ongoing plant-wide initiative to train all site personnel on the importance of procedure adherence and the timely correction of identified procedure errors.

The Date When Full Compliance Will be Achieved

Compliance has been re-established.