UNITED STATES NUCLEAR REGULATORY COMMISSION

NORTHERN STATES POWER COMPANY

PRAIRIE ISLAND NUCLEAR GENERATING PLANT

DOCKET NO. 50-282 50-306

REQUEST FOR AMENDMENT TO OPERATING LICENSE DPR-42 & DPR-60

LICENSE AMENDMENT REQUEST DATED November 3, 1987

Northern States Power Company, a Minnesota corporation, requests authorization for changes to Appendix A of the Prairie Island Operating License as shown on the attachments labeled Exhibits A, B, C, and D. Exhibit A describes the proposed changes, describes the reasons for the changes, and contains a significant hazards evaluation. Exhibits B and C are copies of the Prairie Island Technical Specifications incorporating the proposed changes. Exhibit D is a report supporting the requested changes.

This letter contains no restricted or other defense information.

NORTHERN STATES POWER COMPANY

1 Jung 1 David Musolf

Manager-Nuclear Support Services

On this <u>3</u> day of <u>forember</u> <u>1917</u> before me a notary public in and for said County, personally appeared David Musolf, Manager-Nuclear Support Services, and being first duly sworn acknowledged that he is authorized to execute this document on behalf of Northern States Power Company, that he knows the contents thereof, and that to the best of his knowledge, information, and belief the statements made in it are true and that is is not interposed for delay.

append

JUDY L. KLAPPERICK NOTARY PUBLIC-MINNESOTA ANOKA COUNTY My Commission Expires Sept. 29, 1991

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License Amendment Request Dated November 3, 1987

Evaluation of Proposed Changes to the Technical Specifications Appendix A of Operating License DPR-42 and DPR-60

Pursuant to 10 CFR Part 50, Sections 50.59 and 50.90, the holders of Operating Licenses DPR-42 and DPR-60 hereby propose the following changes to Appendix A, Technical Specifications:

High Flux, Pover Range, Low Set Point

Change flux, yower range (low set point) to read, " ≤ 40 % of rated power.".

Rea on For Change

The current Technical Specification of 25% for this high flux, power range low set point is unnecessarily restrictive.

Calibration of the Nuclear Instrumentation System (NIS) power range channels is performed using calorimetric data taken during the startup physics testing program. During the power escalation program following the Unit 1 Cycle 11-12 refueling outage, at an indicated power of 34.6%, calorimetric data showed that actual power was 45.7%. This was caused by a greater-than-predicted change in radial neutron leakage resulting from a change in core loading pattern and differences in core conditions at the time of calibration from Cycle 11 to Cycle 12. The effect of these differences was that the high flux, power range low set point would have tripped the reactor at an actual power of about 33%, (8% above the current technical specification set point of 25%) as reported in Licensee Event Report 87-014. The methods of calculating the neutron leakage have been reviewed. It was determined that a substantial effort would be necessary to refine the prediction. It was also concluded, that due to the nature of these calculations, significant error is expected to remain following core loading pattern changes even if improvements were incorporated. Since changes in these calculations are not practical, we have performed analyses to justify a set point change.

Analyses have been performed by the Northern States Power Nuclear Analysis Department assuming a high flux, power range low set point at an actual power of 40% (See Exhibit D). These analyses demonstrate acceptable results utilizing 40% of rated power as the high flux, power range low set point.

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EXHIBIT A

3. The proposed amendment will not involve a significant reduction in the margin of safety.

The transients contained in the FSAR which are affected by a change in the set point of the high flux, power range low set point are an Uncontrolled RCC Assembly Withdrawal From a Subcritical Condition and a Rupture of Control Rod Drive Mechanism Housing (RCCA Ejection) from hot zero power (HZP) conditions. These transients have been reanalyzed utilizing methods which have been reviewed and approved by the NRC. For the Uncontrolled RCC Assembly Withdrawal From a Subcritical Condition the analyses demonstrate that the primary and secondary pressures do not exceed the system design pressures and that the fuel cladding integrity is maintained since the peak clad temporature for this transient is less than even the nominal full power value. For the RCCA Ejection from HZP conditions the analyses demonstrate that the average hot spot fuel enthalpy, maximum reactor coolant system pressure and maximum clad temperature are all below the established acceptance criteria. Based on the results of the transient analyses performed, it has been concluded that the proposed amendment does not significantly reduce the margin of safety.

The commission has provided guidance (March 6, 1986 Federal Register) concerning the application of the standards in 10 CFR 50.92 for determining whether a significant hazards consideration exists by providing certain examples of amendments that will likely be found to involve no significant hazards considerations. The changes to the Prairie Island Technical Specifications proposed in this amendment request are equivalent to NRC example (vi), because they involve changes which either may result in some change in the probability or consequences of a previously analyzed accident or may change in some way a safety margin, but where the results of the change are clearly within all transient analysis acceptance criteria. Based on this guidance and the reason discussed above, we have concluded that the proposed thanges do not involve a significant hazards consideration.