October 16, 1987

Docket No. 50-263

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Mr. D. M. Musolf, Manager
Nuclear Support Services
Northern States Power Company
414 Nicollet Mall
Minneapolis, Minnesota 55401

Dear Mr. Musolf:

The Commission has issued the enclosed Amendment No. 51 to Facility Operating License No. DPR-22 for the Monticello Nuclear Generating Plan. This amendment is in response to your application dated October 3, 1986.

The amendment revises the wording of Technical Specifications to reflect the existence of a third source of offsite power for supplying auxiliary electrical power.

A copy of our related Safety Evaluation is also enclosed. The notice of issuance will be included in the Commission's next regular bi-weekly Federal Register notice.

Sincerely,

Dominic C. DiIanni, Project Manager
Project Directorate III-3
Division of Reactor Projects

Enclosures:
1. Amendment No. 51 to License No. DPR-22
2. Safety Evaluation

cc w/enclosures:
See next page

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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. 51
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 October 3, 1986 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. 51, 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

David L. Wigginton, Acting Director
Project Directorate III-3
Division of Reactor Projects

Attachment:
Changes to the Technical
Specifications

Date of Issuance: October 16, 1987

ATTACHMENT TO LICENSE AMENDMENT NO. 51

FACILITY OPERATING LICENSE NO. DPR-22

DOCKET NO. 50-263

Revise Appendix A Technical Specifications by removing the pages identified below and inserting the enclosed pages. The revised pages are identified by amendment number and contain marginal lines indicating the area of change.

REMOVE	INSERT
199	199
200	200
201	201
204	204

3.0 LIMITING CONDITIONS FOR OPERATION	4.0 SURVEILLANCE REQUIREMENTS

3.9 AUXILIARY ELECTRICAL SYSTEMS

Applicability:

Applies to the auxiliary electrical power system.

Objective:

To assure an adequate supply of electrical power during plant operation.

Specification:

A. The reactor shall not be made critical unless all the following requirements are satisfied:

   1. At least two (2) NSP transmission lines, associated switchgear, and at least two offsite power sources are fully operational and energized to carry power to the plant 4160V AC buses as follows:

      a. 2R and 1R transformers, or

      b. 1R and 1 AR transformers, or

      c. 2R and 1AR transformers (source from 10 transformer)

Amendment No. 51

4.9 AUXILIARY ELECTRICAL SYSTEMS

Applicability:

Applies to the periodic testing requirements of the auxiliary electrical system.

Objective:

Verify the operability of the auxiliary electrical system.

Specification:

A. Surveillance testing shall be performed as follows:

   1. Substation Switchyard Battery

      a. Every week the specific gravity and voltage of the pilot cell and temperature of adjacent cells and overall battery voltage shall be measured.

      b. Every three months the measurements shall be made of voltage of each cell to nearest 0.01 volt, specific gravity of each cell, and temperature of every fifth cell.

3.0 LIMITING CONDITION FOR OPERATION	4.0 SURVEILLANCE REQUIREMENTS

2. Both diesel generators are operable and capable of feeding their designated 4160 volt buses.

3. (a) 4160V Buses #15 and #16 are energized.
   (b) 480V Load Centers #103 and #104 are energized.

4. All station 24/48, 125, and 250 volt batteries are charged and in service, and associated battery chargers are operable.

B. When the mode switch is in Run, the availability of electric power shall be as specified in 3.9.A, except as specified in 3.9.B.1, 3.9.B.2, 3.9.B.3 and 3.9.B.4 or the reactor shall be placed in the cold shutdown condition within 24 hours.

1. Transmission Lines

From and after the date that incoming power is available from only one line, reactor operation is permissible only during the succeeding seven days unless an additional line is sooner placed in

Amendment No. 51

service providing both the emergency diesel generators are operable.

2. Reserve Transformers

If offsite power sources are made or found to be inoperable for any reason such that Specification 3.9.A.1 is not met, reactor operation is permissible only during the succeeding 72 hours unless such offsite sources are sooner made operable, provided that either 1R or 2R Transformer is operable.

3. Standby Diesel Generators

a. From and after the date that one of the diesel generators is made or found to be inoperable for any reason, reactor operation is permissible only during the succeeding seven days unless such diesel generator is sooner made operable, provided that during such seven days the operable diesel generator shall be demonstrated to be operable immediately and daily thereafter.

b. If both diesel generators become inoperable during power operation, the reactor shall be placed in the cold shutdown condition.

B. 3. Standby Diesel Generators

a. Each diesel generator shall be manually started and loaded once every month to demonstrate operational readiness. The test shall continue until both the diesel engine and the generator are at equilibrium conditions of temperature while full load output is maintained.

b. During the monthly generator test, the diesel starting air compressor shall be checked for operation and their ability to recharge air receivers.

Amendment No. 25, 51

Bases 3.9:

The general objective is to assure an adequate supply of power with at least one active and one standby source of power available for operation of equipment required for a safe plant shutdown, to maintain the plant in a safe shutdown condition, and to operate the required engineered safeguards equipment following an accident.

AC for shutdown requirements and operation of engineered safeguards equipment can be provided by either of the two standby sources of power (the diesel generators) or any of the three active sources of power (No. 1R, No. 2R, or No. 1AR transformers). Refer to Section 8 of the USAR.

To provide for maintenance and repair of equipment and still have redundancy of power sources, the requirement of one active and one standby source of power was established. The plant's main generator is not given credit as a source since it is not available during shutdown.

The plant 250 V dc power is supplied by two batteries. Most station 250 V loads are supplied by the original station 250 V battery. A new 250 V battery has been installed for HPCI loads and may be used for other station loads in the future. Each battery is maintained fully charged by two associated chargers which also supply the normal dc requirements with the batteries as a standby source during emergency conditions. The plant 125 V dc power is normally supplied by two batteries, each with an associated charger. Backup chargers are available.

The minimum diesel fuel supply of 26,250 gallons will supply one diesel generator for a minimum of seven days of full load operation. Additional diesel fuel can normally be obtained within a few hours. Maintaining at least seven days supply is therefore conservative.

In the normal made of operation, power is available from the off-site sources. One diesel may be allowed out of service based on the availability of off-site power and the daily testing of the remaining diesel generator. Thus, though one diesel generator is temporarily out of service, the off-site sources are available, as well as the remaining diesel generator. Based on a monthly testing period (Specification 4.9), the seven day repair period is justified. (1)

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(1) "Reliability of Engineered Safety Features as a Function of Testing Frequency", I.M. Jacobs, Nuclear Safety, Volume 9, No. 4, July - August 1968.

Amendment No. 47, 51

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 51 TO FACILITY OPERATING LICENSE NO. DPR-22

NORTHERN STATES POWER COMPANY
MONTICELLO NUCLEAR GENERATING PLANT
DOCKET NO. 50-263

1.0 INTRODUCTION

By letter dated October 3, 1986 as revised December 8, 1986, Northern States Power Company (NSP) requested a change to the Technical Specifications for Monticello Nuclear Generating Plant. The change reflects a modification which replaced the Station Auxiliary Transformer No. 11 (unit auxiliary transformer energized by the main generator) by transformer No. 2R (start-up transformer energized by the 345kV offsite source of power). The new transformer was installed during the 1986 refueling and maintenance outage.

The amendment changes the Technical Specifications in Section 3.9.A.1 to reflect the inclusion of the new transformer as an additional immediate source of offsite power. The change in Section 3.9.B.2 imposes a 72-hour LCO when the condition in Section 3.9.A.1 is not met. The changes also include some minor rewording of nomenclature in the bases of Section 3.9.

2.0 DISCUSSION AND EVALUATION

The original design included one start-up transformer (1R) energized by the 345kV offsite power, a unit auxiliary transformer (11) energized by the main generator, and a back-up shutdown transformer (1AR) capable of providing preferred power to safety buses only. Transformer 11 provided all station loads when the plant was in operation while the transformer 1R supplied all station loads during start up and shutdown loads after unit trip as the first and immediate source of offsite power. If transfer of loads from transformer 11 to 1R failed or the 1R transformer was not available, the safety loads would automatically transfer to the 1AR transformer. The original design had two sources of offsite power for safety-related loads. The normal source of power to station buses was transformer 11 which was only available while the plant was in operation. Also the immediate source of offsite power was dependent on the successful operation of fast transfer scheme. The modification eliminates the main generator dependent transformer 11 and also eliminates dependence on successful transfer of shutdown loads. The new design has all three transformers (1R, 2R and 1AR) energized by the offsite source of power, thus providing an additional (total of three sources) source of offsite power. The new transformer is also equipped with an automatic load tap changer and has lower impedance than the transformer it replaced. These features will provide better voltage regulation on the plant power distribution system. The licensee has informed the staff that the existing switchgear has enough margin to accommodate higher available fault current due to the lower impedance of the new transformer.

In the original design, the transfer of station loads including the safety loads was from transformer 11 to transformer 1R and 1R to 1AR of only the safety loads. The licensee provided the logic scheme on July 11, 1987, which is essentially the same as the original except for the nomenclature change. Since the new design does not have any effect on safety and does not adversely affect the staff's previous decision regarding the acceptability of the offsite power sources, the staff finds the new design acceptable.

The Technical Specification changes proposed by the licensee include two major changes concerning limiting condition of operation requirements (TS section 3.9):

The first change involves one of the requirements for critical reactor operation. Previously, both 1R and 1AR were required to be fully operational and energized to carry power to the plant 4160v ac buses. However, with the new revised Technical Specification, any two of the three offsite power sources (1R, 2R and 1AR) can carry power to the plant 4160v ac buses. This change meets the NRC requirement of two separate and independent power sources, prior to critical reactor operation, and is acceptable.

The second change involves the condition during reactor operation when two out of the three offsite power sources are not available. The proposed technical specification requires that, during this condition, continuous plant operation is permissible for 72 hours provided that either the 1R or 2R transformer is operable. Since the proposed change is more conservative with respect to the reliability of sources available during continuous power operation compared to the present Technical Specification where no time limit is specified, this change is acceptable.

The proposed amendment includes an additional source of offsite power to the plant electric distribution system which improves the reliability of the preferred power source to the class 1E electric equipment. Also, due to a better voltage regulation on the safety buses, the probability of degraded voltage on class 1E electric equipment is reduced.

4.0 ENVIRONMENTAL CONSIDERATION

This amendment involves a change to a requirement with respect to the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. The staff has determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that this amendment involves no significant hazards consideration and there has been no public comment on such finding. Accordingly, this amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b) no environmental impact statement or environmental assessment need be prepared in connection with the issuance of this amendment.

5.0 CONCLUSION

The staff has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner; and (2) 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.

Principal Contributor: IQBAL AHMED

Dated: October 16, 1987