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Docket No. 50-263

JUL 13 1976

Northern States Power Company  
 ATTN: Mr. L. O. Mayer, Manager  
 Nuclear Support Services  
 414 Nicollet Mall - 8th Floor  
 Minneapolis, Minnesota 55401

Gentlemen:

License Amendment No. 15 to DPR-22 issued January 22, 1976, in response to your request dated December 16, 1974, contains various errors which you have brought to our attention. License Amendment No. 19, issued May 27, 1976, erroneously omitted specifying a Limiting Safety System setting for main steamline low pressure isolation. The enclosed Amendment No. 22 to Provisional Operating License No. DPR-22 for the Monticello Nuclear Generating Plant corrects those errors and omissions and applies the latest applicable guidance for reporting of environmental matters. These changes have been discussed with and agreed to by your staff.

Copies of the related Safety Evaluation and the Notice of Issuance are also enclosed.

Sincerely,

Original signed by  
 Dennis L. Ziemann

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

Enclosures:

1. Amendment No. 22 to License No. DPR-22
2. Safety Evaluation
3. Notice of Issuance

cc w/enclosures:  
 See next page

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DATE >	7/9/76	7/9/76	7/12/76	7/13/76		

JUL 13 1976

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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. *22*  
License No. DPR-22

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The applications for amendment by Northern States Power Company (the licensee) dated December 16, 1974, and December 1, 1975, as modified by the NRC staff and the licensee, comply 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.

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3. This license amendment is effective as of its date of issuance. Because the change relating to reporting requirements incorporates the latest regulatory guidance which requires an annual rather than semi-annual Radiological Environmental Monitoring Report, Northern States Power Company is not required to submit a semi-annual report for Monticello for the period January - June 1976. Also, the Monticello Semi-Annual Radioactive Effluents Report to be submitted covering the period January - June 1976 need not comply with the specific sampling and reporting recommendations of Regulatory Guide 1.21, Revision 1. This sampling and reporting format will be effective for the Monticello Semi-Annual Radioactive Effluents Report covering the period July - December 1976.

FOR THE NUCLEAR REGULATORY COMMISSION

Original signed by  
Dennis L. Ziemann

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

Attachment:  
Changes to the  
Technical Specifications

Date of Issuance: JUL 13 1976

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ATTACHMENT TO LICENSE AMENDMENT NO.

PROVISIONAL OPERATING LICENSE NO. DPR-22

DOCKET NO. 50-263

Replace existing pages 9, 22, 22a, 120, 136, 167 and 217 of the Technical Specifications with the attached revised pages bearing the same numbers. Delete pages 218, 219 and 220. Changed areas on these pages are denoted by marginal lines.

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2.0 SAFETY LIMITS

LIMITING SAFETY SYSTEM SETTINGS

H. Main Steamline Pressure initiation of main  
steamline isolation valve closure shall be  
> 825 psig.

2.1/2.3-4

Bases Continued:

meeting their criterion. To raise the ECCS initiation setpoint would be in a safe direction, but it would reduce the margin established to prevent actuation of the ECCS during normal operation or during normally expected transients.

The operator will set the low low water level ECCS initiation trip setting  $\geq 6'6'' \leq 6'10''$  above the top of the active fuel. However, the actual setpoint can be as much as 3 inches lower than the 6'6'' setpoint and 3 inches greater than the 6'10'' setpoint due to the deviations discussed on page 18.

- E. Turbine Control Valve Fast Closure Scram The turbine control valve fast closure scram is provided to anticipate the rapid increase in pressure and neutron flux resulting from fast closure of the turbine control valves due to a load rejection and subsequent failure of the bypass. This transient is less severe than the turbine stop valve closure with bypass failure and therefore adequate margin exists.
- F. Turbine Stop Valve Scram The turbine stop valve closure scram trip anticipates the pressure, neutron flux and heat flux increase that could result from rapid closure of the turbine stop valves. With a scram trip setting of  $\leq 10\%$  of valve closure from full open, the resultant increase in surface heat flux is limited such that MCPR remains above the Safety Limit (T.S.2.1.A) even during the worst case transient that assumes the turbine bypass is closed.
- G. Main Steam Line Isolation Valve Closure Scram The main steam line isolation valve closure scram anticipates the pressure and flux transients which occur during normal or inadvertent isolation closure. With the scram set at 10% valve closure there is no increase in neutron flux.
- H. Main Steam Line Low Pressure Initiates Main Steam Isolation Valve Closure The low pressure isolation of the main steam lines at 825 psig was provided to give protection against rapid reactor depressurization and the resulting rapid cooldown of the vessel. Advantage was taken of the scram feature which occurs when the main steam line isolation valves are closed to provide for reactor shutdown so that high power operation at low reactor pressure does not occur, thus providing protection for the fuel cladding integrity safety limit. Operation at steamline pressures lower than 825 psig requires

### Bases Continued:

that the reactor mode switch be in the startup position where protection of the fuel cladding integrity safety limit is provided by the IRM high neutron flux scram. Thus, the combination of main steam line low pressure isolation and isolation valve closure scram assures the availability of the neutron scram protection over the entire range of applicability of the fuel cladding integrity safety limit.

The operator will set this pressure trip at greater than or equal to 825 psig. However, the actual trip setting can be as much as 10 psi lower due to the deviations discussed on page 18.

### References

1. Linford, R. B., "Analytical Methods of Plant Transient Evaluations for the General Electric Boiling Water Reactor," NEDO-10802, Feb., 1973.

### 3.0 LIMITING CONDITIONS FOR OPERATION

#### F. Structural Integrity

The structural integrity of the primary system boundary shall be maintained at the level required by the original acceptance standards throughout the life of the plant.

#### G. Jet Pumps

Whenever the reactor is in the Startup or Run modes, all jet pumps shall be operable. If it is determined that a jet pump is inoperable, the plant shall be placed in a cold shutdown condition within 24 hours.

3.6/4.6

### 4.0 SURVEILLANCE REQUIREMENTS

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#### F. Structural Integrity

The nondestructive inspections listed in Table 4.6.1 shall be performed as specified.

#### G. Jet Pumps

Whenever there is recirculation flow with the reactor in the Startup or Run modes, jet pump operability shall be checked daily by verifying that all the following conditions do not occur simultaneously:

1. The two recirculation loop flows are unbalanced by 15% or more when the recirculation pumps are operating at the same speed.
2. The indicated value of core flow rate is 10% or more less than the value derived from loop flow measurements.

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AMENDMENT No. 22

Bases Continued 3.6 and 4.6:

Design confirmation and construction adequacy will be demonstrated during the plant startup and power ascension test program. As part of this program, cold and hot vibration tests on certain reactor vessel internals will be performed. The tests, described in a letter to Dr. P. A. Morris, dated March 5, 1970, are designed to obtain confirmatory data on the design features of Monticello as compared to Dresden Unit 2 design. Thus, the basis for the Monticello vibration test program is predicated on obtaining satisfactory data which confirms common design features from earlier BWR plants such as Dresden Unit 2. In the event that data from these earlier plants are not available before routine power operation of Monticello, the matter will be reviewed by the NRC.

The special inspection of the main feed and steam lines is to provide added protection against pipe whip. The Group I welds are selected on the basis of an analysis that shows these welds are the highest stress welds and that due to their physical location, a break would result in the least interference and maximum energy upon impact with the drywell. These welds are the only ones which offer any significant risk and will be included in future inspections as determined by the study described above.

Group II welds are selected because without regard for the operating stress levels and interfering equipment, they have sufficient theoretical energy to penetrate and would propel the pipe toward the containment. They are therefore included in the first inspection. Upon consideration of impact angle, interfering equipment and distance pipe travels, no substantial risk is involved and no extra inspection is needed.

In addition, extensive visual inspection for leaks will be made periodically on critical systems. The inspection program specified encompasses the major areas of the vessel and piping systems within the drywell. The inspection period is based on the observed rate of growth of defects from fatigue studies sponsored by the NRC. These studies show that it requires thousands of stress cycles at

Bases Continued:

4.7 The containment is penetrated by a large number of small diameter instrument lines. A program for the periodic testing (see Specification 4.7.D) and examination of the valves in these lines has been developed and a report covering this program was submitted to the AEC on July 27, 1973.

The main steam line isolation valves are functionally tested on a more frequent interval to establish a high degree of reliability.

C. Unique Reporting Requirements

1. Environmental Reports

The following reports relating to environmental activities shall be submitted to the Director of the Regulatory Operations Regional Office and are included in this Appendix A Technical Specification section until an Appendix B Technical Specification has been issued for the Monticello Nuclear Generating Plant:

- a. A Semiannual Radioactive Effluents Report shall be submitted within 60 days after January 1 and July 1 of each year. The report will meet the intent of Regulatory Guide 1.21, Revision 1, and will include a summary of the quantities of radioactive liquid and gaseous effluents and solid wastes released from the plant during the previous six months of operation.
- b. An Annual Radiological Environmental Monitoring Report shall be submitted by April 1 of the subsequent year. The report will include summaries, interpretations, and statistical evaluation of the results of the radiological environmental surveillance activities for the report period and an assessment of the observed impacts of the plant operation on the environment. In the event that some results are not available within the 90 day period, the report will be submitted noting and explaining the reasons for the missing results which will be submitted as soon as possible in a supplementary report.
- c. An Annual Environmental Monitoring and Ecological Studies Program Report shall be submitted by August 1 of the subsequent year. The report will include summaries, interpretations, and statistical evaluation of the results of the non-radiological environmental surveillance activities.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NO. 22 TO PROVISIONAL OPERATING LICENSE NO. DPR-22

NORTHERN STATES POWER COMPANY

MONTICELLO NUCLEAR GENERATING PLANT

DOCKET NO. 50-263

INTRODUCTION

By letter dated December 16, 1974, the Northern States Power Company (NSP) requested an amendment to Provisional Operating License No. DPR-22 for the Monticello Nuclear Generating Plant. The request involved revisions to the Technical Specifications with regard to reporting requirements contained in Regulatory Guide 1.16. License Amendment No. 15, issued January 22, 1976, in response to this request, did not include all the appropriate corrections, particularly the elimination of outdated requirements, the elimination of reporting requirements which had previously been satisfied, and the modification of environmental reporting requirements to reflect the latest guidance.

By letter dated December 1, 1975, NSP also requested an amendment to DPR-22 to reduce the main steamline low pressure setpoint and to reduce the Operating Minimum Critical Power Ratio (MCPR) limits. Amendment No. 19 of May 27, 1976 failed to add the corrected Main Steamline Low Pressure Isolation setpoint limit to the Technical Specification governing Limiting Safety System Settings, although the change was made elsewhere. In addition, the present Technical Specification wording of "Reactor Coolant Pressure ..." in Specification 2.3.H is incorrect and has been changed to "Main Steamline Pressure ..."

DISCUSSION AND EVALUATION

The proposed changes would be administrative in nature and would affect the conduct of operation. The proposed changes are intended to provide uniform license requirements. Areas covered by the proposed uniform specifications include reporting requirements. Recent changes in Regulations, such as the change to 10 CFR 50.55.a(g), "Inservice Inspection Requirements," have altered the necessity for certain reporting requirements. The change would delete reports required by the present Technical Specifications which are no longer required. The standardization of required reports and

desired format for the information will permit more rapid recognition of potential problems. Similar changes are being approved for all power reactor licensees, so all licensees will have the same requirements presented in a uniform manner.

During our review of the changes, we found that certain modifications were necessary to have conformance with the desired regulatory position. These changes were discussed with representatives of NSP and have been incorporated into the specifications.

The reports of Technical Specification 6.7.C.2, "Other Reports," have been deleted. In all cases but one, the required report has been submitted by the licensee. In the case of the "Inservice Inspection Evaluation and Development Report," the NRC staff agrees with the licensee's assessment that the recent issuance of changes to 10 CFR 50.55.a(g), "Inservice Inspection Requirements," obviate the need for such a report.

We have concluded that the proposal as modified improves the licensee's program for evaluating plant performance and the reporting of the operating information needed by the Commission to assess safety related activities and is acceptable. The modified reporting program is consistent with the guidance provided by Regulatory Guide 1.16, "Reporting of Operating Information - Appendix A Technical Specifications," Revision 4.

The changes to the Technical Specifications concerning the Limiting Safety System Setting for the Main Steamline Low Pressure Isolation correct the setpoint to the valves approved by Amendment No. 19 and also change the wording of the specification to indicate the correct source of the isolation signal. These changes are administrative in nature and are deemed to be acceptable.

#### ENVIRONMENTAL CONSIDERATION

We 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 the amendment.

CONCLUSION

We have concluded, based on the considerations discussed above, that: (1) because the changes do not involve a significant increase in the probability or consequences of accidents previously considered and do not involve a significant decrease in a safety margin, the changes do not involve a significant hazards consideration, (2) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (3) such activities will be conducted in compliance with the Commission's regulations and the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

Date: JUL 13 1976

UNITED STATES NUCLEAR REGULATORY COMMISSION

DOCKET NO. 50-263

NORTHERN STATES POWER COMPANY

NOTICE OF ISSUANCE OF AMENDMENT TO FACILITY  
OPERATING LICENSE

The U. S. Nuclear Regulatory Commission (the Commission) has issued Amendment No. 22 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. This amendment is effective as of its date of issuance.

The amendment made corrections to the reporting requirements. Such corrections were not included in the earlier issuance of Amendment No. 15 to the license on January 22, 1976, which dealt with the same subject. A correction in Amendment No. 19 of May 27, 1976, relating to reduction of the Main Steamline Low Pressure Isolation Setpoint also has been made.

The applications for the amendment comply with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations. 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. Prior public notice of this amendment was not required since the amendment does not involve a significant hazards consideration.

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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 applications for amendment dated December 16, 1974 and December 1, 1975, (2) Amendment No. 15 to License No. DPR-22, (3) Amendment No. 22 to License No. DPR-22, (4) Amendment No. 19 to License No. DPR-22, and (5) the Commission's related Safety Evaluation. 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 Mall, Minneapolis, Minnesota 55401. A copy of items (2), (3), (4) and (5) 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 *13th day of July, 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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