November 1, 1994

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Mr. C. A. Schrock
Manager - Nuclear Engineering
Wisconsin Public Service Corporation
Post Office Box 19002
Green Bay, WI 54307-9002

SUBJECT: AMENDMENT NO. 112 TO FACILITY OPERATING LICENSE NO. DPR-43 - KEWAUNEE NUCLEAR POWER PLANT (TAC NO. M89167)

Dear Mr. Schrock:

The Commission has issued the enclosed Amendment No. 112 to Facility Operating License No. DPR-43 for the Kewaunee Nuclear Power Plant (KNPP). This amendment revises the Technical Specifications (TS) in response to your application dated March 31, 1994.

The amendment revises the KNPP TS by incorporating operability and surveillance requirements for the recently installed Auxiliary Feedwater Pump Low Discharge Pressure Trip instrumentation. Surveillance requirements were added to Table TS 4.1-1, "Minimum Frequencies for Checks, Calibrations and Test of Instrument Channels." TS 3.4, "Steam and Power Conversions System," has been revised to explicitly link operability of the associated Auxiliary Feedwater Pump Low Discharge Pressure Trip channel to operability of the associated auxiliary feedwater pump. In addition, minor format inconsistencies in TS 3.4.b.1.A and 3.4.b.1.B were corrected.

A copy of the Safety Evaluation is also enclosed. Notice of issuance will be included in the Commission's next regular biweekly Federal Register notice.

Sincerely,

Original signed by Richard J. Laufer

Richard J. Laufer, Project Manager
Project Directorate III-3
Division of Reactor Projects III/IV
Office of Nuclear Reactor Regulation

Docket No. 50-305

Enclosures: 1. Amendment No. 112 to License No. DPR-43
2. Safety Evaluation

cc w/encls: See next page

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OFFICE	PDIII-3:LA	PDIII-3:PM	(A)PDIII-3:PD	OGC-OWFN
NAME	MRushbrook	RLaufer:gll	CCarpenter	EHOLLER
DATE	10/ /94	10/ /94	10/ /94	10/18/94

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

November 1, 1994

Mr. C. A. Schrock
Manager - Nuclear Engineering
Wisconsin Public Service Corporation
Post Office Box 19002
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cc w/encls: See next page

cc:

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

WISCONSIN PUBLIC SERVICE CORPORATION

WISCONSIN POWER AND LIGHT COMPANY

MADISON GAS AND ELECTRIC COMPANY

DOCKET NO. 50-305

KEWAUNEE NUCLEAR POWER PLANT

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 112
License No. DPR-43

1. The Nuclear Regulatory Commission (the Commission) has found that:

   A. The application for amendment by Wisconsin Public Service Corporation, Wisconsin Power and Light Company, and Madison Gas and Electric Company (the licensees) dated March 31, 1994, 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-43 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 112, are hereby incorporated in the license. The licensees shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of the date of its issuance, and is to be implemented within 30 days of the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

Richard J. Laufer, Project Manager
Project Directorate III-3
Division of Reactor Projects III/IV
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical Specifications

Date of issuance: November 1, 1994

ATTACHMENT TO LICENSE AMENDMENT NO. 112

FACILITY OPERATING LICENSE NO. DPR-43

DOCKET NO. 50-305

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
TS 3.4-2	TS 3.4-2
TABLE TS 4.1-1 (PAGE 8 OF 8)	TABLE TS 4.1-1 (PAGE 8 OF 8)

b. Auxiliary Feedwater Pumps

1. The reactor shall not be heated > 350°F unless the following conditions are met:

   A. Both motor-driven auxiliary feedwater pumps, and their associated low discharge pressure trip channels, shall be OPERABLE.

   B. The turbine-driven auxiliary feedwater pump, and its associated low discharge pressure trip channel, shall be OPERABLE, or if not demonstrated OPERABLE prior to > 350°F, they shall be declared inoperable when 350°F is exceeded.

2. If, when the reactor is > 350°F, any one of the following conditions of inoperability may exist during the time interval specified. If OPERABILITY is not restored within the time specified, then within 1 hour action shall be initiated to:

   - Achieve HOT STANDBY within 6 hours
   - Achieve HOT SHUTDOWN within the following 6 hours
   - Achieve and maintain the Reactor Coolant System < 350°F within an additional 12 hours

   A. One auxiliary feedwater pump may be inoperable for 72 hours.

   B. Two auxiliary feedwater pumps may be inoperable for 4 hours.

3. If, when the reactor is > 350°F, three auxiliary feedwater pumps are discovered to be inoperable, all LIMITING CONDITIONS FOR OPERATION requiring MODE changes shall be suspended until at least one auxiliary feedwater pump is restored to OPERABLE status. Upon discovery, action shall be initiated immediately to restore at least one auxiliary feedwater pump to OPERABLE status.

4. When the reactor is > 350°F, an auxiliary feedwater pump low discharge pressure trip channel may be inoperable for a period not to exceed 4 hours. If this time period is exceeded, the associated auxiliary feedwater pump shall be declared inoperable and the appropriate LIMITING CONDITIONS FOR OPERATION of TS 3.4.b.2 entered.

c. Turbine Overspeed Protection System

1. Reactor power shall not exceed 50% of rated power unless two of the three turbine overspeed protection systems are OPERABLE, except as provided by TS 3.4.c.2.

2. If two or more of the turbine overspeed protection systems are inoperable, then maintain power < 50% of rated power. When only two systems are OPERABLE, an individual system may be blocked for no longer than 4 hours to allow for testing.

TABLE TS 4.1-1

MINIMUM FREQUENCIES FOR CHECKS, CALIBRATIONS AND TEST OF INSTRUMENT CHANNELS

CHANNEL DESCRIPTION	CHECK	CALIBRATE	TEST	REMARKS
37. Containment Pressure (Wide Range)	Daily	Each refueling cycle not to exceed 18 months	Not applicable	
38. Containment Hydrogen Monitors	Daily	Each refueling cycle not to exceed 18 months	Monthly	
39. Containment Water Level (Wide Range)	Not applicable	Not applicable	Each refueling cycle not to exceed 18 months	
40. Reactor Vessel Level Indication	Monthly	Each refueling cycle not to exceed 18 months	Not applicable	
41. Core Exit Thermocouples	Monthly	Each refueling cycle not to exceed 18 months	Not applicable	
42. Steam Generator Level (Wide Range)	Monthly	Each refueling cycle not to exceed 18 months	Not applicable	
43. AFW Pump Low Discharge Pressure Trip	Not Applicable	Each refueling cycle not to exceed 18 months	Each refueling cycle not to exceed 18 months	

Amendment No. 59,64,80,98,105,112

* Reference TS 4.1.d

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATING TO AMENDMENT NO. 112 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

1.0 INTRODUCTION

By letter dated March 31, 1994, Wisconsin Public Service Corporation (WPSC), the licensee, requested a revision to the Kewaunee Nuclear Power Plant (KNPP) Technical Specifications (TS). The proposed amendment would revise the TS by incorporating operability and surveillance requirements for the recently installed Auxiliary Feedwater Pump Low Discharge Pressure Trip instrumentation. Proposed surveillance requirements would be added to Table TS 4.1-1, "Minimum Frequencies for Checks, Calibrations and Test of Instrument Channels." TS 3.4, "Steam and Power Conversions System," would be revised to explicitly link operability of the associated Auxiliary Feedwater Pump Low Discharge Pressure Trip channel to operability of the associated auxiliary feedwater pump. In addition, minor format inconsistencies in TS 3.4.b.1.A and 3.4.b.1.B would be corrected.

2.0 BACKGROUND

As part of the assessment of the TMI-2 accident, the staff evaluated AFW systems. One result of this evaluation was the recommendation that licensees' plants with unprotected normal AFW system water supplies should evaluate the design of their AFW systems to determine if automatic protection of the pumps is necessary following a seismic event or a tornado. In a Safety Evaluation Report (SER) dated August 10, 1983, the staff accepted WPSC's commitment to install an automatic safety-related pump trip on low suction pressure for each AFW pump. In a letter dated May 7, 1993, the licensee revised this commitment to include the installation of low discharge pressure instrumentation in lieu of low suction pressure instrumentation. This change in commitment was accepted by the staff in a letter dated June 8, 1993. Installation of the low discharge pressure instrumentation has been completed.

3.0 EVALUATION

The licensee has proposed changes to the TS that would incorporate operability and surveillance requirements for the AFW pump low discharge pressure trip instrumentation.

The proposed changes would:

1. Revise TS 4.1-1 to provide surveillance testing requirements for AFW pump low discharge pressure trip channels.

2. Revise TS 3.4 to explicitly link operability of each AFW pump low discharge pressure trip channel to operability of the associated AFW pump.

3. Correct minor format inconsistencies in TS 3.4.b.1.A and 3.4.b.1.B.

TS 4.1-1

The proposed changes to TS Table 4.1-1 would add surveillance requirements for each of the three AFW low discharge pressure trip channels (one per AFW pump). Specifically, a channel functional test and a channel calibration of each trip channel will be completed each refueling cycle not to exceed 18 months. This surveillance testing is consistent with the requirements of the improved Westinghouse Standard Technical Specifications, NUREG-1431, with the exception of a channel check and channel functional test. The basis for these differences is provided below.

NUREG-1431 recommends that a channel check be performed every 12 hours. The licensee's design for this trip protection does not include gauges, meters or other instrumentation suitable for the performance of a channel check. Therefore, a channel check would not be practical for the design as installed.

The purpose of the AFW low discharge pressure trip instrumentation is to protect the AFW pumps from damage following a seismic event or a tornado. There are three separate and distinct low discharge pressure trip channels in the licensee's design, one associated with each AFW pump. There is no two-out-of-three or similar logic. Thus, failure of a given AFW pump low discharge pressure trip channel will have no effect on the remaining two AFW pumps or trip channels. The system design also includes low discharge pressure alarms and override switches in the control room to allow the operator to manually start or stop the AFW pumps, in the event of low discharge pressure trip channel malfunction. The quarterly in-service testing performed on the AFW pumps will provide information on the operability of the low pressure switch, time delay relay, and the control room alarm. Along with the quarterly in-service testing information, the operator will be able to determine the operability of the AFW pump low discharge pressure trip channels by verifying that the trip channels allow each pump to start and continue running under controlled conditions.

Based on the past reliability and repeatability of the components chosen for this protective instrumentation and circuitry, the licensee has proposed that the channel functional test frequency be once each refueling cycle not to exceed 18 months. The basis for this proposal is described below.

Both motor-driven AFW pump low discharge pressure trip channels consist of a United Electric Controls pressure switch and a single Agastat ETR trip relay. The turbine-driven AFW pump low discharge pressure trip channel consists of a United Electric Controls pressure switch and two Agastat ETR trip relays. Past performance of these pressure switches and relays has been excellent in other applications at the licensee's plant with service conditions that are more severe than the AFW pump installation. Surveillance frequencies for other AFW pump instrumentation is once each refueling cycle not to exceed 18 months.

TS 3.4

The proposed change in TS 3.4 defines the necessary operability requirements for the recently installed AFW pump low discharge pressure trip channels. The proposed change would limit the temperature of the reactor to less than 350 °F, based on the operability of both motor driven AFW pumps and the turbine driven AFW pump, and their associated low discharge pressure trip channels. The proposed change would also limit the amount of time an AFW pump low discharge pressure trip channel may be inoperable when the reactor is above 350 °F.

Administrative changes

Administrative changes are proposed to capitalize the word "operable" in TS 3.4.b.1.A and 3.4.b.1.B. This change is part of WPSC's general TS improvement plan which includes capitalizing the terms defined in TS 1.0 throughout the TS consistent with NUREG-1431. This change does alter the intent or interpretation of the TS.

SUMMARY

Based on the above evaluation, and since the proposed changes are consistent with the staff SER on the installation of AFW pump low pressure trip channels, dated August 10, 1983, and the staff's letter dated June 8, 1993, the staff finds that the proposed changes to the KNPP TS are acceptable.

4.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Wisconsin State official was notified of the proposed issuance of the amendment. The State official had no comments.

5.0 ENVIRONMENTAL CONSIDERATION

This amendment changes 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 and changes surveillance requirements. The staff has determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluent 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 (59 FR 34671). 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.

6.0 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, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) 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: B. Marcus

Date: November 1, 1994