February 9, 1994

DISTRIBUTION

Docket File	GHill(2)
NRC & Local PDRs	MWebb
PD3-3 Reading	JWermiel
JRoe	ACRS(10)
JZwolinski	OPA
JHannon	OC/LFDCB
MRushbrook	RLaufer
Region III, DRP	RJones
OGC-WF	
DHagan	

Docket No. 50-305

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

Dear Mr. Schrock:

SUBJECT: AMENDMENT NO. 105 TO FACILITY OPERATING LICENSE NO. DPR-43 (TAC NO. M86682)

The Commission has issued the enclosed Amendment No. 105 to Facility Operating License No. DPR-43 for the Kewaunee Nuclear Power Plant. This amendment revises the Technical Specifications (TS) in response to your application dated February 23, 1993, which superseded your applications dated September 11, 1992, and December 12, 1991.

This amendment revises TS Section 3.5, "Instrumentation System," Table TS 3.5-6, "Instrumentation Operating Conditions for Indication," and Table TS 4.4-1, "Minimum Frequencies for Checks, Calibrations and Test of Instrument Channels." The amendment adds operability and surveillance requirements for the reactor vessel level indication and core exit thermocouple instrumentation to satisfy the recommendations of Generic Letter 83-37, "NUREG-0737 Technical Specifications." Implementation of these TS changes completes your TMI Action Plan, NUREG-0737, item II.F.2 requirements. Similar additions are made for the wide range steam generator level instrumentation to satisfy Regulatory Guide 1.97 recommendations. Administrative changes are also incorporated as part of converting the TS document to the WordPerfect software.

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, Acting Project Manager
Project Directorate III-3
Division of Reactor Projects III/IV/V
Office of Nuclear Reactor Regulation

Enclosures:
1. Amendment No. 105 to License No. DPR-43
2. Safety Evaluation

cc w/enclosures:
See next page

140027

PD3-3:LA	PD3-3:PM	PD3-3:PM	SRXB:BC	HICB:BC	PD3-3:PD	OGC
MRushbrook	RLaufer	AHansen	RJones	JWermiel	JHannon	RBachmann
1/19/94	1/11/94	1/12/94	1/12/94	1/14/94	1/12/94	1/26/94

DOCUMENT NAME: G:\KEWAUNEE\KEW86682.AMD

9402150244 940209
PDR ADOCK 05000305
P PDR

NRC FILE CENTER COPY

Mr. C. A. Schrock
Wisconsin Public Service Corporation Kewaunee Nuclear Power Plant

cc:

Foley & Lardner
Attention: Mr. Bradley D. Jackson
One South Pinckney Street
P.O. Box 1497
Madison, Wisconsin 53701-1497

Chairman
Town of Carlton
Route 1
Kewaunee, Wisconsin 54216

Mr. Harold Reckelberg, Chairman
Kewaunee County Board
Kewaunee County Courthouse
Kewaunee, Wisconsin 54216

Chairman
Public Service Commission of Wisconsin
Hill Farms State Office Building
Madison, Wisconsin 53702

Attorney General
114 East, State Capitol
Madison, Wisconsin 53702

U.S. Nuclear Regulatory Commission
Resident Inspectors Office
Route #1, Box 999
Kewaunee, Wisconsin 54216

Regional Administrator - Region III
U.S. Nuclear Regulatory Commission
801 Warrenville Road
Lisle, Illinois 60532-4351

Mr. Robert S. Cullen
Chief Engineer
Wisconsin Public Service Commission
P.O. Box 7854
Madison, Wisconsin 53707

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. 105
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 February 23, 1993, 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:

9402150246 940209
PDR ADOCK 05000305
P PDR

(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 105, 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

John N. Hannon

John N. Hannon, Director
Project Directorate III-3
Division of Reactor Projects III/IV/V
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of issuance: February 9, 1994

ATTACHMENT TO LICENSE AMENDMENT NO. 105

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 v	TS v
TS 3.5-1	TS 3.5-1
Table TS 3.5-6 (1 pages)	Table TS 3.5-6 (2 pages)
Table TS 4.1-1 (Page 8 of 8)	Table TS 4.1-1 (Page 8 of 8)

LIST OF TABLES

TABLE	TITLE
1.0-1 . . .	Frequency Notations
3.1-1 . . .	WPS (136) Reactor Vessel Toughness Data
3.1-2 . . .	Reactor Coolant System Pressure Isolation Valves
3.5-1 . . .	Engineered Safety Features Initiation Instrument Setting Limits
3.5-2 . . .	Instrument Operation Conditions for Reactor Trip
3.5-3 . . .	Emergency Cooling
3.5-4 . . .	Instrument Operating Conditions for Isolation Functions
3.5-5 . . .	Instrument Operation Conditions for Safeguards Bus Power Supply Functions
3.5-6 . . .	Accident Monitoring Instrumentation Operating Conditions for Indication
4.1-1 . . .	Minimum Frequencies for Checks, Calibrations and Test of Instrument Channels
4.1-2 . . .	Minimum Frequencies for Sampling Tests
4.1-3 . . .	Minimum Frequencies for Equipment Tests
4.2-1 . . .	Deleted
4.2-2 . . .	Steam Generator Tube Inspection

3.5 INSTRUMENTATION SYSTEM

APPLICABILITY

Applies to reactor protection and engineered safety features instrumentation systems.

OBJECTIVE

To provide for automatic initiation of the engineered safety features in the event that principal process variable limits are exceeded, and to delineate the conditions of the reactor protection instrumentation and engineered safety features circuits necessary to ensure reactor safety.

SPECIFICATIONS

a. Setting limits for instrumentation which initiate operation of the engineered safety features shall be as stated in Table TS 3.5-1.

b. For on-line testing or in the event of failure of a subsystem instrumentation channel, plant operation shall be permitted to continue at RATED POWER in accordance with Tables TS 3.5-2 through TS 3.5-5.

c. If for Tables TS 3.5-2 through TS 3.5-5, the number of channels of a particular subsystem in service falls below the limits given in Column 3, or if the values in Column 4 cannot be achieved, operation shall be limited according to the requirement shown in Column 6, as soon as practicable.

d. In the event of subsystem instrumentation channel failure permitted by TS 3.5.b, Tables TS 3.5-2 through TS 3.5-5 need not be observed during the short period of time (approximately 4 hours) the operable subsystem channels are tested, where the failed channel must be blocked to prevent unnecessary reactor trip.

e. The accident monitoring instrumentation in Table TS 3.5-6 shall be OPERABLE whenever the plant is above HOT SHUTDOWN. In the event the limits given in Columns 1 and 2 cannot be maintained, operator action will be in accordance with the respective notes. A change in operational MODES or conditions is acceptable with an inoperable accident monitoring instrumentation channel(s).

TABLE TS 3.5-6

ACCIDENT MONITORING INSTRUMENTATION OPERATING CONDITIONS FOR INDICATION

		1	2
NO.	FUNCTIONAL UNIT	REQUIRED TOTAL NO. OF CHANNELS	MINIMUM CHANNELS OPERABLE[1]
1	Auxiliary Feedwater Flow to Steam Generators (Narrow Range Level Indication Already Required OPERABLE by Table TS 3.5-2, Item 12)	1/steam generator[2]	
2	Reactor Coolant System Subcooling Margin	2[2]	1
3	Pressurizer Power Operated Relief Valve Position (One Common Channel Temperature, One Channel Limit Switch per Valve)	2/valve[2]	1/valve
4	Pressurizer Power Operated Relief Block Valve Position (One Common Channel Temperature, One Channel Limit Switch per Valve)	2/valve[2]	1/valve
5	Pressurizer Safety Valve Position (One Channel Temperature, and One Acoustic Sensor per Valve)	2/valve[2]	1/valve
6	Containment Water Level (Wide Range)	2[2]	1
7	Containment Hydrogen Monitor	2[3]	1
8	Containment Pressure Monitor (Wide Range)	2[2]	1
9	Reactor Vessel Level Indication	2[4]	1
10	Core Exit Thermocouples[5]	4 thermocouple/core quadrant[4]	2 thermocouple/core quadrant[6]
11	Steam Generator Level (Wide Range)	2/steam generator[4]	1/steam generator

[1]With the number of OPERABLE accident monitoring instrumentation channels less than the minimum channels OPERABLE requirements, either restore the minimum number of channels to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and HOT SHUTDOWN within the following 6 hours.

[2]With the number of OPERABLE accident monitoring instrumentation channels less than the required total number of channels shown, either restore the inoperable channels to OPERABLE status within 14 days, or be in at least HOT STANDBY within the next 6 hours and HOT SHUTDOWN within the following 6 hours.

TABLE TS 3.5-6

ACCIDENT MONITORING INSTRUMENTATION OPERATING CONDITIONS FOR INDICATION

(3)With the number of OPERABLE accident monitoring instrumentation channels less than the required total number of channels shown, either restore the inoperable channels to OPERABLE status within 30 days or be in at least HOT STANDBY within the next 6 hours and HOT SHUTDOWN within the following 6 hours.

(4)With the number of OPERABLE accident monitoring instrumentation channels less than the required total number of channels shown, either restore the inoperable channels to OPERABLE status within 7 days, or be in at least HOT STANDBY within the next 6 hours and HOT SHUTDOWN within the following 6 hours.

(5)Refer also to TS 3.11.c and TS 3.11.d.

(6)For the purposes of accident monitoring instrumentation, thermocouples on the axis may be included in either adjacent quadrant.

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	

* 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.105 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 February 23, 1993, the Wisconsin Public Service Corporation (WPSC), the licensee, submitted a request for revision to the Kewaunee Nuclear Power Plant (KNPP) Technical Specifications (TS). This submittal superseded previous applications on the same subject dated September 11, 1992, and December 12, 1991. The proposed amendment would revise the TS in Section 3.5, "Instrumentation System," Table TS 3.5-6, "Instrumentation Operating Conditions for Indication," and Table TS 4.4-1, "Minimum Frequencies for Checks, Calibrations and Test of Instrument Channels." The amendment would add operability and surveillance requirements for the reactor vessel level indication and core exit thermocouple instrumentation to satisfy the recommendations of Generic Letter (GL) 83-37, "NUREG-0737 Technical Specifications." Similar additions are proposed for the wide range steam generator level instrumentation to satisfy Regulatory Guide (RG) 1.97 recommendations. Administrative changes are also incorporated as part of converting the TS document to the WordPerfect software.

2.0 BACKGROUND

The reactor vessel level indication instrumentation and core exit thermocouples are part of the Inadequate Core Cooling Monitoring System (ICCMS) which was installed at KNPP to fulfill the requirements of TMI Action Plan, NUREG-0737, item II.F.2, "Instrumentation for Detection of Inadequate Core Cooling." The Nuclear Regulatory Commission's (NRC's) Safety Evaluation (SE) pertaining to KNPP's proposed ICCMS design was forwarded to the licensee by letter dated June 10, 1987. The SE concluded that the licensee's proposed design satisfied the requirements of NUREG-0737, Item II.F.2. However, the SE stated that the licensee should submit revised TS in accordance with the guidelines of GL 83-37, along with an implementation letter report containing information specified in an attachment to the SE. The licensee had previously provided the requested information in a letter dated July 14, 1986; therefore, the implementation of the proposed TS will complete the licensee's GL 83-37 requirements.

9402150248 940209
PDR ADOCK 05000305
P PDR

Redundant steam generator wide range level instrumentation was installed in August 1992 to meet RG 1.97 Category 1 recommendations and was designated as a Type A variable. As specified in the NRC's supplemental safety evaluation dated October 15, 1992, TS requirements for this variable are appropriate.

3.0 EVALUATION

TS Section 3.5 "Instrumentation System"

The proposed amendment would revise the first sentence of TS 3.5.e from "The instrumentation in Table 3.5-6 shall be operable" to "The accident monitoring instrumentation in Table 3.5-6 shall be operable whenever the plant is above HOT SHUTDOWN." Additionally, the sentence "A change in operational MODES or conditions is acceptable with an inoperable accident monitoring instrumentation channel(s)," is being added to the specification.

Revising the first sentence of TS 3.5.e would clarify the purpose and mode applicabilities of the Limiting Conditions for Operations (LCOs) consistent with that provided in Table TS 3.5-6. Since this is an administrative change to enhance the consistency within the TS, and is consistent with NUREG-1431, Westinghouse Standard Technical Specifications (STS), the staff finds it acceptable.

The sentence "A change in operational MODES or conditions is acceptable with an inoperable accident monitoring instrumentation channel(s)," is being added to enhance the consistency of the TS and to provide guidance in the event of inoperable channels. STS, TS 3.3.3, Post Accident Monitoring (PAM) Instrumentation, contains a note that "LCO 3.0.4 is not applicable." The KNPP TS do not have a Section 3.0 similar to that of the STS, therefore, wording that would permit changes in operational modes or conditions is being proposed. Since this proposed change provides clarification that does not currently exist in the TS and because the change is consistent with the STS, the staff finds it acceptable.

Table TS 3.5-6

The changes proposed for Table TS 3.5-6, "Instrumentation Operating Conditions for Indication," will add operability requirements for the reactor vessel level indication instrumentation, core exit thermocouples, and steam generator wide range level instrumentation. The title of Table TS 3.5-6 is also being revised to "Accident Monitoring Instrumentation Operating Conditions for Indication."

The following changes are proposed:

(1) Item No. 9, "Reactor Vessel Level Indication," is being added to Table TS 3.5-6 to provide operability requirements for the reactor vessel level indication instrumentation. This item specifies that a total of 2 channels are required and a minimum of 1 channel must be operable.

(2) Item No. 10, "Core Exit Thermocouples," is being added to Table TS 3.5-6 to provide operability requirements for the core exit thermocouples. This item specifies that a total of 4 thermocouples/core quadrant are required and a minimum of 2 thermocouples/core quadrant must be operable.

To support Item No. 10, two additional footnotes are being added to Table TS 3.5-6. Specifically, footnote No. 5 references TS 3.11.c and TS 3.11.d which also specify requirements for the core exit thermocouples. Table TS 3.5-6 item 10 and TS 3.11 are not in conflict, but contain slightly different requirements. This footnote is being added to ensure the requirements of TS 3.11 are not mistakenly overlooked.

Footnote No. 6 is also being added to provide additional information. For monitoring purposes, the core is subdivided into four quadrants with imaginary perpendicular axial lines dividing the quadrants. The thermocouples that fall on these axial lines are weighted as one-half for routine core surveillance purposes, i.e., calculating core exit thermocouple tilts. The purpose of footnote No. 6 is, for accident monitoring purposes, to allow the thermocouples on the axis to be counted as one full thermocouple in either adjacent quadrant to satisfy the minimum channels operable requirement. The application of the footnote does not allow for "double counting" of a particular thermocouple, or for satisfying the provisions of TS 3.11.c as core surveillance instrumentation.

(3) Item No. 11, "Steam Generator Level Indication (Wide Range)," is being added to Table TS 3.5-6 to provide operability requirements for the steam generator wide range level indication instrumentation. This item specifies that a total of 2 channels/steam generator are required and a minimum of 1 channel/steam generator must be operable.

For Item Nos. 9, 10, and 11, discussed above, if the number of operable accident monitoring instrumentation channels is less than the required total number of channels, then the inoperable channels must be restored to operable status within 7 days, or the plant must be in hot standby within the next 6 hours and hot shutdown within the following 6 hours. Additionally, if the number of operable accident monitoring instrumentation channels is less than the minimum channels operable requirement, then the minimum number of channels must be restored to operable status within 72 hours, or the plant must be in hot standby within the next 6 hours and hot shutdown within the following 6 hours.

The proposed changes to Table TS 3.5-6 discussed above impose additional requirements to ensure the availability and reliability of the indication instrumentation. The proposed changes are consistent with the guidance provided in GL 83-37 and with the STS. The staff, therefore, finds these proposed changes acceptable.

(4) The phrase "1/steam generator" is being deleted from Item No. 1, Column 2 of Table TS 3.5-6. At the KNPP, only one auxiliary feedwater (AFW) flow instrumentation channel per steam generator is installed. Upon review of Table TS 3.5-6, it was noted that due to the plant specific design of AFW

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 installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 or changes a surveillance requirement. 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 (58 FR 39061). This amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9).

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 Contributors: R. Laufer
M. Webb

Date: February 9, 1994

flow, the operators were being provided conflicting action statement requirements in the event of an inoperable channel. The revised Item No. 1 allows 14 days to restore an inoperable AFW flow channel to operable status or the plant must be in at least hot standby within the next 6 hours and hot shutdown within the following 6 hours. Since this proposed change will eliminate the conflicting action statement requirements and is consistent with the existing requirements of Table TS 3.5-6, the staff finds it acceptable.

(5) The footnotes associated with Table TS 3.5-6 are being revised to replace the phrase, "or be in at least hot shutdown within the next 12 hours," with the standard shutdown sequence terminology. This proposed change is more restrictive than the existing specification, does not alter the intent or the interpretation of the specification, and ensures consistency within the specifications. The staff, therefore, finds this proposed change acceptable.

(6) Several formatting changes have been proposed for Table TS 3.5-6 as part of converting the TS document to the WordPerfect software. Since these changes are administrative in nature and enhance the consistency of the TS, the staff finds them acceptable.

Table TS 4.1-1

The changes proposed for Table TS 4.1-1, "Minimum Frequencies for Checks, Calibrations and Test of Instrument Channels" will add operability and surveillance requirements for the reactor vessel level indication instrumentation, core exit thermocouples, and steam generator wide range level instrumentation.

The following changes are proposed:

(1) Item No. 40, "Reactor Vessel Level Indication," is being added to Table TS 4.1-1 to provide surveillance testing requirements for the reactor vessel level indication instrumentation.

(2) Item No. 41, "Core Exit Thermocouples," is being added to Table TS 4.1-1 to provide surveillance testing requirements for the core exit thermocouples.

(3) Item No. 42, "Steam Generator Level (Wide Range)," is being added to Table TS 4.1-1 to provide surveillance testing requirements for the steam generator level wide range indication instrumentation.

For Item Nos. 40, 41, and 42 discussed above, a channel check is required to be performed at least once per 31 days and a channel calibration is required to be performed at least once per 18 months.

The proposed changes to Table TS 4.1-1 discussed above impose additional requirements to ensure the availability and reliability of the indication instrumentation. The proposed changes are consistent with the guidance provided in GL 83-37 and with the STS. The staff, therefore, finds these proposed changes acceptable.