

January 9, 1985

Docket No. 50-305

Mr. D. C. Hintz
Manager - Nuclear Power
Wisconsin Public Service Corporation
Post Office Box 19002
Green Bay, Wisconsin 54307-9002

<u>Distribution</u>	Docket file
NRC PDR	LPDR
Gray file (4)	ORB#1 RDG
DEisenhut	CParrish
MFairtile	OELD
LHarmon	EJordan
PMcKee	TBarnhart (4)
DBrinkman	ACRS (10)
OPA CMiles	RDiggs
JPartlow	CPatel

Dear Mr. Hintz:

The Commission has issued the enclosed Amendment No. 59 to Facility Operating License No. DPR-43 for the Kewaunee Nuclear Power Plant. The amendment consists of changes to the Technical Specifications (TS) in partial response to your application transmitted by letter dated March 30, 1984. This action closes out NRC TAC Numbers 54396 and 54541.

The amendment consists of changes to the Technical Specifications brought about by our Generic Letter 83-37, dated November 1, 1983, entitled, "NUREG-0737 Technical Specifications."

This license amendment will become effective 60 days from date of issuance, in order to provide time, as discussed with your staff, to put required supporting plant procedures and training, in effect. Your March 30, 1984 letter also requested a Technical Specification change related to the control room ventilation filters. These filters are the subject of a separate review conducted under TAC Number 56410.

A copy of the related Safety Evaluation is enclosed. A Notice of Issuance will be included in the Commission's next regular monthly Federal Register notice.

Sincerely,

/s/MBFairtile

Morton B. Fairtile, Project Manager
Operating Reactors Branch #1
Division of Licensing

Enclosures:

1. Amendment No. 59 to DPR-43
2. Safety Evaluation

cc: w/enclosures
See next page

ORB#1:DL
CParrish
12/17/84

ORB#1:DL MBF
MFairtile/ts
12/17/84

~~ORB#1:DL~~
Swarga
12/17/84

OELD
12/21/84
sent to G...
V... per
convention of
12/24

AD:OR:DL
GLainas
12/17/84

8501160416 850109
PDR ADDCK 05000305
P PDR

Mr. D. C. Hintz
Wisconsin Public Service Corporation

Kewaunee Nuclear Power Plant

cc: Steven E. Keane, Esquire
Foley and Lardner
777 East Wisconsin Avenue
Milwaukee, Wisconsin 53202

Stanley LaCrosse, Chairman
Town of Carlton
Route 1
Kewaunee, Wisconsin 54216

Mr. Donald L. Quistroff, 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 Radiation Representative
EPA Region V
230 South Dearborn Street
Chicago, Illinois 60604

James G. Keppler
Regional Administrator - Region III
U.S. Nuclear Regulatory Commission
799 Roosevelt Road
Glen Ellyn, Illinois 60137

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

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. 59
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 licensee) dated March 30, 1984, 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:

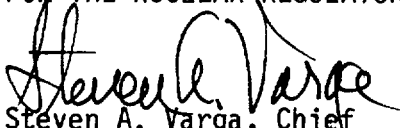
8501160420 850109
PDR ADOCK 05000305
PDR

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 59, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective 60 days from the date of its issuance in order to permit the licensee to put supporting plant procedures in place and to train plant personnel.

FOR THE NUCLEAR REGULATORY COMMISSION


Steven A. Varga, Chief
Operating Reactors Branch #1
Division of Licensing

Attachment:
Changes to the Technical
Specifications

Date of Issuance: January 9, 1985

ATTACHMENT TO LICENSE AMENDMENT

AMENDMENT NO. 59 TO FACILITY OPERATING LICENSE NO. DPR-43

DOCKET NO. 50-305

Revise Appendix A as follows:

Remove Pages

i
iii
v
vi
3.1-2a
3.1-2b
3.1-2c

3.5-1

Table TS 3.5-5 (1 of 2)
Table TS 3.5-5 (2 of 2)
Table TS 4.1-1 (page 1 of 4)
Table TS 4.1-1 (page 2 of 4)
Table TS 4.1-1 (page 3 of 4)
Table TS 4.1-1 (page 4 of 4)

6-26

Insert Pages

i
iii
v
vi
3.1-2a
3.1-2b
3.1-2c
3.1-2d
3.1-2e
3.5-1
4.16-1
Table TS 3.5-5
Table TS 3.5-6
Table TS 4.1-1 (page 1 of 5)
Table TS 4.1-1 (page 2 of 5)
Table TS 4.1-1 (page 3 of 5)
Table TS 4.1-1 (page 4 of 5)
Table TS 4.1-1 (page 5 of 5)
6-26

TABLE OF CONTENTS
 TECHNICAL SPECIFICATIONS
 APPENDIX A

<u>Section</u>	<u>Title</u>	<u>Page TS</u>
1.0	Definitions	1.1-1
1.0.a	Quadrant-to-Average Power Tilt Ratio	1.1-1
1.0.b	Safety limits	1.1-1
1.0.c	Limiting Safety System Settings	1.1-1
1.0.d	Limiting Conditions for Operation	1.1-1
1.0.e	Operable	1.1-2
1.0.f	Operating	1.1-2
1.0.g	Containment System Integrity	1.1-2
1.0.h	Protective Instrumentation Logic	1.1-2
1.0.i	Instrumentation Surveillance	1.1-3
1.0.j	Operating Modes	1.1-4
1.0.k	Reactor Critical	1.1-4
1.0.l	Refueling Operation	1.1-5
1.0.m	Rated Power	1.1-5
2.0	Safety Limits and Limiting Safety System Settings	2.1-1
2.1	Safety Limits, Reactor Core	2.1-1
2.2	Safety Limit, Reactor Coolant System Pressure	2.2-1
2.3	Limiting Safety System Settings, Protective Instrumentation	2.3-1
2.3.a	Reactor Trip Settings	2.3-1
2.3.a.1	Nuclear Flux	2.3-1
2.3.a.2	Pressurizer	2.3-1
2.3.a.3	Reactor Coolant Temperature	2.3-1
2.3.a.4	Reactor Coolant Flow	2.3-3
2.3.a.5	Steam Generators	2.3-3
2.3.a.6	Reactor Trip Interlocks	2.3-3
2.3.a.7	Other Trips	2.3-3
3.0	Limiting Conditions for Operation	3.1-1
3.1	Reactor Coolant System	3.1-1
3.1.a	Operational Components	3.1-1
3.1.a.1	Reactor Coolant Pumps	3.1-1
3.1.a.2	Decay Heat Removal Capability	3.1-1a
3.1.a.3	Pressurizer Safety Valves	3.1-2
3.1.a.4	Pressure Isolation Valves	3.1-2
3.1.a.5	Pressurizer PORV and Block Valves	3.1-2a
3.1.a.6	Pressurizer Heaters	3.1-2a
3.1.a.7	Reactor Coolant Vent System	3.1-2a
3.1.b	Heat-up and Cool-down Limit Curves for Normal Operation	3.1-3
3.1.c	Maximum Coolant Activity	3.1-9
3.1.d	Leakage of Reactor Coolant	3.1-11
3.1.e	Maximum Reactor Coolant Oxygen, Chloride and Fluoride Concentration	3.1-14
3.1.f	Minimum Conditions for Criticality	3.1-16
3.2	Chemical and Volume Control System	3.2-1

<u>Section</u>	<u>Title</u>	<u>Page TS</u>
	4.2.b.3 Inspection Frequencies	4.2-5
	4.2.b.4 Steam Generator Tube Plugging Criteria	4.2-6
	4.2.b.5 Reports	4.2-7
4.3	Reactor Coolant System Tests Following Opening	4.3-1
4.4	Containment Tests	4.4-1
	4.4.a Integrated Leak Rate Tests	4.4-1
	4.4.b Isolation Valves and Local Leak Rate Tests	4.4-3
	4.4.c Residual Heat Removal System	4.4-5
	4.4.d Shield Building Ventilation System	4.4-5
	4.4.e Auxiliary Building Special Ventilation System	4.4-6
	4.4.f Containment Vacuum Breaker System	4.4-7
4.5	Emergency Core Cooling System and Containment Air Cooling System Tests	4.5-1
	4.5.a System Tests	4.5-1
	4.5.a.1 Safety Injection System	4.5-1
	4.5.a.2 Containment Vessel Internal Spray System	4.5-2
	4.5.a.3 Containment Fan Coil Units	4.5-2
	4.5.b Component Tests	4.5-2
	4.5.b.1 Pumps	4.5-2
	4.5.b.2 Valves	4.5-3
4.6	Periodic Testing of Emergency Power System	4.6-1
	4.6.a Diesel Generators	4.6-1
	4.6.b Station Batteries	4.6-2
4.7	Main Steam Isolation Valves	4.7-1
4.8	Auxiliary Feedwater System	4.8-1
4.9	Reactivity Anomalies	4.9-1
4.10	Environmental Monitoring	4.10-1
4.11	Radioactive Materials	4.11-1
	4.11.a Liquid Effluents	4.11-1
	4.11.b Airborne Effluents	4.11-2
4.12	Spent Fuel Pool Sweep System	4.12-1
4.13	Radioactive Materials Sources	4.13-1
4.14	Testing and Surveillance of Shock Suppressors (Snubbers)	4.14-1
4.15	Fire Protection System	4.15-1
	4.15.a Fire Detection Instrumentation	4.15-1
	4.15.b Fire Water System	4.15-1
	4.15.c Spray/Sprinkler System	4.15-2
	4.15.d Low Pressure Co ₂ System	4.15-2
	4.15.e Fire Hose Stations	4.15-3
	4.15.f Penetration Fire Barriers	4.15-3
4.16	Reactor Coolant Vent System Tests	4.16-1

<u>Section</u>	<u>Title</u>	<u>Page TS</u>
6.7	Safety Limit Violation	6-12
6.8	Procedures	6-12
6.9	Reporting Requirements	6-13
6.9.1	Routine Reports	6-13
6.9.1.a	Start-up Report	6-13
6.9.1.b	Annual Reporting Requirements	6-14
6.9.1.c	Monthly Operating Report	6-15
6.9.2	Reportable Occurrences	6-15
6.9.2.a	Prompt Notification with Written Follow-up	6-15
6.9.2.b	Thirty-Day Written Reports	6-18
6.9.3	Unique Reporting Requirements	6-19
6.9.3.a	Annual Environmental Operating Report	6-19
6.9.3.b	Radioactive Effluent Releases	6-20
6.9.3.c	Safety Class I Inservice Inspection	6-23
6.10	Record Retention	6-23
6.11	Radiation Protection Program	6-24
6.12	System Integrity	6-24a
6.13	High Radiation Area	6-25
6.14	Postaccident Sampling and Monitoring	6-26
6.15	Secondary Water Chemistry	6-26

LIST OF TABLES

<u>Tables - TS</u>	<u>Title</u>
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	Instrumentation Operation Conditions for Safeguard Bus Power Supply Functions
3.5-6	Instrumentation Operating Conditions for Indication
3.14-1	Safety Related Hydraulic Shock Suppressors (Snubbers)
3.15-1	Fire Detection Instrumentation
3.15-2	Safety Related Fire Hose Stations
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	In-Service Inspection
4.2-2	Steam Generator Tube Inspection
4.10-1	Operational Environmental Radiological Surveillance Program
4.10-2	Sampling Locations
4.11-1	Radioactive Liquid Waste Sampling and Analysis
4.11-2	Radioactive Gaseous Waste Sampling and Analysis
6.4-1	Deleted

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.

7. Reactor Coolant Vent System

a. A reactor coolant vent path from both the reactor vessel head and pressurizer steam space shall be operable and closed prior to the average RCS temperature being heated above 200°F except as specified in 3.1.a.7.b and 3.1.a.7.c below.

b. When the average RCS temperature is above 200°F, any one of the following conditions of inoperability may exist:

1. Both of the parallel vent valves in the reactor vessel vent path are inoperable.

2. Both of the parallel vent valves in the pressurizer vent path are inoperable.

If operability is not restored within 30 days, then within one hour action shall be initiated to:

-Achieve Hot Standby within 6 hours

-Achieve Hot Shutdown within the following 6 hours

-Achieve Cold Shutdown within an additional 36 hours

c. If no reactor coolant system vent paths are operable, restore at least one vent path to operable status within 72 hours. If operability is not restored within 72 hours, then within 1 hour action shall be initiated to:

-Achieve Hot Standby within 6 hours

-Achieve Hot Shutdown within the following 6 hours

-Achieve Cold Shutdown within an additional 36 hours

Basis

When the boron concentration of the Reactor Coolant System is to be reduced, the process must be uniform to prevent sudden reactivity changes in the reactor. Mixing of the reactor coolant will be sufficient to maintain a uniform boron concentration if at least one reactor coolant pump or one residual heat removal pump is running while the change is taking place. The residual heat removal pump will circulate the equivalent of the primary system volume in approximately one-half hour.

Part 1 of the specification requires that both reactor coolant pumps be operating when the reactor is in power operation to provide core cooling. Planned power operation with one loop out of service is not allowed in the present design because the system does not meet the single failure (locked rotor) criteria requirement for this mode of operation. The flow provided in each case in Part 1 will keep DNBR well above 1.30. Therefore, cladding damage and release of fission products to the reactor coolant will not occur. One pump operation is not permitted except for tests. Upon loss of one pump below 10% full power the core power shall be reduced to a level below the maximum power determined for zero power testing. Natural circulation can remove decay heat up to 10% power. Above 10% power, an automatic reactor trip will occur if flow from either pump is lost. (1)

When the average reactor coolant temperature is less than or equal to 350°F a combination of the available heat sinks is sufficient to remove the decay heat and provide the necessary redundancy to meet the single failure criterion.

When the average reactor coolant temperature is less than or equal to 200°F, the plant is in a cold shutdown condition and there is a negligible amount of sensible heat energy stored in the reactor coolant system. Should one residual heat removal train become inoperable under these conditions the remaining train is capable of removing all of the decay heat being generated.

Each of the pressurizer safety valves is designed to relieve 325,000 lbs per hour of saturated steam at set point. Below 350°F and 350 psig, the Residual Heat Removal System can remove decay heat and thereby control system temperature and pressure. If no residual heat were removed by any of the means available, the amount of steam which could be generated at safety valve relief pressure would be less than half the valves' capacity. One valve therefore provides adequate protection against over-pressurization.

The Basis for the Pressure Isolation Valves is contained with Reference 2.

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. 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.

The function of the high point vent system is to vent noncondensable gases from the high points of the reactor coolant system (RCS) to assure that core cooling during natural circulation will not be inhibited. The operability of at least one vent path from both the reactor vessel head and pressurizer steam space ensures the capability exists to perform this function.

The vent path from the reactor vessel head and the vent path from the pressurizer each contain two independently emergency powered, energize to open, valves in parallel and connect to a common header that discharges either to the containment atmosphere or to the pressurizer relief tank. The lines to the containment atmosphere and pressurizer relief tank each contain an independently

emergency powered, energize to open, isolation valve. This redundancy provides protection from the failure of a single vent path valve rendering an entire vent path inoperable.

A flow restriction orifice in each vent path limits the flow from an inadvertent actuation of the vent system to less than the flow capacity of one charging pump. (4)

References:

- (1) FSAR Section 7.2.2
- (2) Order for Modification of License dated 4/20/81
- (3) Hot functional test (PT-RC-31)
- (4) Letter from E. R. Mathews to S. A. Varga dated 5/21/82

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.

Specification

- 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 sub-system 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 sub-system in service falls below the limits given in Column Three, or if the values in Column Four cannot be achieved, operation shall be limited according to the requirement shown in Column 6, as soon as practicable.
- d. In the event of sub-system instrumentation channel failure permitted by Specification 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 sub-system channels are tested, where the failed channel must be blocked to prevent unnecessary reactor trip.
- e. The instrumentation in Table TS 3.5-6 shall be operable. In the event the limits given in column 1 and 2 cannot be maintained, operator action will be in accordance with the respective notes.

4.16 Reactor Coolant Vent System Tests

Applicability

Applies to the surveillance testing requirements of the reactor coolant vent system.

Objectives

To assure that the capability exists to vent non-condensable gases from the reactor coolant system, if required.

Specification

a. Vent Path Operability

At least once per operating cycle or once every 18 months, whichever occurs first, each reactor coolant system vent path shall be demonstrated operable by:

- 1) Cycling each solenoid operated valve in each vent path through at least one complete cycle of full travel.
- 2) Verifying that unobstructed flow exists through the reactor coolant vent system paths during the normal filling and venting operations following refueling.

Basis

The cycling of each solenoid operated valve once each refueling ensures that the valves are capable of opening, if required, to vent the reactor coolant system. More frequent cycling of these valves is not practical since it would provide unnecessary challenges to the reactor coolant pressure boundary during plant operation.

Flow verification is performed to assure that there are no blockages in the reactor coolant system vent piping that would prevent venting of noncondensable gases from the reactor coolant system. Flow verification is performed following each refueling by qualitatively assuring flow exists through the system during the postrefueling filling and venting of the RCS.

TABLE TS 3.5-5

INSTRUMENT OPERATION CONDITIONS FOR SAFEGUARDS BUS POWER SUPPLY FUNCTIONS

<u>NO.</u>	<u>FUNCTIONAL UNIT</u>	<u>1</u> <u>NO. OF</u> <u>CHANNELS</u>	<u>2</u> <u>NO. OF</u> <u>CHANNELS</u> <u>TO TRIP</u>	<u>3</u> <u>MINIMUM</u> <u>OPERABLE</u> <u>CHANNELS</u>	<u>4</u> <u>MINIMUM</u> <u>DEGREE OF</u> <u>REDUNDANCY</u>	<u>5</u> <u>PERMISSIBLE</u> <u>BYPASS</u> <u>CONDITIONS</u>	<u>OPERATOR ACTION</u> <u>IF CONDITIONS OF</u> <u>COLUMN 3 OR 4</u> <u>CANNOT BE MET</u>
1	Safeguards Bus Undervoltage	2/Bus ⁽¹⁾	1/Bus	1/Bus ⁽²⁾	--		Maintain hot shut-down or operate the diesel generator
2	Safeguards Bus Second Level Undervoltage	1/Bus ⁽³⁾	1/Bus	--	--		When one of the two 6 second time delay relays is out of service, place that relay in the tripped condition.

- (1) Each channel consists of one instantaneous and one time delayed relay connected in series.
- (2) When one component of a channel is taken out of service, that component shall be in the TRIPPED condition.
- (3) Each channel has 2 time delay relays in parallel which are in series with a third time delay relay.

TABLE TS 3.5-6
INSTRUMENTATION OPERATING CONDITIONS FOR INDICATION

NO.	FUNCTIONAL UNIT	1	2
		REQUIRED TOTAL NO. OF CHANNELS*	MINIMUM CHANNELS OPERABLE**
1	Auxiliary Feedwater Flow to Steam Generators (Narrow Range Level Indication already required operable by Tech Spec Table TS 3.5-2 Item 12)	1/steam gen	1/steam gen
2	Reactor Coolant System Subcooling Margin	2	1
3	Pressurizer Power Operated Relief Valve Position (One Common Channel Temperature, One Channel Limit Switch per Valve)	2/valve	1/valve
4	Pressurizer Power Operated Relief Block Valve Position (One Common Channel Temperature, One Channel Limit Switch per Valve)	2/valve	1/valve
5	Pressurizer Safety Valve Position (One Channel Temperature, and one Acoustic Sensor per valve)	2/valve	1/valve
6	Containment Water Level (wide range)	2	1
7	Containment Hydrogen Monitor	2	1
8	Containment Pressure Monitor (wide range)	2	1

* With the number of Operable monitoring instrumentation channels less than the Required Total Number of Channels shown, either restore the inoperable channels to Operable status within fourteen days, or be in at least Hot Shutdown within the next 12 hours.

** With the number of Operable event 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 Shutdown within the next 12 hours.

NOTE: Technical Specification 6.9.b.2 applies only when MINIMUM CHANNELS OPERABLE are less than shown.

TABLE TS 3.5-6

Amendment No. 59

TABLE TS 4.1-1

MINIMUM FREQUENCIES FOR CHECKS, CALIBRATIONS AND
TEST OF INSTRUMENT CHANNELS
(Page 1 of 5)

<u>Channel Description</u>	<u>Check</u>	<u>Calibrate</u>	<u>Test</u>	<u>Remarks</u>
1. Nuclear Power Range	S (1) EFPM (3)****	D (1) EFPQ (3)****	(M) (2)***	1) Heat balance 2) Signal to ΔT ; bistable action (permissive, rod stop, trips) 3) Upper and lower chambers for axial off-set using in-core detectors
2. Nuclear Intermediate Range	*S (1)	N.A.	P (2)	1) Once/shift when in service 2) Log level; bistable action (permissive, rod stop, trips)
3. Nuclear Source Range	*S (1)	N.A.	P (2)	1) Once/shift when in service 2) Bistable action (alarm, trips)
4. Reactor Coolant Temperature	*S	R	M (1) M (2)	1) Overtemperature ΔT 2) Overpower ΔT
5. Reactor Coolant Flow	S	R**	M	
6. Pressurizer Water Level	S	R**	M	
7. Pressurizer Pressure	S	R**	M	
8A. 4-KV Voltage & Frequency	N.A.	R	M	Reactor protection circuits only
8B. 4-KV Voltage (Loss of Voltage)	N.A.	R	M	Safeguards buses only
8C. 4-KV Voltage (Degraded Grid)	N.A.	R	R	Safeguards buses only

Table TS 4.1-1 (Page 1 of 5)

Amendment No. 59

TABLE TS 4.1-1

MINIMUM FREQUENCIES FOR CHECKS, CALIBRATIONS AND
TEST OF INSTRUMENT CHANNELS
(Page 2 of 5)

<u>Channel Description</u>	<u>Check</u>	<u>Calibrate</u>	<u>Test</u>	<u>Remarks</u>
9. Analog Rod Position	S (1,2)	R**	R	1) With step counters 2) Following rod motion in excess of six in. when computer is out of service
10. Rod Position Bank Counters	S (1,2)	N.A.	R	1) With analog rod position 2) Following rod motion in excess of six in. when computer is not of service
11. Steam Generator Level	S	R**	M	
12. Steam Generator Flow Mismatch	S	R**	M	
13. Charging Flow	S	R	N.A.	
14. Residual Heat Removal Pump Flow	S (when in operation)	R	N.A.	
15. Boric Acid Tank Level	D	R	M	
16. Refueling Water Storage Tank Level	W	A	N.A.	
17. Volume Control Tank Level	S	R	N.A.	
18A. Containment Pressure (SIS signal)	S	R**	M(1)	1) Isolation Valve signal
18B. Containment Pressure (Steamline Isol)	S	R**	M	Narrow range containment pressure (-3.0, +3.0 psig excluded)
18C. Containment Pressure (Cont. Spray Act)	S	R**	M	
18D. Annulus Pressure (Vacuum Breaker)	N.A.	R**	R	

Table TS 4.1-1 (Page 2 of 5)

Amendment No. 59

TABLE TS 4.1-1

MINIMUM FREQUENCIES FOR CHECKS, CALIBRATIONS AND
TEST OF INSTRUMENT CHANNELS
(Page 3 of 5)

<u>Channel Description</u>	<u>Check</u>	<u>Calibrate</u>	<u>Test</u>	<u>Remarks</u>
19. Radiation Monitoring System	*D	R	M	Includes channels 1-24
20. Boric Acid Make-Up Flow Channel	N.A.	R	N.A.	
21. Containment Sump Level	N.A.	N.A.	R	
22. Accumulator Level and Pressure	S	R	N.A.	
23. Steam Generator Pressure	S	R	M	
24. Turbine First Stage Pressure	S	A**	M	
25. Portable Radiation Survey Instruments	*M	A	Q	
26. Protective System Logic Channel Testing	N.A.	N.A.	M	Includes auto load sequencer
27. Environmental Monitors	*M	N.A.	N.A.	
28. Turbine Overspeed Protection				
a. Electro-Hydraulic System	N.A.	N.A.	R	
b. Mechanical System	N.A.	R (See Remarks)	M	A calibration check is performed for the Mechanical System once per refueling cycle; repairs are made if necessary.
c. Redundant Overspeed Trip System	N.A.	R	M	
29. Seismic Monitoring System	R	R	N.A.	
30. Fore Bay Water Level	N.A.	R**	R	

TABLE TS 4.1-1
 MINIMUM FREQUENCIES FOR CHECKS, CALIBRATIONS AND
 TEST OF INSTRUMENT CHANNELS
 (Page 4 of 5)

<u>CHANNEL DESCRIPTION</u>	<u>CHECK</u>	<u>CALIBRATE</u>	<u>TEST</u>	<u>REMARKS</u>
31. AFW Flow Rate	See Remarks	R	N.A.	Flow Rate Indication will be checked at each unit startup and shutdown
32. PORV Position Indication	M	R	N.A.	
32a. Back-up (Temperature)	M	R	N.A.	
33. PORV Block Valve Position Indicator	M	R	N.A.	
34. Safety Valve Position Indicator (Acoustic)	M	R	N.A.	
34a. Back-up (Temperature)	M	R	N.A.	
35. FW Pump Trip (AFW Initiation)	N.A.	N.A.	R	
36. Reactor Coolant System Subcooling Monitor	M	R**	R	
37. Containment Pressure (Wide Range)	D	R	N.A.	
38. Containment Hydrogen Monitors	D	R	M	
39. Containment Water Level (Wide Range)	N.A.	N.A.	R	

A - Annually
 D - Daily
 M - Monthly
 P - Prior to each startup if not done previous week
 Q - Quarterly
 R - Each refueling cycle not to exceed 18 mos.

S - Each shift
 B/W - Every two weeks
 N.A. - Not applicable
 W - Weekly
 EFPM - Effective Full Power Month
 EFPQ - Effective Full Power Quarter

Table TS 4.1-1 (Page 4 of 5)

Amendment No. 59

TABLE TS 4.1-1
MINIMUM FREQUENCIES FOR CHECKS, CALIBRATIONS AND
TEST OF INSTRUMENT CHANNELS
(Page 5 of 5)

- * See Specification 4.1.d
- ** Only if test indicates calibration required
- *** Permissives P8 and P10 and the 25% reactor trip are tested quarterly
- **** The check and calibration for axial offset shall also be performed prior to exceeding 75 percent power following any core alteration.

6.14 Post Accident Sampling and Monitoring

The licensee shall implement a program which will ensure the capability to monitor containment radiation levels, to obtain and analyze reactor coolant and containment atmosphere samples, and to monitor the plant gaseous effluent under accident conditions. The program shall be defined in Administrative Control Directives and will include the following:

- 1) Responsibilities for program implementation.
- 2) Delineation of instrumentation required.
- 3) Provisions for preventive maintenance and periodic surveillance of instrumentation.
- 4) Pre-planned procedures and back-up instrumentation to be used if one or more monitoring instruments become inoperable.
- 5) Administrative procedures for returning inoperable instruments to OPERABLE status as soon as practicable.

6.15 Secondary Water Chemistry

The licensee shall implement a secondary water chemistry monitoring program. The intent of this program will be to control corrosion thereby inhibiting steam generator tube degradation. The secondary water chemistry program shall act as a guide for the chemistry group in their routine as well as non-routine activities.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 59 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 AND BACKGROUND

In November 1980, the staff issued NUREG-0737, "Clarification of TMI Action Plan Requirements", which included all TMI Action Plan items approved by the Commission for implementation at nuclear power reactors. NUREG-0737 identifies those items for which Technical Specifications were scheduled for implementation after December 31, 1981. The staff provided guidance on the scope of Technical specifications for all of these items in Generic Letter 83-37. Generic Letter 83-37 was issued to all Pressurized Water Reactor (PWR) licensees on November 1, 1983. In this Generic Letter, the staff requested licensees to:

1. review their facility's Technical Specifications to determine if they were consistent with the guidance provided in the Generic Letter, and
2. submit an application for a license amendment where deviations or absence of Technical Specifications were found.

By letter dated March 30, 1984, Wisconsin Public Service Corporation (the licensee) responded to Generic Letter 83-37 by submitting a Technical Specification change request for the Kewaunee Nuclear Power Plant (KNPP). This evaluation covers the following TMI Action Plan items:

1. Reactor Coolant System Vents (II.B.1)
2. Post-Accident Sampling (II.B.3)
3. Noble Gas Effluent Monitors (II.F.1.1)
4. Sampling and Analysis of Plant Effluents (II.F.1.2)
5. Containment High-Range Radiation Monitor (II.F.1.3)
6. Containment Pressure Monitor (II.F.1.4)
7. Containment Water Level Monitor (II.F.1.5)
8. Containment Hydrogen Monitor (II.F.1.6)

8501160422 850109
PDR ADOCK 05000305
P PDR

EVALUATION

1. Reactor Coolant System Vents (II.B.1)

Our guidance for RCS vents identified the need for at least one operable vent path at the reactor vessel head and the pressurizer steam space, for Westinghouse reactors. Generic Letter 83-37 also provided limiting conditions for operation and the surveillance requirements for the RCS vents. The licensee has proposed TSs that are consistent with our guidance. We find the proposed TSs to be acceptable.

2. Post-Accident Sampling (II.B.3)

The guidance provided by Generic Letter 83-37 requested that an administrative program should be established, implemented and maintained to ensure that the licensee has the capability to obtain and analyze reactor coolant and containment atmosphere samples under accident conditions. The Post-Accident Sampling System is not required to be operable at all times. Administrative procedures are to be established for returning inoperable instruments to operable status as soon as practicable.

The licensee has provided a proposed revision to the TS which is consistent with the guidelines provided in our Generic Letter 83-37. We conclude that the licensee has an acceptable TS for the Post-Accident Sampling System.

3. Noble Gas Effluent Monitors (II.F.1.1)

The licensee has supplemented the existing normal range monitors to provide noble gas monitoring in accordance with Item II.F.1.1. The licensee has proposed TSs for noble gas effluent monitors in the Administrative Section of the Technical Specifications for KNPP. The licensee shall implement the administrative procedures to ensure appropriate surveillance and maintenance requirements for these monitors. The licensee has a pre-planned alternate method of monitoring appropriate parameters when one or more of the effluent monitors become inoperable.

We have reviewed the proposed TSs and determined that the licensee has proposed an acceptable alternative which meets the intent of the guidelines contained in Generic Letter 83-37. Therefore, we find the proposed TSs to be acceptable.

4. Sampling and Analysis of Plant Effluents (II.F.1.2)

The guidance provided by Generic Letter 83-37 requested that an administrative program should be established, implemented and maintained to ensure the capability to collect and analyze or measure representative samples of radioactive iodines and particulates in plant gaseous effluents during and following an accident. The licensee has proposed TSs that are consistent with our guidance. We conclude that the TSs for sampling and analysis of plant effluents are acceptable.

5. Containment High-Range Radiation Monitor (II.F.1.3)

The licensee has installed two in-containment monitors at KNPP that are consistent with the guidance of TMI Action Plan Item II.F.1.3. Generic Letter 83-37 provided guidance for limiting conditions of operation and surveillance requirements for these monitors. The licensee has proposed to include the TSs for containment high range radiation monitors in the Administrative Section of the Technical Specifications for KNPP. The licensee shall implement the administrative procedures to ensure appropriate surveillance and maintenance requirements for these monitors. The licensee has pre-planned alternate methods of monitoring radiation level inside the containment when both of these monitors are inoperable.

We have reviewed the proposed TSs by the licensee and determined that the licensee has proposed an acceptable alternative which meets the intent of the guidelines contained in Generic Letter 83-37. Therefore, we find the proposed TSs to be acceptable.

6. Containment Pressure Monitor (II.F.1.4)

The KNPP has been provided with two supplementary channels for monitoring containment pressure following an accident. The licensee has proposed TSs that are consistent with the guidelines contained in Generic Letter 83-37. We conclude that the proposed TSs for containment pressure monitor are acceptable.

7. Containment Water Level Monitor (II.F.1.5)

Narrow range and wide range containment water level monitors provide the capability required by TMI Action Plan Item II.F.1.5. The proposed TSs for wide range water level monitors contain limiting conditions of operation and surveillance requirements that are consistent with the guidance contained in Generic Letter 83-37. The TSs for narrow range water level instruments are adequately covered by existing TSs for KNPP. We conclude that the proposed TSs for containment water level monitors are acceptable.

8. Containment Hydrogen Monitor (II.F.1.6)

The licensee installed containment hydrogen monitors that provide the capability required by TMI Action Plan Item II.F.1.6. The proposed KNPP Technical Specifications contain appropriate limiting conditions of operation and surveillance for these monitors. We conclude that the proposed TSs are acceptable as they are consistent with the guidance contained in Generic Letter 83-37.

Environmental Consideration

This amendment involves a change in 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 Sec 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.

Conclusion

We have 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.

Dated: January 9, 1985

Principal Contributors:

Chandu Patel
Morton B. Fairtile