

May 15, 1987

Docket No. 50-305

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

Dear Mr. Hintz:

The Commission has issued the enclosed Amendment No. 74 to Facility Operating License No. DPR-43 for the Kewaunee Nuclear Power Plant. This amendment is in response to your application dated January 16, 1987.

The amendment corrects typographical errors, clarifies the requirements of existing specifications, and adopts requirements from NRC Generic Letter 83-37, dated November 1, 1983, entitled, "NUREG-0737 Technical Specifications" in regard to the containment hydrogen monitors.

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

Sincerely,

Theodore R. Quay, Project Manager
Project Directorate III-3
Division of Reactor Projects

Enclosures:

1. Amendment No. 74 to License No. DPR-43
2. Safety Evaluation

cc w/enclosures:
See next page

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Surname: PKreuzer
Date: 05/5/87

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Mr. D. C. Hintz
Wisconsin Public Service Corporation

Kewaunee Nuclear Power Plant

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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 POWER PLANT

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 74
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 January 16, 1987, 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:

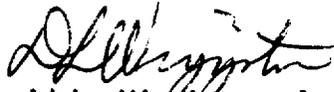
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(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 74, 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.

FOR THE NUCLEAR REGULATORY COMMISSION



David L. Wigginton, Acting Project Director
Project Directorate III-3
Division of Reactor Projects

Attachment:
Changes to the Technical
Specifications

Date of Issuance: May 15, 1987

ATTACHMENT TO LICENSE AMENDMENT NO. 74

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

3.5-4
Table 3.5-2 (Page 2 of 3)
Table TS 3.5-6
3.10-4
3.10-4a
6-18

INSERT

3.5-4
Table 3.5-2 (Page 2 of 3)
Table TS 3.5-6
3.10-4
3.10-4a
6-18

Setting Limits

1. The high containment pressure limit is set at about 10% of the maximum internal pressure. Initiation of Safety Injection protects against loss-of-coolant⁽²⁾ or steam line break⁽³⁾ accidents as discussed in the safety analysis.
2. The Hi-Hi containment pressure limit is set at about 50% of the maximum internal containment pressure for initiation of containment spray and at about 30% for initiation of steam line isolation. Initiation of containment spray and steam line isolation protects against large loss-of-coolant or steam line break accidents as discussed in the safety analysis.
3. The pressurizer low-pressure limit is set substantially below system operating pressure limits. However, it is sufficiently high to protect against a loss-of-coolant accident as shown in the safety analysis.
4. The steam line low-pressure signal is lead/lag compensated and its set-point is set well above the pressure expected in the event of a large steam line break accident as shown in the safety analysis.
5. The high steam line flow limit is set at approximately 20% of nominal full-load flow at the no-load pressure and the high-high steam line flow limit is set at approximately 120% of nominal full load flow at the full load pressure in order to protect against large steam break accidents. The coincident Lo-Lo T_{avg} setting limit for steam line isolation initiation is set below its hot shutdown value. The safety analysis shows that these settings provide protection in the event of a large steam break.

TABLE TS 3.5-2

INSTRUMENT OPERATION CONDITIONS FOR REACTOR TRIP
(Page 2 of 3)

NO.	FUNCTIONAL UNIT	1	2	3	4	5	6
		NO. OF CHANNELS	NO. OF CHANNELS TO TRIP	MINIMUM OPERABLE CHANNELS	MINIMUM DEGREE OF REDUNDANCY	PERMISSIBLE BYPASS CONDITIONS	OPERATOR ACTION IF CONDITIONS OF COLUMN 3 OR 4 CANNOT BE MET
8	High Pressurizer Pressure	3	2	2	-		Maintain hot shutdown
9	Pressurizer High Water Level	3	2	2	-	P-7	Maintain hot shutdown
10	Low Flow In One Loop	3/loop	2/loop (any loop)	2	-	P-8	Maintain hot shutdown
	Low Flow Both Loops	3/loop	2/loop (both loops)	2	-	P-7	Maintain hot shutdown
11	Deleted						
12	Lo-Lo Steam Generator Water Level	3/loop	2/loop	2/loop	-		Maintain hot shutdown
13	Undervoltage 4-KV Bus	2/bus	1/bus (both buses)	1/bus	-	P-7	Maintain hot shutdown
14	Underfrequency 4-KV Bus (4)	2/bus	1/bus (both buses)	1/bus	-		Maintain hot shutdown
15	Deleted						
16	Steam Flow/Feedwater Flow Mismatch	2	1	1	-		Maintain hot shutdown

Table 3.5-2 (Page 2 of 3)

Amendment No. 51, 71, 74

- A. Take corrective actions to improve the power distribution and upon achieving equilibrium conditions measure the target flux difference and verify that the relationships specified in 3.10.b.4 are satisfied, OR
 - B. Reduce reactor power and the high neutron flux trip setpoint by 1% for each percent that the left hand sides of the relationships specified in 3.10.b.4 exceed the limits specified in the right hand sides. Reactor power may subsequently be increased provided that a power distribution map verifies that the relationships of 3.10.b.4 are satisfied with at least 1% of margin for each percent of power level to be increased.
7. The reference equilibrium indicated axial flux difference as a function of power level (called the target flux difference) shall be measured at least once per full power month.
 8. The indicated axial flux difference shall be considered outside of the limits of sections 3.10.b.9 through 3.10.b.12 when more than one of the operable excore channels are indicating the axial flux difference to be outside a limit.
 9. Except during physics tests, during excore detector calibration and except as modified by 3.10.b.10 through 3.10.b.12 below, the indicated axial flux difference shall be maintained within a $\pm 5\%$ band about the target flux difference.
 10. At a power level greater than 90 percent of rated power if the indicated axial flux difference deviates from its target band, the flux difference shall be returned to the target band within 15 minutes or reactor power shall be reduced to a level no greater than 90 percent of rated power.
 11. At power levels greater than 50 percent and less than or equal to 90 percent of rated power:
 - A. The indicated axial flux difference may deviate from its $\pm 5\%$ target band for a maximum of one hour (cumulative) in any 24 hour period provided the flux difference does not exceed an envelope bounded by -10 percent and +10 percent from the target axial flux difference at 90% rated power and increasing by -1% and +1% from the target axial flux difference for each 2.7% decrease in rated power below 90% and

above 50%. If the cumulative time exceeds one hour, then the reactor power shall be reduced to less than or equal to 50% of rated thermal power within 30 minutes and the high neutron flux setpoint reduced to less than or equal to 55% of rated power.

If the indicated axial flux difference exceeds the outer envelope defined above, then the reactor power shall be reduced to less than or equal to 50% of rated thermal power within 30 minutes and the high neutron flux setpoint reduced to less than or equal to 55% of rated power.

- B. A power increase to a level greater than 90% of rated power is contingent upon the indicated axial flux difference being within its target band.
12. At a power level no greater than 50% of rated power:
- A. The indicated axial flux difference may deviate from its target band.
 - B. A power increase to a level greater than 50% of rated power is contingent upon the indicated axial flux difference not being outside its target band for more than two hours (cumulative) of the preceding 24-hour period.

One half of the time the indicated axial flux difference is out of its target band up to 50% of rated power is to be counted as contributing to the one hour cumulative maximum the flux difference may deviate from its target band at a power level less than or equal to 90% of rated power.

13. Alarms shall normally be used to indicate non-conformance with the flux difference requirement of 3.10.b.10 or the flux difference time requirement of 3.10.b.11A. If the alarms are temporarily out of service, the axial flux difference shall be logged, and conformance with the limits assessed, every hour for the first 24 hours, and half-hourly thereafter.

TABLE 3.5-6

INSTRUMENTATION OPERATING CONDITIONS FOR INDICATION

NO.	FUNCTIONAL UNIT	¹ REQUIRED TOTAL NO. OF CHANNELS	² MINIMUM CHANNELS OPERABLE ⁽²⁾
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⁾	1/steam gen
2	Reactor Coolant System Subcooling Margin	2 ⁽¹⁾	1
3	Pressurizer Power Operated Relief Valve Position (One Common Channel Temperature, One Channel Limit Switch per Valve)	2/valve ⁽¹⁾	1/valve
4	Pressurizer Power Operated Relief Block Valve Position (One Common Channel Temperature, One Channel Limit Switch per Valve)	2/valve ⁽¹⁾	1/valve
5	Pressurizer Safety Valve Position (One Channel Temperature, and one Acoustic Sensor per valve)	2/valve ⁽¹⁾	1/valve
6	Containment Water Level (wide range)	2 ⁽¹⁾	1
7	Containment Hydrogen Monitor	2 ⁽³⁾	1
8	Containment Pressure Monitor (wide range)	2 ⁽¹⁾	1

(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 14 days, or be in at least Hot Shutdown within the next 12 hours.

(2) 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.

(3) 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 30 days or be in at least Hot Shutdown within the next 12 hours.

Table TS 3.5-6

Amendment No. 59, 71, 74

wind direction, and atmospheric stability.³ This same report shall include an assessment of the radiation doses due to the radioactive liquid and gaseous effluents released from the unit during the previous calendar year. The assumptions used in making these assessments, i.e., specific activity, exposure time and location, shall be included in these reports. The assessment of radiation doses shall be performed based on the calculational guidance, as presented in the OFFSITE DOSE CALCULATION MANUAL (ODCM).

The Radioactive Effluent Release Report to be submitted 60 days after January 1 of each year shall also include an assessment of radiation doses to the likely most exposed MEMBER OF THE PUBLIC from reactor releases and other nearby uranium fuel cycle sources, including doses from primary effluent pathways and direct radiation, the previous calendar year to show conformance with 40 CFR Part 190, Environmental Radiation Protection Standards for Nuclear Power Operation.

(c) Solid Waste Shipped

The Radioactive Effluent Release Reports shall include the following information for each class of solid waste (as defined by 10 CFR Part 61) shipped offsite during the report period:

- a. Container volume,
- b. Total curie quantity (specify whether determined by measurement or estimate),
- c. Principal radionuclides (specify whether determined by measurement or estimate),

³In lieu of submission with the second half year Radioactive Effluent Release Report, the licensee has the option of retaining this summary of required meteorological data on site in a file that shall be provided to the NRC upon request.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATING TO AMENDMENT NO. 74 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 January 16, 1987, the Wisconsin Public Service Corporation, et al., (the licensee) submitted a request for certain revisions to the Kewaunee Nuclear Power Plant's (KNPP) Technical Specifications (TS).

2.0 DISCUSSION

The proposed amendment corrects typographical errors, clarifies the requirements of existing specifications, and adopts wording from the Nuclear Regulatory Commission's Standard Technical Specifications (STS) (NUREG-0452). Some of the proposed changes affect TS pages that have since been modified by intervening TS amendments and these pages have been corrected to reflect those amendments.

3.0 EVALUATION

A. 3.10 Control Rod and Power Distribution Limits
Pages TS 3.10-4, TS 3.10-4a and TS 3.10-4b

The proposed changes incorporate wording from the STS for Pressurized Water Reactors to better define the action statement when the axial flux difference deviates from its target band at power greater than 90 percent rated power (Page TS 3.10-4). The existing TS's require the reactor power to be reduced "immediately" if the specification requirements are not satisfied. Since "immediately" is not defined, the licensee proposes to incorporate the STS action to return the axial flux difference to within the target band within 15 minutes.

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The action statement "immediately" is also used in the existing TS to initiate reduction in power when the cumulative indicated flux difference has exceeded its ± 5 percent target band for greater than 1 hour in any 24-hour period (Page TS 3.10-4a). The licensee proposes to incorporate the STS action statement which requires the reduction of reactor power to less than or equal to 50 percent rated power within 30 minutes.

The licensee also proposes the insertion of a new paragraph which will place the additional operating restriction of a power reduction to 50 percent or less if the indicated axial flux difference exceeds the defined outer envelope. This new restriction is one which is promulgated by STS.

The staff has reviewed the above modifications and finds that the revised action statements and inserted paragraph are consistent with STS requirements and are, therefore, acceptable.

B. Table TS 3.4-6, Instrumentation Operating Conditions for Indication

The proposed change to Table TS 3.4-6 would add a third footnote to the table that would increase the allowable outage time for one of the two channels of the containment hydrogen monitoring system from 14 days to 30 days. Other proposed modifications change the table footnote identifications from asterisks to numbers to provide clarity.

The action time proposed in Footnote (3) is essentially the same as the action promulgated by STS allowing one of the two Containment Hydrogen Monitors to be inoperable up to 30 days. The new footnote also requires the reactor to be in at least Hot Shutdown within the next 12 hours vs the STS requirement of 6 hours. The licensee chose to use 12 hours to be consistent with other KNPP TS action statements of this type.

The staff has reviewed the above changes and finds them to be administrative in nature and consistent with STS requirements or with original licensing bases and, therefore, they are acceptable.

C. Miscellaneous Changes to TS Pages 3.5-4 and 6-18 and Table 3.5-2 (Page 2 of 3)

In Page TS 3.5-4 the proposed change would correct typographical errors by changing "Low Tavg" to Lo-Lo Tavg (Page TS 3.5-4) which is in accordance with the original plant design and Item 5 of Table 3.5-1.

On Page TS 6-18, the proposed modification would change "first half year" to "second half year." This would correct the footnote to make it consistent with 6.9.3.b(1)(a) which requires an annual summary of meteorological data be submitted with the first Semiannual Radioactive Effluent Release Report of the year.

On Table TS 3.5-2, the proposed amendment corrects a typographical error by changing "(any loop)" to "(both loops)" to be consistent with the functional unit definitions in the table.

The above proposed changes were made to correct errors in the wording of existing specifications and do not remove any TS requirements; therefore, the staff finds them acceptable.

4.0 ENVIRONMENTAL CONSIDERATION

This amendment relates to changes in recordkeeping, reporting, or administrative procedures or requirements. Accordingly, this amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(10). 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.

5.0 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; 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.

Principal Contributor: K. R. Ridgway

Dated: May 15, 1987

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