

JUN 2 1982

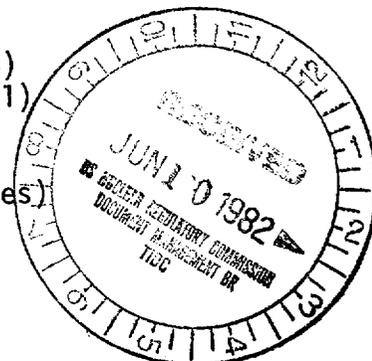
Docket No. 50-305

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Mr. Eugene R. Mathews, Vice President
Power Supply and Engineering
Wisconsin Public Service Corporation
Post Office Box 1200
Green Bay, Wisconsin 54305



Dear Mr. Mathews:

The Commission has issued the enclosed Amendment No. 45 to Facility Operating License No. DPR-43 for Kewaunee Nuclear Power Plant. The amendment consists of changes to the Technical Specifications in response to your applications transmitted by letters dated February 20, 1981 and August 7, 1981.

The amendment revises the Technical Specifications in respect to "Adjustment to the Nuclear Flux Trip Set Point," "Pressurizer Heaters," and "Auxiliary Feedwater Pumps."

Your application also submitted a request to update the Bases for Safety Injection in the Technical Specifications. However, this change had already been effected under Amendment No. 33 dated April 8, 1981 in response to your application dated April 16, 1979.

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

Sincerely,

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Marshall Grotenhuis, Project Manager
Operating Reactors Branch No. 1
Division of Licensing

Enclosures:

- 1. Amendment No. 45 to DPR-43
- 2. Safety Evaluation
- 3. Notice of Issuance

cc w/enclosures:
See next page

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DATE	5/19/82	5/7/82	6/1/82	5/2/82	5/2/82	5/18/82	5/20/82

over 6/1/82

Form of notice + amend only

Mr. Eugene R. Mathews
Wisconsin Public Service Corporation

cc: Steven E. Keane, Esquire
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Milwaukee, Wisconsin 53202

Kewaunee Public Library
822 Juneau Street
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Stanley LaCrosse, Chairman
Town of Carlton
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Kewaunee, Wisconsin 54216

Mr. Donald L. Quistroff, Chairman
Kewaunee County Board
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Kewaunee, Wisconsin 54216

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Resident Inspectors Office
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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

WISCONSIN PUBLIC SERVICE CORPORATION
WISCONSIN POWER AND LIGHT COMPANY
MADISON GAS AND ELECTRIC COMPANY

DOCKET NO. 50-305

KEWAUNEE NUCLEAR PLANT

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 45
License No. DPR-43

1. The Nuclear Regulatory Commission (the Commission) has found that:
- A. The applications for amendment by Wisconsin Public Service Corporation, Wisconsin Power and Light Company and Madison Gas and Electric Company (the licensee) dated February 20, 1981 and August 7, 1981, complies with 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 applications, 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-43 is hereby amended to read as follows:

- (2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 45, 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

for Joseph D. Neighbors
Steven A. Varga, Chief
Operating Reactors Branch No. 1
Division of Licensing

Attachment:
Changes to the Technical
Specifications

Date of Issuance: JUN 2 1982

ATTACHMENT TO LICENSE AMENDMENT

AMENDMENT NO. 45 TO FACILITY OPERATING LICENSE NO. DPR-43

DOCKET NO. 50-305

Revise Appendix A as follows:

Remove Pages

TS 2.3-1
TS 3.1-2a
TS 3.1-2(c)
TS 3.4-1

Table TS 4.1-3 (Page 2 of 2)

Insert Pages

TS 2.3-1
TS 3.1-2a
TS 3.1-2(c)
TS 3.4-1
TS 3.4-1a

Table TS 4.1-3 (Page 2 of 2)

2.3. LIMITING SAFETY SYSTEM SETTINGS, PROTECTIVE INSTRUMENTATION

Applicability

Applies to trip settings for instruments monitoring reactor power and reactor coolant pressure, temperature, flow, pressurizer level, and permissives related to reactor protection.

Objective

To prevent the principal process variables from exceeding a safety limit.

Specification

a. Reactor trip settings shall be as follows:

1. Nuclear Flux

- A. Source Range (high set point) - within span of source range instrumentation
- B. Intermediate range (high set point) $\leq 40\%$ of rated power
- C. Power range (low set point) $\leq 25\%$ of rated power
- D. Power range (high set point) $\leq 109\%$ of rated power
- E. Power range fast flux rate trip (positive) $15\% \Delta q / 5 \text{ sec}$
- F. Power range fast flux rate trip (negative) $10\% \Delta q / 5 \text{ sec}$

2. Pressurizer

- A. High pressurizer pressure $\leq 2385 \text{ psig}$
- B. Low pressurizer pressure $\geq 1875 \text{ psig}$
- C. High pressurizer water level $\leq 90\%$ of full scale

3. Reactor Coolant Temperature

- A. Overtemperature $\Delta T \leq \Delta T_o [K_1 - K_2(T-T') \left[\frac{1 + \tau_1 s}{1 + \tau_2 s} \right] + K_3 (P-P') - f(\Delta I)]$

where

ΔT_o = Indicated ΔT at rated power, $^{\circ}\text{F}$

T = Average temperature, $^{\circ}\text{F}$

T' = $567.3 \text{ }^{\circ}\text{F}$

P = Pressurizer pressure, psig

P' = 2235 psig

K_1 = 1.11

K_2 = 0.0090

K_3 = 0.000566

5. Pressurizer Power Operated Relief Valves (PORV) and PORV Block Valves.

a. Two PORV's and their associated block valves shall be operable during hot standby and operating modes.

1. If a pressurizer PORV is inoperable, the PORV shall be restored to an operable condition within one hour or the associated block valve shall be closed and maintained closed by administrative procedures to prevent inadvertent opening.
2. If a PORV block valve is inoperable, the block valve shall be restored to an operable condition within one hour or the block valve shall be closed with power removed from the valve; otherwise the unit shall be placed in the hot shutdown condition using normal operating procedures.

6. Pressurizer Heaters

A. At least one group of pressurizer heaters shall have an emergency power supply available when the average RCS temperature is greater than 350°F.

The pressurizer power operated relief valves (PORV's) operate as part of the pressurizer pressure control system. They are intended to relieve RCS pressure below the setting of the code safety valves. These relief valves have remotely operated block valves to provide a positive shutoff capability should a relief valve become inoperable.

Pressurizer heaters are vital elements in the operation of the pressurizer which is necessary to maintain system pressure. Loss of energy to the heaters would result in the inability to maintain system pressure via heat addition to the pressurizer. This could result in an uncontrolled depressurization due to heat loss to ambient. Hot functional tests (3) have indicated that one group of heaters is required to overcome ambient heat losses. Placing heaters necessary to overcome ambient heat losses on emergency power will assure the ability to maintain pressurizer pressure. Annual surveillance tests are performed to ensure heater operability.

References:

- (1) FSAR Section 7.2.2
- (2) Order for Modification of License dated 4/20/81.
- (3) Hot functional test (PT-RC-31)

3.4 STEAM AND POWER CONVERSION SYSTEM

Applicability

Applies to the operating status of the Steam and Power Conversion System.

Objective

To assure minimum conditions of steam-relieving capacity and auxiliary feedwater supply necessary to assure the capability of removing decay heat from the reactor, and to limit the concentrations of water activity that might be released by steam relief to the atmosphere.

Specification

- a. The reactor shall not be heated above 350°F unless the following conditions are satisfied.
 1. Rated relief capacity of TEN steam system safety valves is available, except during testing.
 2. Three auxiliary feedwater pumps are operable.
 3. System piping and valves directly associated with the above components are operable.
 4. A minimum of 75,000 gallons of water is available in the condensate storage tanks and the Service Water System is capable of delivering an unlimited supply from Lake Michigan.
 5. The iodine-131 activity on the secondary side of the steam generators does not exceed 1.0 $\mu\text{Ci/cc}$.
- b. If, when the reactor is above 350°F, any of the conditions of Specification 3.4.a cannot be met within 48 hours, and except for the conditions of 3.4.c, the reactor shall be shutdown and cooled below 350°F using normal operating procedures.

c. When the reactor is above 350°F, one auxiliary feedwater pump may be inoperable provided the pump is restored to operable status within 72 hours, or the reactor shall be shutdown and cooled below 350°F using normal operating procedures.

MINIMUM FREQUENCIES FOR EQUIPMENT TESTS

<u>EQUIPMENT TEST</u>	<u>TEST</u>	<u>FREQUENCY</u>	<u>MAXIMUM TIME BETWEEN TESTS (DAYS)</u>
13. Pressurizer PORV's	Operability	Each Refueling Cycle	NA
14. Pressurize PORV Block Valves	Operability	Quarterly*****	NA
15. Pressurizer Heaters	Operability*****	Each Refueling Cycle	NA
16. Containment Purge and Vent Isolation Valves	Operability****	Each Refueling Cycle	NA

NOTES

- * See Specification 4.1.d
 - ** Tests and frequency shall be in accordance with Specifications 4.4.d and 4.12.
 - *** Following maintenance on the above equipment that could affect the operation of the equipment tests should be performed to verify operability.
 - **** This test shall demonstrate that the valve(s) close in less than or equal to 5 seconds.
 - ***** Not required when valve is administratively closed.
 - ***** Test will verify operability of heaters and availability of an emergency power supply.
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- (1) This test may be waived for end of cycle operations when boron concentrations are less than 150 ppm, due to operational limitations.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 45 TO FACILITY OPERATING LICENSE NO. DPR-43

WISCONSIN PUBLIC SERVICE CORPORATION

WISCONSIN POWER AND LIGHT COMPANY

MADISON GAS AND ELECTRIC COMPANY

KEWAUNEE NUCLEAR POWER PLANT

DOCKET NO. 50-305

INTRODUCTION

By letter dated February 20, 1981, Wisconsin Public Service Corporation, et al (the licensee) submitted their proposed amendment no. 45 to the Technical Specifications for the Kewaunee Nuclear Power Plant. The proposal requested a number of changes including the following in respect of:

1. Adjustment to Nuclear Flux Trip Set Point
2. Pressurizer Heaters
3. Initiation of Safety Injection

Also by letter dated August 7, 1981, Wisconsin Public Service Corporation et al (the licensee) submitted their proposed amendment no. 46 to the Technical Specifications for the Kewaunee Nuclear Power Plant. This proposal requested a change in respect of:

1. Auxiliary Feedwater Pumps

Each of these requested changes has been evaluated to establish its particular features, and related safety and environmental impacts, and the necessary safety conclusions have been drawn. The results are presented as separate safety evaluations for each request and are presented in the following sections in the sequence, and under the Titles of this Introduction.

- A. Adjustment to Nuclear Flux Trip Setpoint

Introduction

In the letter dated February 20, 1981, the licensee submitted a request to raise the intermediate range high neutron flux reactor trip setpoint from 25 percent to 40 percent. Kewaunee has experienced many unnecessary trips due to the trip signal not resetting before this trip is unblocked during power reductions. Plants similar to Kewaunee have set points of 40 percent.

Evaluation

The intermediate range high neutron flux reactor trip setpoint is a backup to the power range high neutron flux reactor trip (low setpoint) of 25% of rated power and is not taken credit for in the safety analysis. Since a change in the setpoint will not affect safe operation of the plant and will improve plant reliability by eliminating inadvertent trips and the resultant plant transients, we find that this change is acceptable.

Based on our review of the licensee's submittal we find the proposed change to the Technical Specifications acceptable. The appropriate revision to the Technical Specifications has been made on page TS 2.3-1.

B. Pressurizer Heaters

Introduction

By letter dated July 2, 1980, from D. G. Eisenhut (NRC) to E. R. Mathews (WPSC), the licensee was requested to submit a proposed change to the Technical Specifications requiring that sufficient pressurizer heater capacity be provided from the Engineered Safeguards Bus to enable sufficient control of primary coolant system pressure in the event of loss of off site power. By the letter dated February 20, 1981, the licensee submitted a proposed amendment in response to this request.

Evaluation

In the proposed amendment the licensee has submitted that at least one group of pressurizer heaters shall have an emergency power supply available when the average Reactor Coolant System (RCS) is greater than 350°F. The licensee further has established the adequacy of this minimum requirement by reference to Hot Functional Tests.

Based on our review of the licensee's submittal, and on the requirements of the referenced letter from the NRC, we find the proposed changes to the Technical Specifications of the Kewaunee Nuclear Power Plant acceptable. The revisions to the Technical Specifications meeting this requirements are indicated on pages TS 3.1-2(a), TS 3.1-2(c) and Table TS 4.1-3 (Page 2 of 2).

C. Initiation of Safety Injection

Introduction

By letter dated February 20, 1981, the licensee submitted a request to update the Bases for Safety Injection in the Technical Specifications.

Evaluation

The change requested has already been effected under amendment no. 33 dated 4/8/81 in response to a request dated 11/16/79.

Based on our review of this information, no further action is necessary on this request.

D. Auxiliary Feedwater Pumps

Introduction

By letter dated August 21, 1980 from S. A. Varga (NRC) to E. R. Mathews (WPSC), on the Subject: Kewaunee Nuclear Power Plant: Additional Information Requirements for Auxiliary Feedwater Systems, it was recommended to the licensee that three Auxiliary Feedwater Pumps be available whenever the Reactor Coolant System (RCS) is at a temperature greater than 350°F and that the related limiting condition of operation should provide for a 72 hour action time from the condition in the event that one AFW pump is inoperable.

Evaluation

Substantial exchanges of information have occurred between the licensee and the staff on these issues. It was concluded that the three auxiliary feedwater pumps were necessary to meet the circumstances following a "Rupture of a Steam Pipe" situation which is part of the licensing basis for the Kewaunee Nuclear Power Plant (KNPP); based on this conclusion, and by telephone conversation with the Nuclear Licensing Supervisor for the licensee, Mr. C. Schrock, of June 1, 1981, the licensee committed to submitting a proposed change to the technical specifications incorporating this requirement.

By the letter dated August 31, 1981 from E. R. Mathews (WPSC) to D. G. Eisenhut (NRC) transmitting the proposed amendment No. 46 to the KNPP, the licensee has proposed that three Auxiliary Feedwater Pumps be available whenever the RCS is at a temperature greater than 350°F and has proposed a 72 hour action time from this condition in the event that one AFW pump is inoperable.

The staff has reviewed the licensee's responses to the NRC requirements and related telephone commitments and finds them to be acceptable. The revisions to the Technical Specifications meeting these requirements are made on pages TS 3.4-1 and TS 3.4-1a.

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 impact statement or negative declaration and environmental impact appraisal need not be prepared in connection with the issuance of this amendment.

Conclusion

We have concluded, based on the considerations discussed above, that: (1) because the amendment does not involve a significant increase in the probability or consequences of accidents previously considered and does not involve a significant decrease in a safety margin, the amendment does 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 this amendment will not be inimical to the common defense and security or to the health and safety of the public.

Date: JUN 2 1982

Principal Contributors:

M. Chatterton

W. LaFave

UNITED STATES NUCLEAR REGULATORY COMMISSIONDOCKET NO. 50-305WISCONSIN PUBLIC SERVICE CORPORATIONWISCONSIN POWER AND LIGHT COMPANYMADISON GAS AND ELECTRIC COMPANYNOTICE OF ISSUANCE OF AMENDMENT TO FACILITY
OPERATING LICENSE

The U. S. Nuclear Regulatory Commission (the Commission) has issued Amendment No. 45 to Facility Operating License No. DPR-43, issued to Wisconsin Public Service Corporation, Wisconsin Power and Light Company, and Madison Gas and Electric Company (the licensees), which revised Technical Specifications for operation of the Kewaunee Nuclear Plant (the facility) located in Kewaunee, Wisconsin. The amendment is effective as of the date of issuance.

The amendment revises the Technical Specifications in respect to "Adjustment to the Nuclear Flux Trip Set Point," "Pressurizer Heaters," and "Auxiliary Feedwater Pumps."

The application for the amendment complies 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 this amendment does not involve a significant hazards consideration.

- 2 -

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 impact statement or negative declaration and 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 February 20, 1981 and August 7, 1981. (2) Amendment No. 45 to License No. DPR-43 and (3) 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 Kewaunee Public Library, 314 Milwaukee Street, Kewaunee, Wisconsin 54216. A copy of items (2) and (3) may be obtained upon request addressed to the U. S. Nuclear Regulatory Commission, Washington, D. C. 20555, Attention: Director, Division of Licensing.

Dated at Bethesda, Maryland, this 2nd day of June 1982.

FOR THE NUCLEAR REGULATORY COMMISSION

Joseph D. Neighbors
Joseph D. Neighbors, Acting Chief
Operating Reactors Branch No. 1
Division of Licensing