November 18, 1985

Docket No. 50-263

Mr. D. M. Musolf
Nuclear Support Services Department
Northern States Power Company
414 Nicollet Mall - 8th Floor
Minneapolis, Minnesota 55401

Dear Mr. Musolf:

SUBJECT: REVISED SAFETY EVALUATION SUPPORTING AMENDMENT NO. 34

Re: Monticello Nuclear Generating Plant

As a result of discovery of a typographical error in our Safety Evaluation (SE) for Amendment No. 34 to Facility Operating License No. DPR-22, issued on October 8, 1985, we have revised the SE.

In Section 2.0 of the Safety Evaluation, the infinite multiplication factor K_∞ for the new fuel assemblies should be changed from 1.30 to 1.31. The Technical Specifications issued with Amendment No. 34 show the revised value of K_∞ as 1.31.

We are enclosing a revised SE page showing the correction indicated by a marginal bar.

Sincerely,

Original signed by/

Domenic B. Vassallo, Chief
Operating Reactors Branch #2
Division of Licensing

Enclosure:
SE dated 10/8/85
w/corrected Page 1

cc w/enclosure:
See next page

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Mr. D. M. Musolf
Northern States Power Company
Monticello Nuclear Generating Plant

cc:

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NO. 34 TO FACILITY OPERATING LICENSE NO. DPR-22

NORTHERN STATES POWER COMPANY

MONTICELLO NUCLEAR GENERATING PLANT

DOCKET NO. 50-263

1.0 INTRODUCTION

By letters dated April 10 and June 16, 1985, Northern States Power Company (NSP/the licensee) proposed revised Technical Specifications (TSs) regarding their new and spent fuel storage facility.

The current Technical Specifications for the Monticello Nuclear Generating Plant specify that the maximum amount of U-235 per linear axial centimeter of a fuel assembly will be 15.2 grams. NSP had previously committed to provide the NRC staff with a revised spent fuel pool criticality analysis prior to inserting any fuel having greater than 15.2 grams of U-235 per axial cm across the fuel assembly (References 1 and 2).

NSP is contemplating future loadings with fuel assemblies having an enrichment of 2.99 w/o in U-235 which corresponds to 15.28 grams of U-235 per axial centimeter. In addition the specification of the U-235 fuel assembly loading per unit of axial height does not account for the effect of the burnable poison loadings on the K_∞ of the fuel storage facility. The proposed change specifies the maximum K_∞ of the fuel assembly, thus, allowing for the effect of the burnable gadolinia poisons to be accounted for in the fuel assembly reactivity.

2.0 EVALUATION

The Monticello plant is equipped with high density fuel storage racks for spent fuel supplied by GE. The GESTAR-II approved K_∞ value which satisfies the NRC K_{eff} criteria of less than or equal to 0.95 is less than or equal to 1.35. However, GE in a future revision of GESTAR-II will revise this value to 1.33 (Exhibit C, Reference 3). All of the GE manufactured fuel assemblies satisfy this K_∞ value and, therefore, are acceptable. The new fuel storage racks at Monticello have fuel assembly spacing of 11 inches for which K_∞ must be less than or equal to 1.31. This value is also satisfied by all GE supplied fuel assemblies and it is acceptable. The above conclusions are valid for GE supplied fuel storage racks and the fuel assemblies listed in paragraph 3.3.2.1.4 of GESTAR-II.

We have reviewed the information submitted by NSP regarding their request for a change in the Technical Specifications of their fuel assembly storage facility. The new specification is based on the value of the infinite multiplication factor K_∞ instead of the amount of U-235 per axial fuel assembly centimeter, which allows the effects of the burnable poisons to be accounted for in the assembly reactivity. The new Technical Specifications are in conformance with the Standard Review Plan and GESTAR-II which describes the GE reactor fuel applications. The change in the K_{eff} requirement from "less than or equal to 0.90" to "less than or equal to 0.95" is acceptable because it is consistent with the Standard Review Plan, Section 9.1.2 (Paragraph III.2.a). The proposed K_∞ values satisfy the NRC limits for K_{eff} in the storage rack and, hence, the proposed Technical Specifications are acceptable.

3.0 ENVIRONMENTAL CONSIDERATIONS

This amendment involves a change in the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. The staff has determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that this amendment involves no significant hazards consideration and there has been no public comment on such finding. Accordingly, this amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b) no environmental impact statement or environmental assessment need be prepared in connection with the issuance of this amendment.

4.0 CONCLUSION

We have concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (2) such activities will be conducted in compliance with the Commission's regulations and the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: L. Lois

Dated: October 8, 1985

Reference

1. Letter from D. Musolf, Northern States Power Co., to H. R. Denton, NRC, April 10, 1985.

2. Letter from D. Musolf, Northern States Power Co., to H. R. Denton, NRC, dated June 14, 1985.

3. GESTAR-II MEDE-24011-P-A-6, "General Electric Standard Application for Reactor Fuels," General Electric, 1984.