



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. 27
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 May 29, 1984, as supplemented August 16, 1984, 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:

2 Technical Specifications

The Technical Specifications contained in Appendix A as revised through Amendment No. 27, 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 31, 1984

ATTACHMENT TO LICENSE AMENDMENT NO. 27

FACILITY OPERATING LICENSE NO. DPR-22

DOCKET NO. 50-263

Replace the following pages of the Appendix "A" Technical Specifications with the enclosed pages. The revised pages are identified by Amendment number and contain vertical lines indicating the area of change.

Remove

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103
104

106
107
114

119

Insert

17
103
104
105a
106
107
114
116a
119

Bases Continued:

backed up by the rod worth minimizer. Worth of individual rods is very low in a uniform rod pattern. Thus, of all possible sources of reactivity input, uniform control rod withdrawal is the most probable cause of significant power rise. Because the flux distribution associated with uniform rod withdrawals does not involve high local peaks, and because several rods must be moved to change power by a significant percentage of rated power, the rate of power rise is very slow. Generally, the heat flux is in near equilibrium with the fission rate. In an assumed uniform rod withdrawal approach to the scram level, the rate of power rise is no more than 5% of rated power per minute, and the IRM system would be more than adequate to assure a scram before the power could exceed the safety limit. The IRM scram remains active until the mode switch is placed in the run position. This switch occurs when reactor pressure is greater than 850 psig.

The operator will set the APRM neutron flux trip setting no greater than that stated in Specification 2.3.A.1. However, the actual setpoint can be as much as 3% greater than that stated in Specification 2.3.A.1 for recirculation driving flows less than 50% of design and 2% greater than that shown for recirculation driving flows greater than 50% of design due to the deviations discussed on page 39.

- B. APRM Control Rod Block Trips Reactor power level may be varied by moving control rods or by varying the recirculation flow rate. The APRM system provides a control rod block to prevent rod withdrawal beyond a given point at constant recirculate flow rate, and thus to protect against the condition of a MCPR less than the Safety Limit (T.S.2.1.A). This rod block trip setting, which is automatically varied with recirculation loop flow rate, prevents an increase in the reactor power level to excessive values due to control rod withdrawal. The flow variable trip setting provides substantial margin from fuel damage, assuming a steady-state operation at the trip setting, over the entire recirculation flow range. The margin to the Safety Limit

3.0 LIMITING CONDITIONS FOR OPERATION

operation is permissible only during the succeeding seven days unless at least one of such systems is sooner made operable, provided that during such seven days all active components of the LPCI mode of RHR system and the diesel generators required for operation of such components (if no external source of power were available) shall be operable.

4. Each core spray system shall be capable of delivering 3,020 gpm against a reactor pressure of 130 psig. If this rate of delivery requirement cannot be met, the system shall be considered inoperable.
5. If the requirements of 3.5.A.1-3 cannot be met, an orderly shutdown of the reactor will be initiated and the reactor water temperature shall be reduced to less than 212°F within 24 hours.

3.5/4.5

Amendment No. 27

4.0 SURVEILLANCE REQUIREMENTS

diesel generators required for operation of such components (if no external source of power were available) shall be demonstrated to be operable immediately and daily thereafter.

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3.0 LIMITING CONDITIONS FOR OPERATION

B. Low Pressure Coolant Injection (LPCI) Subsystem (LPCI Mode of RHR System)

1. Except as specified in 3.5.B.2 and 3.5.B.3 below, the LPCI shall be operable whenever irradiated fuel is in the reactor vessel and reactor coolant temperature is greater than 212°F.

2. From and after the date that one of the LPCI pumps or admission valves is made or found to be inoperable for any reason, reactor operation is permissible only during the succeeding thirty days unless such pump or admission valve is sooner made operable, provided that during such thirty days the remaining active components of the LPCI and containment cooling subsystem and all active components of both core spray systems and the diesel generators required for operation of such components (if no external source of power were available) shall be operable.

3.5/4.5

4.0 SURVEILLANCE REQUIREMENTS

B. Surveillance of the Low Pressure Coolant Injection (LPCI) Subsystem (LPCI Mode of RHR System) shall be performed as follows:

1. Testing

<u>Item</u>	<u>Frequency</u>
Pump Operability	Once/month
Motor operated valve operability	Once/month
Cycling of RHR Intertie Line Valves	Once/Quarter
Flow rate test (recirculate to torus)	After major pump maintenance and every three months
Simulated automatic actuation test	Every refueling outage

2. When it is determined that one of the LPCI pumps is inoperable, the remaining active components of the LPCI and containment cooling subsystem, both core spray systems and the diesel generators required for operation of such components (if no external source of power were available) shall be demonstrated to be operable immediately and the operable LPCI pumps daily thereafter.

3.0 LIMITING CONDITIONS FOR OPERATION

4.0 SURVEILLANCE REQUIREMENTS

6. Both RHR Intertie return line isolation valves shall be operable. To be considered operable, each valve must be capable of automatic closure on a LPCI initiation signal or be in the closed position. If one valve is made or found to be inoperable for any reason, the other return line isolation valve and the RHR suction line isolation valve shall be closed, otherwise the actions specified in 3.5.B.3 shall be taken.
7. Flow shall not be established in the RHR intertie line with the reactor in the Run Mode.
8. If the requirements of 3.5.B.1 through 3.5.B.4 cannot be met, an orderly shutdown of the reactor shall be initiated and the reactor water temperature shall be reduced to less than 212⁰F within 24 hours.

3.5/4.5

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3.0 LIMITING CONDITIONS FOR OPERATION

Containment Cooling Capability

C. Residual Heat Removal (RHR) Service Water System

1. Except as specified in 3.5.C.2 and 3.5.C.3 below, both RHR service water system loops shall be operable whenever irradiated fuel is in the reactor vessel and reactor coolant temperature is greater than 212°F.

2. From and after the date that one of the RHR service water system pumps is made or found to be inoperable for any reason, reactor operation is permissible only during the succeeding thirty days unless such pump is sooner made operable, provided that during such thirty days all other active components of the RHR service water system are operable.

3.5/4.5

4.0 SURVEILLANCE REQUIREMENTS

Containment Cooling Capability

C. Surveillance of the RHR service water system shall be performed as follows:

1. Testing

<u>Item</u>	<u>Frequency</u>
Pump and valve operability	Once/3 months
Flow rate test	After major pump maintenance and every three months

2. When it is determined that one RHR service water pump is inoperable, the redundant components of the remaining subsystem shall be demonstrated to be operable immediately and daily thereafter.

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3.0 LIMITING CONDITIONS FOR OPERATION

3. From and after the date that one of the RHR service water systems is made or found to be inoperable for any reason, reactor operation is permissible only during the succeeding seven days unless such system is sooner made operable, provided that during such seven days all active components of the operable RHR service water system shall be demonstrated to be operable at least once each day.
4. To be considered operable, a RHR service water pump shall be capable of delivering 3500 gpm against a head of 500 feet.
5. If the requirements of 3.5.C.1-3 cannot be met, an orderly shutdown of the reactor will be initiated and the reactor water temperature shall be reduced to less than 212°F within 24 hours.

4.0 SURVEILLANCE REQUIREMENTS

3. When one RHR service water system becomes inoperable, the operable system shall be demonstrated to be operable immediately and daily thereafter.

3.5/4.5

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3.0 LIMITING CONDITIONS FOR OPERATION

I. Recirculation System

- 1. Reactor operation with one loop shall be limited to 24 hours.

3.5/4.5

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4.0 SURVEILLANCE REQUIREMENTS

I. Recirculation System

- See Specification 4.6.G.

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Bases Continued:

An intertie line is provided to connect the RHR suction line with the two RHR loop return lines. This four-inch line is equipped with three isolation valves. The RHR loop return line isolation valves receive a closure signal on LPCI initiation. In the event of an inoperable return line isolation valve, there is a potential for some of the LPCI flow to be diverted to the broken loop during a loss of coolant accident. Surveillance requirements have been established to periodically cycle the RHR intertie line isolation valves. In the event of an inoperable RHR loop return line isolation valve, the other two isolation valves are closed to prevent diversion of LPCI flow.

The RHR intertie line is not used when the reactor is in the Run Mode to eliminate the need to compensate for the small change in jet pump drive flow or for a potential reduction in core flow during a loss of coolant accident.

Bases Continued 3.5:

G. Emergency Cooling Availability

The purpose of Specification G is to assure that sufficient core cooling equipment is available at all times. It is during refueling outages that major maintenance is performed and during such time that all core and containment cooling subsystems may be out of service. Specification 3.5.G.3 allows all core and containment cooling subsystems to be inoperable provided no work is being done which has the potential for draining the reactor vessel. Thus events requiring core cooling are precluded.

Specification 3.5.G.4 recognizes that concurrent with control rod drive maintenance during the refueling outage, it may be necessary to drain the suppression chamber for maintenance or for the inspection required by Specification 4.7.A.1. In this situation, a sufficient inventory of water is maintained to assure adequate core cooling in the unlikely event of loss of control rod drive housing or instrument thimble seal integrity.

H. Deleted

I. Recirculation System

Extended operation with one reactor recirculation loop inoperable is prohibited until the NRC has completed an evaluation of single loop operation.