

Regulatory

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NORTHERN STATES POWER COMPANY

MINNEAPOLIS, MINNESOTA 55401

July 24, 1972

Mr. A Giambusso  
Deputy Director for Reactor Projects  
Directorate of Licensing  
United States Atomic Energy Commission  
Washington, D C 20545



Dear Mr. Giambusso:

MONTICELLO NUCLEAR GENERATING PLANT  
DOCKET NO. 50-263 LICENSE NO. DPR-22

CHANGE REQUEST NO. 4

Attached are three signed originals and nineteen conformed copies of a request for a change of Technical Specifications of Appendix A of the Monticello Nuclear Generating Plant. This change request has been reviewed and approved by the Monticello Operations Committee and Safety Audit Committee.

Yours very truly,

L O Mayer, P.E.  
Director of Nuclear Support Services

LOM/DWJ/br

cc: B H Grier

Attachments



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P PDR

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FILE

FROM: Northern States Power Company Minneapolis, Minnesota 55401 L. O. Mayer	DATE OF DOC: 7-24-72	DATE REC'D 7-28-72	LTR X	MEMO	RPT	OTHER
TO: Mr. Giambusso	ORIG 3	CC	OTHER	SENT AEC PDR ✓ SENT LOCAL PDR ✓		
CLASS: <u>U</u> PROP INFO	INPUT X	NO CYS REC'D 22	DOCKET NO: 50-263			

DESCRIPTION:

Ltr trans the following:

ENCLOSURES:

Request for Change to Tech Specs of Appendix A of the Monticello Nuclear Generating Plant, notarized 7-24-72.

**DO NOT REMOVE  
ACKNOWLEDGED**

( 22 cys rec'd )

PLANT NAMES: Monticello Nuclear Generating Plant

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UNITED STATES ATOMIC ENERGY COMMISSION

NORTHERN STATES POWER COMPANY

Monticello Nuclear Generating Plant

Docket No. 50-263

REQUEST FOR AUTHORIZATION OF  
A CHANGE IN TECHNICAL SPECIFICATIONS  
OF APPENDIX A

PROVISIONAL OPERATING LICENSE NO. DPR-22  
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(Change Request No. 4)

Northern States Power Company, a Minnesota corporation, requests authorization for changes to the Technical Specifications as shown on the attachments labeled Exhibit A and Exhibit B. Exhibit A describes the proposed changes along with reasons for change. Exhibit B is a copy of the Technical Specifications marked up to indicate the proposed changes.

This request contains no restricted or other defense information.

NORTHERN STATES POWER COMPANY

By

*Arthur V. Dienhart*

Arthur V. Dienhart

Vice President-Engineering

On this 24 day of July, 1972, before me a notary public in and for said County, personally appeared Arthur V. Dienhart, Vice President - Engineering, and being first duly sworn acknowledged that he is authorized to execute this document in behalf of Northern States Power Company, that he has read it and knows the contents thereof, 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.

*John J. Smith*  
John J. Smith

Notary Public, Hennepin County, Minnesota

JOHN J. SMITH

Notary Public, Hennepin County, Minnesota  
My Commission Expires March 2, 1973

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EXHIBIT A

MONTICELLO NUCLEAR GENERATING PLANT  
DOCKET NO. 50-263

PROPOSED CHANGES TO TECHNICAL SPECIFICATIONS  
APPENDIX A OF PROVISIONAL OPERATING  
LICENSE NO. DPR-22

Pursuant to 10 CFR 50.59, the holders of the above mentioned license hereby propose changing Section 3.5.C, Residual Heat Removal (RHR) Service Water System of Appendix A, Technical Specifications of Provisional Operating License DPR-22 as follows:

On Page 102, Section 3.5.C.4, " .... against a head of 550 feet", should be changed to read, " .... against a system head of at least 500 feet."

Reason for change:

The wording of the present Technical Specification is more restrictive than originally intended. It has been established through periodic surveillance tests and additional testing pursuant to the RHR service water pump low head condition reported in our letter of July 3, 1972 that the operating margin available to meet the current RHR service water pump head requirement is not adequate. This condition arises basically from the pump performance characteristic which, as demonstrated on our system, does not conform with the manufacturer's certified head-capacity characteristic, and the allowance of inadequate operating margin in the original selection of the Technical Specification limit.

Basis for change:

The safety design basis of the RHR service water pump head requirement was reported to you in our July 3, 1972 letter. As we have reported, the current Technical Specification requirement is based in part upon the manufacturer's rating (3500 gpm at 626 feet). The maximum demand on the RHR service water pump would be approximately 480 feet. The individual contributions to this value are summarized as follows:

315 feet	Shell side pressure; measured at heat exchanger inlet, 1 RHR pump @ 4000 gpm
62 feet	Flow losses on RHR service water system; difference in measured values discharge pressure and pressure at heat exchanger outlet (tube side) @ 7000 gpm
57 feet	Primary containment pressure following a LOCA
<u>46 feet</u>	Required differential pressure - tube to shell
480 feet	TOTAL

This situation occurs when only one of the two redundant RHR pumps is operating (minimizing losses on the shell side), delivering 4000 gpm, and both RHR service water pumps are operating (maximizing flow losses on the tube side). When the RHR service water is brought into service following a loss of coolant accident, a ten minute period is allotted in the design analysis to account for operator response time in limiting the containment transient by shifting to the RHR containment cooling mode. The containment pressure at this point is approximately 22 psig. We have, in this case, conservatively taken the containment pressure at 25 psig, thereby covering any situation where the operator might respond in less than 10 minutes.

The containment cooling mode of the RHR system serves to limit the long term containment pressure and temperature transient. Since torus water is being recirculated in this mode, the service water pressure is kept higher than the primary side pressure to preclude leakage to the open cycle service water system. A minimum differential pressure of 20 psid is required. The proposed change to the Technical Specification would provide a minimum pump discharge pressure of 500 feet (216 psi) measured in accordance with the definitions of the ASME Pump Test Code. This would result in a pressure on the RHR service water side of the heat exchangers more than 20 psi greater than the RHR primary side, thus forcing water into the torus in the unlikely event of a heat exchanger tube leak. The 500 foot limit (i.e. 480 feet plus 20 feet margin) would be sufficient to assure adequate head to meet all system design bases and contingencies and, at the same time, leave sufficient margin to assure the operating and testing flexibility important to plant safety.

This amendment to the Technical Specification is proposed on the basis of our experience with the RHR service water system and our complete satisfaction that a reduction in the limit is both tolerable and desirable. In our opinion, this proposed change lessens neither the plant's safety nor reliability from a design or operational standpoint. Specifically, there is no increase in the probability of, no increases in the possible consequences of, or no creation of a credible probability of an accident or equipment malfunction different from those previously evaluated in the FSAR. The proposed change has been reviewed and approved by the Monticello Operations Committee and Safety Audit Committee.



EXHIBIT B

3.0 LIMITING CONDITIONS FOR OPERATION

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. 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 ~~550 feet~~, a system head of at least 500 feet.
5. If the requirements of 3.5.C.1-3 cannot be met, either the requirements of 3.5.H shall be complied with or 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.

3.5/4.5-7

4.0 SURVEILLANCE REQUIREMENTS

remaining subsystem shall be demonstrated to be operable immediately and daily thereafter.

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