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U.S. Nuclear Regulatory Commission
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Prairie Island Nuclear Generating Plant Units 1 and 2
Dockets 50-282 and 50-306
License Nos. DPR-42 and DPR-60

Supplement to License Amendment Request for Measurement Uncertainty Recapture – Power Uprate, Withdrawal of Proposed Change to Analysis Methodology for Pressure Temperature Limits Report (TAC Nos. ME3015 and ME3016)

Reference: 1. Letter from Northern States Power Company, a Minnesota corporation, to the Nuclear Regulatory Commission, "License Amendment Request for Measurement Uncertainty Recapture – Power Uprate," L-PI-09-133, dated December 28, 2009, ADAMS Accession Number ML093650045

This letter provides supplemental information and withdraws a portion of the Measurement Uncertainty Recapture (MUR) power uprate License Amendment Request (LAR) submitted in Reference 1. The Reference 1 LAR requested approval to increase licensed thermal power as a result of a MUR power uprate for Prairie Island Nuclear Generating Plant (PINGP), Units 1 and 2, and also requested a change to Technical Specification (TS) 5.6.6, "Pressure Temperature Limits Report (PTLR)," to update the approved methodology for calculating pressure-temperature limit curves. This letter withdraws the proposed change to TS 5.6.6.

Based on informal discussions with the Nuclear Regulatory Commission (NRC) staff during a telephone conference on January 29, 2010, Northern States Power Company, a Minnesota corporation (NSPM) doing business as Xcel Energy, has decided to withdraw the requested change to the PTLR analysis methodology. This withdrawal is pursued to avoid potential impacts on the MUR power uprate review schedule. As discussed in Reference 1, the existing pressure-temperature limit curves remain valid and the updated PTLR analysis methodology is not required for the MUR power uprate.

Enclosure 1 identifies changes to the Reference 1 LAR associated with withdrawal of the PTLR methodology. Marked-up and revised pages of the TS and PTLR report are no longer part of the PINGP MUR power uprate LAR and should be removed from consideration as described in Enclosure 1. Enclosure 1 also provides an update to the

discussion on heatup and cooldown pressure-temperature limit curves. This update replaces Section IV.1.C.iii in Enclosure 2 of Reference 1, in its entirety.

In addition to withdrawing the proposed change to TS 5.6.6, NSPM provides below a clarification on neutron fluence calculation methodologies and the status of analyses identified in Reference 1.

Neutron Fluence Calculations

Neutron fluence calculations to support the MUR power uprate used methodologies that follow the guidance and meet the requirements of Regulatory Guide 1.190, "Calculational and Dosimetry Methods for Determining Pressure Vessel Neutron Fluence," and are consistent with the methodology described in WCAP-14040-A, Revision 4, "Methodology Used to Develop Cold Overpressure Mitigating System Setpoints and RCS Heatup and Cooldown Limit Curves." The NRC's approval of WCAP-14040-A, Revision 4, is described in the Safety Evaluation that is included within the report. WCAP-14040-A, Revision 4, is not included in the current licensing basis (CLB) for PINGP, but its use for fluence calculations will be evaluated in accordance with the provisions of 10 CFR 50.59 and will be added to the CLB, prior to implementation of the MUR power uprate.

Neutron fluence projections are used in the evaluation of numerous reactor vessel integrity considerations such as capsule withdrawal schedules, upper shelf energy (USE), pressurized thermal shock (PTS), and pressure-temperature limits, all of which were addressed in Reference 1. Pressure-temperature limit curves must be determined using analysis methodologies identified in TS 5.6.6, PTLR. TS 5.6.6 requires the use of WCAP-14040-NP-A, Revision 2, for the determination of Reactor Coolant System (RCS) pressure and temperature limits and Cold Overpressure Mitigation System (COMS) setpoints.

Status of Analyses

NSPM would also like to clarify the status of the analyses for a postulated Accidental Release of Waste Gas event and a Steam Generator Tube Rupture event, as described in Sections II.2.15 and II.2.16 in Enclosure 2 to Reference 1. NSPM indicated in Reference 1 that the analyses for these two events were being evaluated in the NSPM Corrective Action Program and that this evaluation may ultimately lead to corrections or revision to the analysis of record. These evaluations have been completed and did result in changes to the analysis of record. The changes were performed within the provisions of 10 CFR 50.59 and NRC approvals are not required. These changes will be reflected in the PINGP Updated Safety Analysis Report (USAR).

Withdrawal of the proposed change to PTLR analysis methodology and the supplemental information provided in this letter have no impact on the conclusions of the No Significant Hazards Consideration and Environmental Consideration presented in Reference 1.

In accordance with 10 CFR 50.91, NSPM is notifying the State of Minnesota of this LAR supplement by transmitting a copy of this letter to the designated State Official.

If there are any questions or if additional information is needed, please contact Sam Chesnutt at 651-267-7546.

Summary of Commitments

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

I declare under penalty of perjury that the foregoing is true and correct.

APR 23 2010

Executed on



Mark A. Schimmel
Site Vice President, Prairie Island Nuclear Generating Plant
Northern States Power Company – Minnesota

Enclosure (1)

cc: Administrator, Region III, USNRC
Project Manager, Prairie Island, USNRC
Resident Inspector, Prairie Island, USNRC
State of Minnesota

ENCLOSURE 1

Measurement Uncertainty Recapture Power Uprate License Amendment Request – Supplemental Information

In a letter dated December 28, 2009, Northern States Power Company, a Minnesota corporation (NSPM), doing business as Xcel Energy, submitted a License Amendment Request (LAR) to increase the rated thermal power at the Prairie Island Nuclear Generating Plant (PINGP) based on a measurement uncertainty recapture (MUR) power uprate (ADAMS Accession Number ML093650045). This submittal also included a proposed change to the Pressure Temperature Limits Report (PTLR) analysis methodology described in Technical Specification (TS) 5.6.6, "Pressure Temperature Limits Report (PTLR)," which this letter withdraws.

The proposed change to the PTLR TS was included in several enclosures to the subject LAR, and the withdrawal of this proposed change affects these discussions as follows:

- Enclosure 1, Section 3.4 provided a technical assessment of the PTLR methodology change and this discussion is withdrawn.
- Enclosure 2 followed the format in the NRC's Regulatory Issue Summary (RIS) 2002-003, "Guidance on the Content of Measurement Uncertainty Recapture Power Uprate Applications." An update to the discussion for RIS 2002-003, Section IV.1.C.iii, "Heatup and Cooldown Pressure-Temperature Limit Curves," is provided below.
- Enclosure 9 provided a mark-up of the proposed change to TS 5.6.6; page 5.0-38 is withdrawn.
- Enclosure 10 provided a clean copy of the proposed change to TS 5.6.6; page 5.0-38 is withdrawn.
- Enclosure 13 provided a mark-up of the proposed change to the PTLR report and is withdrawn.

The following discussion is provided to replace in its entirety the discussion in Enclosure 2, RIS 2002-003, Section IV.1.C.iii, "Heatup and Cooldown Pressure-Temperature Limit Curves," (page 62):

IV. Mechanical/Structural/Material Component Integrity and Design

- 1. A discussion of the effect of the power uprate on the structural integrity of major plant components. For components that are bounded by existing analyses of record, the discussion should cover the type of confirmatory information identified in Section II, above. For components that are not bounded by existing analyses of record, a detailed discussion should be provided.**

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C. The discussion should also identify any effects of the power uprate on the integrity of the reactor vessel with respect to:

...

iii. Heatup and cooldown pressure-temperature limit curves

A review of the applicability dates of the heatup and cooldown curves was performed. These curves are currently contained in the Pressure and Temperature Limits Report (PTLR) (Reference IV.2.16) applicable to 35 Effective Full Power Years (EFPY). The review of their term of applicability was performed by comparing the fluence used to generate the current heatup and cooldown curves to the uprated fluence for the beltline materials in the reactor vessels.

The uprated fluence projections were derived using NRC guidance in Regulatory Guide 1.190, "Calculational and Dosimetry Methods for Determining Pressure Vessel Neutron Fluence," as incorporated in the methodology in WCAP-14040-A, Revision 4, "Methodology Used to Develop Cold Overpressure Mitigating System Setpoints and RCS Heatup and Cooldown Limit Curves." This review concluded that the revised fluence (reflecting the MUR power uprate and using WCAP-14040-A, Revision 4, methodology) at 35 EFPY is lower than that used in development of the current pressure-temperature (P-T) limit curves. This is due to the use of updated, approved analysis methods and also due to the use of actual fuel enrichment and burnup history data instead of previous conservative assumptions about future fuel loads.

Fluence is a key parameter in the Adjusted Reference Temperature (ART) calculation, with a lower fluence resulting in lower ART values. Therefore, the current PTLR curves are more restrictive than curves that would be developed using updated fluence values (from WCAP-14040-A, Revision 4 calculations) for the MUR power uprate at 35 EFPY, and the applicability dates for the 35 EFPY P-T curves remain valid. The MUR PU conditions are bounded by the current licensing basis; therefore, no further evaluation is required.