

FEB 3 1976

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Docket No. 50-263

Northern States Power Company
 ATTN: Mr. L. O. Mayer, Director
 Nuclear Support Services
 414 Nicollet Mall
 Minneapolis, Minnesota 55401

Gentlemen:

The Commission has issued the enclosed Amendment No. 16 to Facility License No. DPR-22 for the Monticello Nuclear Generating Plant. The amendment includes changes to the Technical Specifications and are based on our letters to you dated September 24, 1975, and December 4, 1975.

The amendment revises the Technical Specifications to (1) add requirements that would limit the period of time operation can be continued with immovable control rods that could have control rod drive mechanism collet housing failures and (2) require increased control rod surveillance when the possibility of a control rod drive mechanism collet housing failure exists.

We have evaluated the potential for environmental impact of plant operation in accordance with the enclosed amendment and have determined that the 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 § 51.5(d)(4) that an environmental statement, negative declaration or environmental impact appraisal need not be prepared in connection with the issuance of this amendment. We have also concluded that there is reasonable assurance that the health and safety of the public will not be endangered by this action.

A copy of the related Federal Register Notice is also enclosed. Our Safety Evaluation relating to this action was forwarded to you with our letter dated September 24, 1975.

Sincerely,

Dennis L. Ziemann
 Original signed by
 Dennis L. Ziemann, Chief
 Operating Reactors Branch #2
 Division of Operating Reactors

Enclosures:	OR:ORB #2	OR:ORB #2	OELD	OR:ORB #2	OR/AD
OFFICE → Next Page	<i>RMP</i>	<i>BCB</i>	<i>D Swanson</i>	<i>DLZiemann</i>	<i>KRGoller</i>
SURNAME →	RMDiggs:ro	BCBuckley	D Swanson	DLZiemann	KRGoller
DATE →	1/22/76	1/30/76	2/2/76	2/3/76	2/3/76

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Northern States Power Company

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Enclosures:

1. Amendment No. 16 to
License DPR-22
2. Federal Register Notice

cc w/enclosures:

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Wright County Board of Commissioners
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Warren R. Lawson, M. D.
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Minneapolis, Minnesota 55440

NORTHERN STATES POWER COMPANY

DOCKET NO. 50-263

MONTICELLO NUCLEAR GENERATING PLANT

AMENDMENT TO PROVISIONAL OPERATING LICENSE

Amendment No. 16
License No. DPR-22

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. 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;
 - B. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public;
 - C. The facility will operate in conformity with the provisions of the Act, and the rules and regulations of the Commission; and
 - D. An environmental statement or negative declaration need not be prepared in connection with the issuance of this amendment.
2. Accordingly, the license is amended by a change to the Technical Specifications as indicated in the attachment to this license amendment.
3. This license amendment is effective as of the date of its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

Original signed by:

Karl R. Goller

Karl R. Goller, Assistant Director
for Operating Reactors
Division of Operating Reactors

Attachment:
Changes to the Technical
Specifications

Date of issuance: **FEB 3 1976**

OFFICE →						
SURNAME →						
DATE →						

ATTACHMENT TO LICENSE AMENDMENT NO. 16

PROVISIONAL OPERATING LICENSE NO. DPR-22

DOCKET NO. 50-263

Delete existing pages 76 and 83 of the Technical Specifications and insert the attached revised pages 76 and 83. The changed areas on the revised pages are shown by marginal lines.

3.0 LIMITED CONDITIONS FOR OPERATION

2. Reactivity margin - stuck control rods.

Control rod drives which cannot be moved with control rod drive pressure shall be considered inoperable. The directional control valves for inoperable control rods shall be disarmed electrically and the rods shall be in such positions that Specification 3.3.A.1 is met. If more than six non-fully inserted rods are inoperable during power operation the reactor shall be placed in a shutdown condition. If a partially or fully withdrawn control rod drive cannot be moved with drive or scram pressure the reactor shall be brought to a shutdown condition within 48 hours unless investigation demonstrates that the cause of the failure is not due to a failed control rod drive mechanism collet housing.

B. Control Rod Withdrawal

1. Each control rod shall be coupled to its drive or completely inserted and the directional control valves disarmed electrically. This requirement does not apply when removing a control rod drive for inspection as long as the reactor is in the refueling mode.

4.0 SURVEILLANCE REQUIREMENTS

2. Reactivity margin - stuck control rods.

Each partially or fully withdrawn operable control rod shall be exercised one notch at least once each week. This test shall be performed at least once per 24 hours in the event power operation is continuing with two or more inoperable control rods or in the event power operation is continuing with one fully or partially withdrawn rod which cannot be moved and for which control rod drive mechanism damage has not been ruled out. The surveillance need not be completed within 24 hours if the number of inoperable rods has been reduced to less than two and if it has been demonstrated that control rod drive mechanism collet housing failure is not the cause of an immovable control rod.

B. Control Rod Withdrawal

1. The coupling integrity shall be verified for each withdrawn control rod as follows:
 - (a) when the rod is fully withdrawn the first time subsequent to each refueling outage, observe that the drive does not go to the overtravel position; and

Bases Continued 3.3 and 4.3:

with drive pressure. If the rod is fully inserted and then disarmed electrically*, it is in a safe position of maximum contribution to shutdown reactivity. If it is disarmed electrically in a non-fully inserted position, that position shall be consistent with the shutdown reactivity limitation stated in Specification 3.3.A.1. This assures that the core can be shutdown at all times with the remaining control rods assuming the strongest operable control rod does not insert. An allowable pattern for inoperable control rods, which shall meet this Specification, will be available to the operator. The number of rods permitted to be inoperable could be many more than the six allowed by the Specification, particularly late in the operation cycle; however, the occurrence of more than six could be indicative of a generic control rod drive problem and the reactor will be shutdown. Also if damage within the control rod drive mechanism and in particular, cracks in drive internal housings, cannot be ruled out, then a generic problem affecting a number of drives cannot be ruled out. Circumferential cracks resulting from stress assisted intergranular corrosion have occurred in the collet housing of drives at several BWRs. This type of cracking could occur in a number of drives and if the cracks propagated until severance of the collet housing occurred, scram could be prevented in the affected rods. Limiting the period of operation with a potentially severed collet housing and requiring increased surveillance after detecting one stuck rod will assure that the reactor will not be operated with a large number of rods with failed collet housing.

B. Control Rod Withdrawal

1. Control rod dropout accidents as discussed in the FSAR can lead to significant core damage. If coupling integrity is maintained, the possibility of a rod dropout accident is eliminated. The overtravel position feature provides a positive check as only uncoupled drives may reach this position. Neutron instrumentation response to rod movement provides a verification that the rod is following its drive. Absence of such response to drive movements after the reactor is critical would indicate an uncoupled condition.
2. The control rod housing support restricts the outward movement of a control rod to less than 3 inches in the extremely remote event of a housing failure, The amount of reactivity which could be added by this small amount of rod withdrawal, which is less than a normal single withdrawal increment, will not contribute to any damage to the primary coolant system. The design basis is given in Section 6.5.1 of the FSAR and the design evaluation is given in

*To disarm the drive electrically, two amphenol type plug connectors are removed from the drive insert and withdrawal solenoids rendering the drive immovable. This procedure is equivalent to valving out the drive and is preferred since it allows continued cooling water flow and minimizes crud accumulation in the drive.

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. 16 to Provisional Operating License No. DPR-22, issued to the Northern States Power Company (the licensee), 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 revises the Technical Specifications to (1) add requirements that would limit the period of time operation can be continued with immovable control rods that could have control rod drive mechanism collet housing failures and (2) require increased control rod surveillance when the possibility of a control rod drive mechanism collet housing failure exists.

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. Notice of the Proposed Issuance of Amendment to Facility Operating License in connection with this action was published in the FEDERAL REGISTER on December 11, 1975 (40 FR 57724). No request for a hearing or petition for leave to intervene was filed following notice of the proposed action.

The Commission has determined that the issuance of this amendment will not result in any significant environmental impact and that pursuant to 10 CFR §51.5(d)(4) an environmental statement, negative declaration or 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 Commission's letters to Northern States Power Company dated September 24, 1975, and December 4, 1975, (2) Amendment No. 16 to License No. DPR-22, and (3) the Commission's related Safety Evaluation issued on September 24, 1975. 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 Hall, Minneapolis, Minnesota 55401.

A single copy of items (1) through (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 *third day of February, 1976*

FOR THE NUCLEAR REGULATORY COMMISSION

Original signed by
Dennis L. Ziemann

Dennis L. Ziemann, Chief
Operating Reactors Branch #2
Division of Operating Reactors

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DATE ➤	1/28/76	1/ 8/76	2/2 176	2/3 176	2/3 176