UNITED STATES NUCLEAR REGULATORY COMMISSION

NORTHERN STATES POWER COMPANY

MONTICELLO NUCLEAR GENERATING PLANT DOCKET NO. 50-263

REQUEST FOR AMENDMENT TO
OPERATING LICENSE DPR-22

LICENSE AMENDMENT REQUEST DATED NOVEMBER 25, 1997

Northern States Power Company, a Minnesota corporation, requests authorization for changes to Appendix A of the Monticello Operating License as shown on the attachments labeled Exhibits A, B, and C. Exhibit A describes the proposed changes, describes the reasons for the changes, and contains a Safety Evaluation, a Determination of No Significant Hazards Consideration, and an Environmental Assessment. Exhibit B contains current Technical Specification pages marked up with the proposed changes. Exhibit C is a copy of the Monticello Technical Specification pages incorporating the proposed changes.

This letter contains no restricted or other defense information.

NORTHERN STATES POWER COMPANY

By M F Hammer
Michael F Hammer
Plant Manager
Monticello Nuclear Generating Plant

On this 25th day of November, 1997 before me a notary public in and for said Country, personally appeared Michael F Hammer, Plant Manager, Monticello Nuclear Generating Plant, and being first duly sworn acknowledged that he is authorized to execute this document on behalf of Northern States Power Company, that he knows the contents thereof, and that to the best of his knowledge, information, and belief the statements made in it are true and that it is not interposed for delay.

Samuel I. Shirey

Samuel I Shirey
Notary Public - Minnesota
Sherburne County
My Commission Expires January 31, 2000

SAMUEL I. SHIREY
NOTARY PUBLIC - MINNESOTA
My Comm. Exp. Jan. 31, 2000

Exhibit A
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Pursuant to 10 CFR Part 50, Sections 50.59 and 50.90, the holders of Operating License DPR-22 hereby propose the following changes to the Monticello Technical Specifications:

PROPOSED CHANGES:

1) Revise the trip setting for the "HPCI/RCIC Turbine Suction Transfer" on Table 3.2.8, page 60d, as follows:

a.	Condensate Storage Tank Low Level Allowable Values	≥ 2' 3" above tank bottom (Two Tank Operation)
		≥ 6' 9" above tank bottom (One Tank Operation)

2) Change Required Condition "C" at bottom of Table 3.2.8 on page 60d to read:

C. Align HPCI and RCIC suction to the suppression pool.

3) Delete the table entry for allowable deviation for "Low Condensate Storage Level" on page 71a.

4) Add a definition of "Allowable Value" to Section 1.0, Definitions, in the Monticello Technical Specifications.

REASON FOR CHANGES:

Change (1) replaces the existing low CST level setpoint in Table 3.2.8 with a new allowable value appropriate for normal two CST operation.

Change (1) also adds an allowable value applicable to one CST operation. This will permit HPCI and RCIC to remain aligned to the operable CST during extended outages of the other CST, provided:

- CST level switch setpoints are increased to the setpoint appropriate for one CST operation, and
- Both CST level switches are aligned to sense level in the remaining CST so that both instrument channels are operable

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Allowable values are used instead of trip settings to be consistent with current NRC guidance contained in "General Electric Standard Technical Specifications," NUREG-1433, Revision 1.

Change (2) revises the required action statement for failure of one or both CST level channels to be consistent with NUREG-1433, Revision 1. The action statement simply requires HPCI and RCIC to be aligned to the suppression chamber if the required instrumentation is not operable. This action is equivalent to carrying out the safety related function of the low CST level instrumentation. Therefore, the current 30-day limitation on plant operation is unnecessary.

Change (3) deletes the allowable CST level switch setpoint deviation. This deviation is no longer necessary since the use of allowable values is proposed for Table 3.2.8.7.

Change (4) adds a definition of "Allowable Value" to the Definitions Section of the Monticello Technical Specifications. This definition is consistent with the General Electric instrument setpoint methodology used at the Monticello Nuclear Generating Plant.

Background

Each of the two condensate storage tanks (CST) at Monticello is provided with a level column and associated instrumentation providing indication, control, and alarm functions.

A displacer type level switch is associated with each CST level column. These switches provide automatic transfer of the high pressure coolant injection (HPCI) and the reactor core isolation cooling (RCIC) pump suctions to the suppression pool when low CST level is sensed. These switches are identified as:

CST No. 11	LS 23-74
CST No. 12	LS 23-75

HPCI and RCIC pump suctions are normally aligned to the CSTs. In the event these systems are initiated during plant operation for any reason, demineralized water from the CSTs will be injected into the reactor.

The CSTs are not safety related. Safety related level switches LS 23-74 and LS 23-75 and associated circuitry transfer HPCI and RCIC pump suction from the CSTs to the suppression pool on sensing low level in the CSTs. LS 23-74 and LS 23-75 are used in a one-out-of-two logic scheme to open HPCI (MO 2061 & MO 2062) and RCIC (MO 2100 & MO 2101) suction valves from the suppression pool. CST suction valves for HPCI (MO 2063) and RCIC (MO 2102) automatically close when their respective suppression pool suction valves are fully open. Refer to

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Monticello Updated Safety Analysis Report (USAR), Chapter 15, Figures NH-36250 and NH-36252.

LS 23-74 and LS 23-75 are currently required by Table 3.2.8 of the Technical Specification to have a setpoint of $\geq$ 2 feet from the bottom of the tank. An allowable setpoint deviation of - 6 inches is currently specified in the Technical Specification Bases for these switches.

A recent review of the setpoint specified for LS 23-74 and LS 23-75 has found that the current Technical Specification setpoint is too low. In addition, the Technical Specifications do not provide sufficient flexibility to permit extended outages of one CST with HPCI and RCIC suctions aligned to the preferred remaining CST source.

Two Tank Operation

A new calculation to determine acceptable instrument settings for LS 23-74 and LS 23-75 was performed using General Electric setpoint methodology as guidance. The calculation resulted in an allowable value of $\geq$2' 3" above the bottom of the tank for normal two tank operation. The setpoint calculation included, among others, the following considerations:

a. Allowance for differential pressure between the reactor building and the recombiner building. The CST level columns are vented in the reactor building and the CSTs are vented to the recombiner building. This concern was recently identified by the NRC in Information Notice 97-33, "Unanticipated Effect of Ventilation System on Tank Level Indications and Engineering Safety Features Actuation System Setpoint."

b. Allowance for vortexing at CST suction pipe. An allowance is required to accommodate vortex development.

c. Allowance for suppression pool suction isolation valve stroke. During opening of the suppression pool suction valves and closure of the CST suction valves, CST level continues to fall. An allowance has been built into the setpoint to take this into account.

d. Level switch delay time. An allowance is added to account for delay in level switch actuation.

e. Additional Margin. An additional margin is included in the calculation to allow for all other, unassigned, sources of error.

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One Tank Operation

The Technical Specifications currently require both LS 23-74 and LS 23-75 to be operable to provide redundancy in the HPCI/RCIC suction transfer logic. In the event one or both switches are inoperable, continued plant operation is permitted for up to 30 days provided HPCI and RCIC pump suctions are aligned to the suppression pool. If both level switches are not restored to operability within 30 days, the plant must be shutdown.

Each CST must be removed from service and drained periodically for inspection, cleaning, and refinishing. These actions, including proper curing of the interior finish, can require more than 30 days to complete. Removing one CST from service would normally make one level switch inoperable. However, the instrument piping for LS 23-74 and LS 23-75 can be cross connected to permit both switches to remain operable. This preserves the redundancy in the transfer logic and allows HPCI and RCIC to remain aligned to the preferred CST water source. Installation and use of the level switch cross connection would be administratively controlled and meet seismic design requirements.

With one CST in service, and LS 23-74 and LS 23-75 cross connected, it is necessary to increase the level switch setpoint due to the following factors:

- With only one CST in service, suction pipe velocities are higher. A larger vortexing allowance is assigned.
- Tank drawdown during valve stroking increases
- Cross connecting the level switches causes an increase in switch delay time due to higher instrument piping losses.

The level switch allowable value for one tank operation is $\geq$ 6' 9" above the bottom of the CST.

SAFETY EVALUATION:

The allowable values proposed for the HPCI/RCIC low CST level suction transfer function increase the level to accommodate differential pressure effects, vortexing, valve stroke time, and level switch delay time. Improved setpoint methodology is used. An increase in level is considered conservative since the transfer of HPCI and RCIC pump suctions to their safety related water source will occur earlier.

Cross connection of the HPCI/RCIC low CST level suction transfer switches will permit an extended outage for CST maintenance while at the same time assuring redundancy in the HPCI/RCIC level transfer logic. HPCI and RCIC suction may remain aligned to the preferred

CST source of demineralized water. The cross connection will be evaluated for seismic loads equivalent to the existing instrument piping. Failure of the cross connection will not prevent the function of the transfer switches from being accomplished since actuation of the level transfer logic would result.

NO SIGNIFICANT HAZARDS CONSIDERATIONS:

The Commission has provided standards (10 CFR Section 50.92) for determining whether a significant hazards consideration exists. A proposed amendment to an operating license for a facility involves no significant hazards consideration if operation of the facility in accordance with the proposed amendment would not (1) involve a significant increase in the probability or consequences of an accident previously evaluated; (2) creato the possibility of a new or different kind of accident from any accident previously evaluated; or (3) involve a significant reduction in a margin of safety.

After reviewing this proposed amendment we have concluded that:

1) The proposed amendment will not involve a significant increase in the probability or consequences of an accident previously evaluated

The proposed setpoint change and level switch cross connection will not affect the way the suction transfer equipment functions, introduce new failure modes, or increase the probability of failure of this equipment. The cross connection tubing will be evaluated for seismic loads equivalent to the existing instrumentation piping. Failure of the cross connection will not prevent the function of the level switches from being accomplished. No other equipment important to safety is impacted by these changes.

The change do not present the opportunity for a new release path for radioactive material.

Technical Specification and other specified margins of safety are effectively increased by the proposed changes. The HPCI/RCIC low CST level suction transfer level is being adjusted upward in the conservative direction. The proposed cross connection of the level switches associated with this transfer will preserve the redundancy built into the logic during extended CST outages.

These changes have no impact on the protection of the health and safety of the public.

2) The proposed amendment will not create the possibility of a new or different kind of accident from any accident previously analyzed

No system, structure, or component (SSC) described in the USAR as important to safety is affected by these changes except for the low level CST HPCI/RCIC suction transfer function. Failure of the cross connection will not prevent the function of the level switches from being accomplished. Postulated malfunctions related to the proposed changes to the low level switches are bounded by the failure of the HPCI system, which has been previously evaluated in the USAR. The RCIC system is not relied upon to mitigate any USAR design basis accident.

No new types of credible events could be identified which could be created by the proposed setpoint change and level switch cross connection. No new failure modes are associated with the proposed changes

3) The proposed amendment will not involve a significant reduction in the margin of safety

No margin of safety is reduced. Technical Specification and other specified margins of safety are effectively increased by the proposed activities. The HPCI/RCIC low CST level suction transfer setpoint is being adjusted upward in the conservative direction. Cross connecting the level switches associated with this transfer will preserve the redundancy built into the logic during extended outages of one CST.

ENVIRONMENTAL ASSESSMENT:

Northern States Power Company has evaluated the proposed change and determined that:

1. The changes do not involve a significant hazards consideration,

2. The changes do not involve a significant change in the types or significant increase in the amounts of any effluents that may be released offsite, or

3. The changes do not involve a significant increase in individual or cumulative occupational radiation exposure.

Accordingly, the proposed changes meet the eligibility criterion for categorical exclusion set forth in 10 CFR Section 51.22(c)(9). Therefore pursuant to 10 CFR Section 51.22(b), an environmental assessment of the proposed changes is not required.