

October 8, 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:

The Commission has issued the enclosed Amendment No. 34 to Facility Operating License No. DPR-22 for the Monticello Nuclear Generating Plant. The amendment consists of changes to the Technical Specifications in response to your application dated April 10, 1985 as supplemented by letter dated June 16, 1985.

The amendment revises the Technical Specifications (TS) by raising the K-effective limit on the spent fuel storage pool from 0.90 to 0.95 and adds that the infinite multiplication factor be less than or equal to 1.31 for the new fuel assemblies and 1.33 for the spent fuel assemblies.

A copy of the Safety Evaluation is enclosed.

Sincerely,

Original signed by/

Rajender Auluck, Project Manager
Operating Reactors Branch #2
Division of Licensing

Enclosures:

- 1. Amendment No. 34 to License No. DPR-22
- 2. Safety Evaluation

cc w/enclosures:
See next page

DISTRIBUTION

Docket File
NRC PDR
Local PDR
ORB#2 Reading
HThompson

LLois
SNorris
RAuluck
OELD
LJHarmon
ELJordan

BGrimes
TBarnhart (4)
WJones
MVirgilio
ACRS (10)

OPA, CMiles
RDiggs
Gray File
Extra - 5
JPartlow

DL:ORB#2
SNorris:rc
09/18/85

DL:ORB#2
RAuluck
09/18/85

DL:ORB#2
DVassallo
09/22/85
10

OELD
10/13/85
12

DL:AD-OR
GLainas
10/18/85
10

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

cc:

Gerald Charnoff, Esquire
Shaw, Pittman, Potts and
Trowbridge
1800 M Street, N. W.
Washington, D. C. 20036

U. S. Nuclear Regulatory Commission
Resident Inspector's Office
Box 1200
Monticello, Minnesota 55362

Plant Manager
Monticello Nuclear Generating Plant
Northern States Power Company
Monticello, Minnesota 55362

Russell J. Hatling
Minnesota Environmental Control
Citizens Association (MECCA)
Energy Task Force
144 Melbourne Avenue, S. E.
Minneapolis, Minnesota 55113

Executive Director
Minnesota Pollution Control Agency
1935 W. County Road B2
Roseville, Minnesota 55113

Mr. Steve Gadler
2120 Carter Avenue
St. Paul, Minnesota 55108

John W. Ferman, Ph.D.
Nuclear Engineer
Minnesota Pollution Control Agency
1935 W. County Road B2
Roseville, Minnesota 55113

Commissioner of Health
Minnesota Department of Health
717 Delaware Street, S. E.
Minneapolis, Minnesota 55440

O. J. Arlien, Auditor
Wright County Board of
Commissioners
10 NW Second Street
Buffalo, Minnesota 55313

James G. Keppler
Regional Administrator
U. S. Nuclear Regulatory Commission
Region III Office
799 Roosevelt Road
Glen Ellyn, Illinois 60137



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

NORTHERN STATES POWER COMPANY

DOCKET NO. 50-263

MONTICELLO NUCLEAR GENERATING PLANT

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 34
License No. DPR-22

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Northern States Power Company (the licensee) dated April 10, 1985 as supplemented by letter dated June 16, 1985, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.2 of Facility Operating License No. DPR-22 is hereby amended to read as follows:

8510170361 851008
PDR ADDCK 05000263
P PDR

2 Technical Specifications

The Technical Specifications contained in Appendix A as revised through Amendment No. 34 , are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of the date of its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



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

Attachment:
Changes to the Technical
Specifications

Date of Issuance: October 8, 1985

ATTACHMENT TO LICENSE AMENDMENT NO. 34

FACILITY OPERATING LICENSE NO. DPR-22

DOCKET NO. 50-263

Replace the following page of the Appendix "A" Technical Specifications with the enclosed page. The revised area is indicated by a marginal line.

Page

231

It is designed to conform to ASME Boiler and Pressure Vessel Code Section III Class B for an internal pressure of 56 psig at 281°F and an external pressure of 2 psig at 281°F.

- B. Penetrations added to the primary containment shall be designed in accordance with standards set forth in Section 5.2.2.3 of the Final Safety Analysis Report. Piping passing through such penetrations shall have isolation valves in accordance with standards set forth in Section 5.2.2.4 of the Final Safety Analysis Report.
- C. The reactor building, standby gas treatment system and stack shall comprise a secondary containment in such fashion to enclose the primary containment in order to provide for controlled elevated release of the reactor building atmosphere under accident conditions.

5.5 Fuel Storage

- A. Normal storage for unirradiated fuel assemblies is in critically-safe new fuel storage racks in the reactor building storage vault. Fuel shall be stored in arrays such that the Keff dry is less than 0.90 and flooded is less than 0.95. In order to meet these limits, new fuel assemblies shall have an infinite lattice multiplication factor less than or equal to 1.31.
- B. The Keff of the spent fuel storage pool shall be less than or equal to 0.95. In order to meet this limit, fuel assemblies stored in this pool shall have an infinite lattice multiplication factor less than or equal to 1.33.

5.6 Seismic Design

All Class I structures and equipment were analyzed to assure that a safe shutdown can be made during ground acceleration of 0.12g (Maximum Earthquake). Dynamic analysis was used to determine the earthquake acceleration applicable to the various elevations in the reactor building.



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 1.30. 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.