

DECEMBER 28 1979

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Docket No. 50-263

Mr. L. O. Mayer, Manager
Nuclear Support Services
Northern States Power Company
414 Nicollet Mall - 8th Floor
Minneapolis, Minnesota 55401

Dear Mr. Mayer:

The Commission has issued the enclosed Amendment No. 42 to Provisional 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 December 21, 1979.

This amendment involves a modification to the average planar linear heat generation rate (APLHGR) limitations on the fuel.

Copies of the Safety Evaluation and the Notice of Issuance are also enclosed.

Sincerely,

for *V. Rooney*
Thomas A. Ippolito, Chief
Operating Reactors Branch #3
Division of Operating Reactors

Enclosures:

1. Amendment No. 42
2. Safety Evaluation
3. Notice

cc w/enclosures:
See next page

*Amendment
& Federal Register
Notice* *KB
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Mr. L. O. Mayer
Northern States Power Company.

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cc:

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Citizens Association (MECCA)
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State Department of Health
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Mr. D. S. Douglas, Auditor
Wright County Board of Commissioners
Buffalo, Minnesota 55313

Director, Technical Assessment
Division
Office of Radiation Programs (AW-459)
US PEA
Crystal Mall #2
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U. S. Environmental Protection Agency
Federal Activities Branch
Region V Office
ATTN: EIS COORDINATOR
230 South Dearborn Street
Chicago, Illinois 60604



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

NORTHERN STATES POWER COMPANY

DOCKET NO. 50-263

MONTICELLO NUCLEAR GENERATING PLANT, UNIT NO. 1

AMENDMENT TO PROVISIONAL OPERATING LICENSE

Amendment No. 42
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 December 21, 1979, 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 3.B. of Provisional Operating License No. DPR-22 is hereby amended to read as follows:

B. Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 42, 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



Thomas A. Ippolito, Chief
Operating Reactors Branch #3
Division of Operating Reactors

Attachment:
Changes to the Technical
Specifications

Date of Issuance: December 28, 1979

ATTACHMENT TO LICENSE AMENDMENT NO. 42

PROVISIONAL 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 page is identified by Amendment number and contains vertical lines indicating the area of change.

Remove

189E

Insert

189E

TABLE 3.11.1
 MAXIMUM AVERAGE PLANAR LINEAR HEAT
 GENERATION RATE
 vs. EXPOSURE

Exposure MWD/STU	MAPLHGR FOR EACH FUEL TYPE (kw/ft)				
	8DB262	8DB250	8DB219L	8DRB265	8DRB282
200	10.6	10.6	10.7	10.4	10.3
1,000	10.7	10.7	10.7	10.4	10.4
5,000	10.7	10.7	10.8	10.4	10.4
10,000	10.8	10.8	10.7	10.5	10.5
15,000	10.7	10.7	10.7	10.5	10.5
20,000	10.7	10.6	10.6	10.4	10.4
25,000	10.6	10.6	10.6	10.3	10.3
30,000	10.6	10.6	10.2	10.3	10.3
35,000	9.8				
40,000	8.9				



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
SUPPORTING AMENDMENT NO. 42 TO PROVISIONAL OPERATING LICENSE NO. DPR-22

NORTHERN STATES POWER COMPANY
MONTICELLO NUCLEAR GENERATING PLANT

DOCKET NO. 50-263

1.0 Introduction

By letter⁽¹⁾ dated December 21, 1979, the Northern States Power Company (the licensee) requested amendment to the Technical Specifications appended to Operating License No. DPR-22 for the Monticello Nuclear Generating Plant (MNP). The proposed change would extend the exposure range of the Maximum Average Planar Linear Heat Generation Rate (MAPLHGR) versus average planar exposure values for the type 8DB262 fuel bundles loaded in the core. The proposed extension would provide MAPLHGR limits for the 8DB262 bundles to an average planar exposure of 40,000 MWd/T, which is 10,000 MWd/T beyond the current exposure range of 30,000 MWd/T.

The Technical Specification change request resulted from the discovery that the average planar exposure for 8DB262 fuel loaded in the core had exceeded 30,000 MWd/T. By References 2 and 3, the licensee reported exceeding this value of fuel exposure, the circumstances associated with the event, and the corrective actions taken by the licensee.

In support of the requested Technical Specification change, the licensee referenced the plant specific results⁽⁴⁾ of the Design Basis Loss-of-Coolant Accident analysis for MNP which had previously been submitted for staff review.

2.0 Evaluation

The licensee determined that the average planar exposure for one fuel type had exceeded 30,000 MWd/T without licensee knowledge because of inadequate licensee and consultant monitoring of fuel nodal exposures. The licensee has corrected surveillance procedures for nodal exposure monitoring to ensure that exposure of each type of fuel in the core does not exceed the values provided in the proposed Technical Specifications.

ECCS Appendix K Analysis

On December 27, 1974 the Atomic Energy Commission issued an Order for Modification of License implementing the requirements of 10 CFR 50.46, "Acceptance Criteria for Emergency Core Cooling Systems for Light Water Nuclear Power Reactors." One of the requirements of the Order was that "the licensee shall submit a re-evaluation of ECCS performance calculated in accordance with an acceptable evaluation model which conforms to the

provisions of 10 CFR 50.46." The Order also required that the evaluation shall be accompanied by such proposed changes in Technical Specifications as may be necessary to implement the evaluation assumptions. The staff reviewed and accepted the Loss-of-Coolant Accident Analysis Report⁽⁵⁾ for MNP and approved the accompanying proposed MAPLHGR versus average planar exposure Technical Specification values for the 8DB262 fuel assemblies. Our approval was limited to an average planar exposure of 30,000 MWd/T, since the analysis reported by Reference 5 was limited to an exposure of 30,000 MWd/t.

In order to extend the MAPLHGR versus average planar exposure values for the 8DB262 fuel, the licensee re-evaluated the adequacy of ECCS performance for the subject 8X8 fuel at exposures out to 45,000 MWd/T. The supplemental analysis was performed using analytical procedures previously approved by the staff. Additionally, these methods are considered applicable for an average planar exposure of 45,000 MWd/T. Furthermore, the information presented fulfills the documentation requirements outlined in Reference 6 for such analyses. The analysis results show that with MAPLHGR limited to the values in table 3-1 of Reference 4 that the cladding temperature and local cladding oxidation are well below the 2200°F (peak cladding temperature) and 17% (local cladding oxidation) limits allowed by 10 CFR 50.46. Accordingly, we find the proposed MAPLHGR vs. average planar exposure values acceptable.

Thermal-Mechanical Design Considerations

Previously reviewed fuel thermal-mechanical design and safety analyses⁽⁷⁾ are dependent on local exposure. Additionally, the maximum local (pellet) exposure in a fuel assembly is not independent of the maximum average planar exposure since the former is always greater than the latter. Accordingly, we have reviewed the adequacy of the previously approved⁽⁸⁾ thermal-mechanical design basis for the 8DB262 fuel in light of the proposed Technical Specification change. For MNP the licensee stated⁽⁹⁾ that the maximum local exposure of the 8DB262 fuel will not exceed 40,000 MWd/T during Cycle 7. Since the staff previously reviewed and accepted⁽⁸⁾ generic fuel thermal and mechanical performance analyses⁽⁷⁾ for 8X8 fuel peak pellet exposures up to 40,000 MWd/T, we find our generic conclusions and basis for acceptance of the 8X8 fuel thermal and mechanical design valid for peak pellet exposures up to 40,000 MWd/T. The plant-specific aspects of the fuel thermal and mechanical design were also previously addressed in Reference 10 and remain applicable for peak pellet exposures up to 40,000 MWd/T. Thus, the conclusions stated in our plant and cycle-specific evaluation of thermal-mechanical performance also remain unaffected.

For Cycle 7, we find that the proposed extension of the MAPLHGR versus average planar exposure values do not invalidate the basis or conclusions of any of our previous approvals of the thermal-mechanical design of the 8DB262 fuel for peak pellet exposures up to 40,000 MWd/T.

3.0 Summary

We find the corrective actions taken by the licensee to be appropriate.
We find the proposed Technical Specification change acceptable.

4.0 Environmental Consideration

We have determined that the license amendment does not authorize a change in effluent types or total amounts nor an increase in power level and will not result in any significant environmental impact. Having made this determination, we have further concluded that the amendment involves an action which is insignificant from the standpoint of environmental impact and pursuant to 10 CFR Section 51.5(d)(4) that an environmental impact statement or negative declaration and environmental impact appraisal need not be prepared in connection with the issuance of this amendment,

5.0 Conclusion

We have concluded, based on the considerations discussed above, that: (1) because the amendment does not involve a significant increase in the probability or consequences of accidents previously considered and does not involve a significant decrease in a safety margin, the amendment does not involve a significant hazards consideration, (2) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (3) such activities will be conducted in compliance with the Commission's regulations and the issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public.

Dated: December 28, 1979

References

1. Northern States Power Company letter (L. Mayer) to USNRC (H. Denton) dated December 21, 1979.
2. Northern States Power Company letter (L. Eliason) to USNRC (J. Keppler) dated December 17, 1979.
3. Northern States Power Company letter (L. Eliason) to USNRC (J. Keppler) dated December 28, 1979.
4. "Monticello Nuclear Generating Plant Extended Exposure Fuel Program," NEDO-24202 dated July 1979 appearing as Exhibit C of Northern States Power Company letter (L. Mayer) to USNRC (H. Denton) dated September 17, 1979.
5. "Loss of Coolant Accident Analysis Report for Monticello Nuclear Generating Plant," NEDO-24050 dated September 1977.
6. USNRC letter (D. Eisenhut) to General Electric (E. Fuller) dated June 30, 1977.
7. "Generic Reload Fuel Application" NEDE-24011-P-A, dated August 1978.
8. USNRC letter (D. Eisenhut) to General Electric (R. Gridley) dated May 12, 1978 transmitting "Safety Evaluation for the General Electric Topical Report Generic Reload Fuel Application (NEDE-24011-P)" dated April 1978.
9. Telephone conversation between Northern States Power Company (L. Mayer) and USNRC (T. Kevern) on December 14, 1979.
10. Northern States Power Company letter (L. Mayer) to USNRC (H. Denton) dated August 10, 1978 transmitting "Supplemental Reload Licensing Submittal for Monticello Nuclear Generating Plant, Reload 6, NEDO-24133, July 1978.

UNITED STATES NUCLEAR REGULATORY COMMISSION
DOCKET NO. 50-263
NORTHERN STATES POWER COMPANY
NOTICE OF ISSUANCE OF AMENDMENT TO PROVISIONAL
OPERATING LICENSE

The U. S. Nuclear Regulatory Commission (the Commission) has issued Amendment No. 42 to Provisional Operating License No. DPR-22, issued to Northern States Power Company, which revised Technical Specifications for operation of the Monticello Nuclear Generating Plant (the facility) located in Wright County, Minnesota. The amendment is effective as of its date of issuance.

The amendment involves a modification to the average planar linear heat generation rate (APLHGR) limitations on the fuel.

The application for the amendment complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations. The Commission has made appropriate findings as required by the Act and the Commission's rules and regulations in 10 CFR Chapter I, which are set forth in the license amendment. Prior public notice of this amendment was not required since the amendment does not involve a significant hazards consideration.

The Commission has determined that the issuance of this amendment will not result in any significant environmental impact and that pursuant to 10 CFR §1.5(d)(4) an environmental impact statement, or negative declaration and environmental impact appraisal need not be prepared in connection with issuance of this amendment.

For further details with respect to this action, see (1) the application for amendment dated December 21, 1979, (2) Amendment No. 42 to License No. DPR-22, and (3) the Commission's related Safety Evaluation. All of these items are available for public inspection at the Commission's Public Document Room, 1717 H Street, N.W., Washington, D. C. and at the Environmental Conservation Library, Minneapolis Public Library, 300 Nicollet Mall, Minneapolis, Minnesota. A copy of items (2) and (3) may be obtained upon request addressed to the U. S. Nuclear Regulatory Commission, Washington, D. C. 20555, Attention: Director, Division of Operating Reactors.

Dated at Bethesda, Maryland, this 28th day of December 1979.

FOR THE NUCLEAR REGULATORY COMMISSION



Vernon L. Rooney, Acting Chief
Operating Reactors Branch #3
Division of Operating Reactors