



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

April 23, 1999

Mr. Michael B. Sellman
Senior Vice President and
Chief Nuclear Officer
Wisconsin Electric Power Company
231 West Michigan Street
Milwaukee, WI 53201

SUBJECT: POINT BEACH NUCLEAR PLANT, UNITS 1 AND 2 - ISSUANCE OF
AMENDMENTS RE: TECHNICAL SPECIFICATIONS REQUIREMENTS FOR
4KV UNDERVOLTAGE TRIP SETPOINTS (TAC NOS. MA2078 AND MA2079)

Dear Mr. Sellman:

The Commission has issued the enclosed Amendment No. 189 to Facility Operating License No. DPR-24 and Amendment No. 194 to Facility Operating License No. DPR-27 for the Point Beach Nuclear Plant, Units 1 and 2, respectively. The amendments consist of changes to the Technical Specifications (TS) in response to your application dated May 28, 1998, as supplemented by additional information in your letter dated December 11, 1998.

These amendments change the TS to provide specific numerical setpoint limits for reactor trip, reactor coolant pump trip, and auxiliary feedwater initiation on loss of power to the 4 kV buses.

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

Sincerely,

Beth A. Wetzel, Senior Project Manager, Section 1
Project Directorate III
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket Nos. 50-266 and 50-301

Enclosures: 1. Amendment No. 189 to DPR-24
2. Amendment No. 194 to DPR-27
3. Safety Evaluation

cc w/encs: See next page

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Original signed by:

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NAME	BWetzel:db	BW	THarris J24		JCalvo	SeDuke	GDick	hah
DATE	4/19/99		4/19/99		3/11/99	4/20/99	4/22/99	

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Mr. Michael B. Sellman
Wisconsin Electric Power Company

Point Beach Nuclear Plant
Units 1 and 2

cc:

Mr. John H. O'Neill, Jr.
Shaw, Pittman, Potts & Trowbridge
2300 N Street, NW
Washington, DC 20037-1128

Ms. Sarah Jenkins
Electric Division
Public Service Commission of Wisconsin
P.O. Box 7854
Madison, Wisconsin 53707-7854

Mr. Richard R. Grigg
President and Chief Operating Officer
Wisconsin Electric Power Company
231 West Michigan Street
Milwaukee, Wisconsin 53201

Mr. Mark E. Reddemann
Site Vice President
Point Beach Nuclear Plant
Wisconsin Electric Power Company
6610 Nuclear Road
Two Rivers, Wisconsin 54241

Mr. Ken Duveneck
Town Chairman
Town of Two Creeks
13017 State Highway 42
Mishicot, Wisconsin 54228

Chairman
Public Service Commission
of Wisconsin
P.O. Box 7854
Madison, Wisconsin 53707-7854

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

Resident Inspector's Office
U.S. Nuclear Regulatory Commission
6612 Nuclear Road
Two Rivers, Wisconsin 54241

DATED: April 23, 1999

AMENDMENT NO. 189 TO FACILITY OPERATING LICENSE NO. DPR-24 - POINT BEACH UNIT 1
AMENDMENT NO. 194 TO FACILITY OPERATING LICENSE NO. DPR-27 - POINT BEACH UNIT 2

Docket File (50-266, 50-301)

PUBLIC

PD3/SecIII-1 Rdg

J. Zwolinski/S. Black

C. Thomas/G. Dick

T. Harris

B. Wetzel (2)

W. Long

OGC

G. Hill (4)

W. Beckner

J. Calvo

F. Burrows

ACRS

R. Lanksbury, RIII

SEDB (RCN)

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

WISCONSIN ELECTRIC POWER COMPANY

DOCKET NO. 50-266

POINT BEACH NUCLEAR PLANT, UNIT 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 189
License No. DPR-24

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Wisconsin Electric Power Company (the licensee) dated May 28, 1998, as supplemented with additional information in letter dated December 11, 1998, 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.

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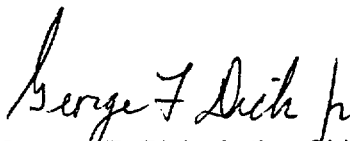
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 3.B of Facility Operating License No. DPR-24 is hereby amended to read as follows:

B. Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 189, are hereby incorporated in the license. The licensee shall operate the facility in accordance with Technical Specifications.

3. This license amendment is effective immediately upon issuance. The Technical Specifications are to be implemented within 45 days of the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



George F. Dick, Acting Chief, Section 1
Project Directorate III
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical
Specifications

Date of issuance: April 23, 1999



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

WISCONSIN ELECTRIC POWER COMPANY

DOCKET NO. 50-301

POINT BEACH NUCLEAR PLANT, UNIT 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 194
License No. DPR-27

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Wisconsin Electric Power Company (the licensee) dated May 28, 1998, as supplemented with additional information in letter dated December 11, 1998, 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 3.B of Facility Operating License No. DPR-27 is hereby amended to read as follows:

B. Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 194 , are hereby incorporated in the license. The licensee shall operate the facility in accordance with Technical Specifications.

3. This license amendment is effective immediately upon issuance. The Technical Specifications are to be implemented within 45 days of the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



George F. Dick, Acting Chief, Section 1
Project Directorate III
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical
Specifications

Date of issuance: April 23, 1999

ATTACHMENT TO LICENSE AMENDMENT NO. 189

TO FACILITY OPERATING LICENSE NO. DPR-24

AND LICENSE AMENDMENT NO. 194

TO FACILITY OPERATING LICENSE NO. DPR-27

DOCKET NOS. 50-266 AND 50-301

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 vertical lines indicating the area of change.

REMOVE

15.2.3-3
15.2.3-7
Table 15.3.5-1, Page 1

INSERT

15.2.3-3
15.2.3-7
Table 15.3.5-1, Page 1

- (c) for each percent that the magnitude of $q_t - q_b$ exceeds -17 percent, the ΔT trip setpoint shall be automatically reduced by an equivalent of 2.0 percent of rated power.

- (5) Overpower

$$\Delta T \left(\frac{1}{1 + \tau_3 S} \right)$$

$$\leq \Delta T_o [K_4 - K_5 \left(\frac{\tau_5 S}{\tau_5 S + 1} \right) \left(\frac{1}{1 + \tau_4 S} \right) T - K_6 \left[T \left(\frac{1}{1 + \tau_4 S} \right) - T' \right]]$$

where (values are applicable to operation at both 2000 psia and 2250 psia)

- ΔT_o = indicated ΔT at rated power, °F
 T = average temperature, °F
 T' ≤ 572.9°F*
 K_4 ≤ 1.09 of rated power*
 K_5 = 0.0262 for increasing T
 = 0.0 for decreasing T
 K_6 = 0.00123 for $T \geq T'$
 = 0.0 for $T < T'$
 τ_5 = 10 sec
 τ_3 = 2 sec for Rosemont or equivalent RTD
 0 sec for Sostman or equivalent RTD
 τ_4 = 2 sec for Rosemont or equivalent RTD
 0 sec for Sostman or equivalent RTD

- (6) Undervoltage - ≥ 3120V
 (7) Indicated reactor coolant flow per loop -
 ≥ 90 percent of normal indicated loop flow
 (8) Reactor coolant pump motor breaker open
 (a) Low frequency set point ≥ 55.0 HZ
 (b) Low voltage set point ≥ 3120V

* These values apply to Unit 2 following U2R22 and to Unit 1 following U1R24. Prior to U1R24, the values for Unit 1 are: $T' \leq 573.9^\circ\text{F}$ and $K_4 \leq 1.089$ of rated power.

as actuated by either high current, low supply voltage or low electrical frequency, or by a manual control switch. The significant feature of the breaker trip is the frequency setpoint, 55.0 HZ, which assures a trip signal before the pump inertia is reduced to an unacceptable value. The high pressurizer water level reactor trip protects the pressurizer safety valves against water relief. The specified setpoint allows adequate operating instrument error⁽²⁾ and transient overshoot in level before the reactor trips.

The low-low steam generator water level reactor trip protects against loss of feedwater flow accidents. The specified setpoint assures that there will be sufficient water inventory in the steam generators at the time of trip to allow for starting delays for the auxiliary feedwater system.⁽⁹⁾

Numerous reactor trips are blocked at low power where they are not required for protection and would otherwise interfere with normal plant operations. The prescribed setpoint above which these trips are unblocked assures their availability in the power range where needed. Specifications 15.2.3.2.A(1) and 15.2.3.2.C have $\pm 1\%$ tolerance to allow for a 2% deadband of the P10 bistable which is used to set the limit of both items. The difference between the nominal and maximum allowed value (or minimum allowed value) is to account for "as measured" rack drift effects.

Sustained power operation is not permitted with only one reactor coolant pump. If a pump is lost while operating below 50 percent power, an orderly shutdown is allowed. The power-to-flow ratio will be maintained equal to or less than unity, which ensures that the minimum DNB ratio increases at lower flow because the maximum enthalpy rise does not increase above the maximum enthalpy rise which occurs during full power and full flow operation.

References

(1) FSAR 14.1.1

(2) FSAR, Page 14-5

(3) FSAR 14.2.6

(4) FSAR 14.3.1

(5) FSAR 14.1.2

(6) FSAR 7.2, 7.7

(7) FSAR 3.2.1

(8) FSAR 14.1.9

(9) FSAR 14.1.11

TABLE 15.3.5-1
(PAGE 1 OF 2)
ENGINEERED SAFETY FEATURES INITIATION INSTRUMENT SETTING LIMITS

<u>NO.</u>	<u>FUNCTIONAL UNIT</u>	<u>CHANNEL</u>	<u>SETTING LIMIT</u>
1	High Containment Pressure (Hi)	Safety Injection*	≤ 6 psig
2	High Containment Pressure (Hi-Hi)	a. Containment Spray b. Steam Line Isolation of Both Lines	≤ 30 psig ≤ 20 psig
3	Pressurizer Low Pressure	Safety Injection*	≥ 1715 psig
4	Low Steam Line Pressure	Safety Injection* Lead Time Constant Lag Time Constant	≥ 500 psig ≥ 12 seconds ≤ 2 seconds
5	High Steam Flow in a Steam Line Coincident with Safety Injection and Low T _{AVG}	Steam Line Isolation of Affected Line	\leq d/p corresponding to 0.66 x 10 ⁶ lb/hr at 1005 psig $\geq 540^{\circ}\text{F}$
6	High-high Steam Flow in a Steam Line Coincident with Safety Injection	Steam Line Isolation of Affected Line	\leq d/p corresponding to 4 x 10 ⁶ lb/hr at 806 psig
7	Low-low Steam Generator Water Level	Auxiliary Feedwater Initiation	$\geq 20\%$ of narrow range instrument $\geq 5\%$ of narrow range instrument (Unit 1)**
8	Undervoltage on 4 KV Busses	Auxiliary Feedwater Initiation	$\geq 3120\text{V}$

* Initiates also containment isolation, feedwater line isolation and starting of all containment fans.

** This setting limit applies to Unit 1 until the narrow range lower tap is changed to the lower position consistent with Unit 2.

d/p means differential pressure

Unit 1 - Amendment No. 189

Unit 2 - Amendment No. 194



**UNITED STATES
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WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 189

TO FACILITY OPERATING LICENSE NO. DPR-24

AND AMENDMENT NO. 194 TO FACILITY OPERATING LICENSE NO. DPR-27

WISCONSIN ELECTRIC POWER COMPANY

POINT BEACH NUCLEAR PLANT, UNITS 1 AND 2

DOCKET NOS. 50-266 AND 50-301

1.0 INTRODUCTION

By letter dated May 28, 1998, as supplemented with additional information in letter dated December 11, 1998, the Wisconsin Electric Power Company (the licensee) requested amendments to the Technical Specifications (TS) appended to Facility Operating License No. DPR-24 for Point Beach Nuclear Plant, Unit 1, and Facility Operating License No. DPR-27 for Point Beach Nuclear Plant, Unit 2. The proposed amendments would change the TS to provide specific numerical setpoint limits for reactor trip, reactor coolant pump trip and auxiliary feedwater initiation on loss of power to the 4 kV buses.

The application also requests bases changes to properly reflect reactor operating restrictions with less than two reactor coolant pumps operating. These changes are consistent with previously approved Amendment 178 (Unit 1) and Amendment 182 (Unit 2).

The additional information provided by the December 11, 1998, letter provided additional clarifying information and did not affect the staff's initial determination of no significant hazards consideration.

2.0 EVALUATION

2.1 Undervoltage Setpoint Limits

The licensee proposed to delete ">75 percent of normal voltage" and substitute ">3120 volts" for the undervoltage relay limiting safety system settings for the undervoltage reactor trip protection function (Specification 15.2.3 (6)), the reactor coolant pump motor breaker function (Specification 15.2.3 (8) (b)), and the auxiliary feedwater initiation function (Specification 15.3.5-1 Item 8). The purpose of these proposed changes is to provide a specific numerical value, "3120 volts," for the settings instead of a settings based on a percentage of a non-specific term, "normal voltage," which can cause confusion since the term is not defined in the TS.

Since "normal" or "nominal" voltage for a 4 kV system is typically understood to be 4160 V and 75% of that would be 3120 V, the staff views the proposed changes as mainly editorial in nature and finds them acceptable on that basis.

During discussions pertaining to the background information related to these changes, the licensee stated that calculations supporting the selection of the proposed numerical limiting safety system settings were updated taking the effects of voltage decay, equipment response times, and instrumentation errors into account. Although the proposed changes to the TS were considered to be editorial as stated above, the staff reviewed the supporting calculations (Sargent & Lundy Calculation No. 93334281.01 and Duke Engineering & Services CALC No. PBNP-IC-33) and found them to be conservative.

2.2 Changes to Bases

The BASES presently state:

Sustained operation with only one pump will not be permitted above 3.5 percent power. If a pump is lost while operating between 3.5 percent and 50 percent power, an orderly and immediate reduction in power level to below 3.5 percent is allowed. The power-to-flow ratio will be maintained equal to or less than unity, which ensures that the minimum DNB ratio increases at lower flow because the maximum enthalpy rise does not increase above the maximum enthalpy rise which occurs during full power and full flow operation.

This would be changed to read:

Sustained power operation is not permitted with only one reactor coolant pump. If a pump is lost while operating below 50 percent power, an orderly shutdown is allowed. The power-to-flow ratio will be maintained equal to or less than unity, which ensures that the minimum DNB ratio increases at lower flow because the maximum enthalpy rise does not increase above the maximum enthalpy rise which occurs during full power and full flow operation.

These changes are consistent with previously approved Amendment 178 (Unit 1) and Amendment 182 (Unit 2). Current safety analyses for the loss of reactor coolant flow event when power is greater than 50%, assume that both reactor coolant pumps are initially operating and failure of either pump will cause a reactor trip. If reactor power is less than 50%, and one reactor coolant pump is lost, an orderly shutdown is permitted, no reactor trip being necessary. The proposed bases changes are necessary to properly reflect these features.

Bases page 15.2.3-7 was also changed to reflect a revision to the Final Safety Analysis Report (FSAR). Reference 6 reflects this change by replacing FSAR Section 7.3 with Section 7.7

3.0 STATE CONSULTATION

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

4.0 ENVIRONMENTAL CONSIDERATION

These amendments change 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. The staff has determined that the amendments involve 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 published a proposed finding that these amendments involve no significant hazards consideration and there has been no public comment on such finding (63 FR 38198). Accordingly, these amendments meet 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 these amendments.

5.0 CONCLUSION

The Commission 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 the amendments will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: F. Burrows

Date: April 23, 1999

April 23, 1999

Mr. Michael B. Sellman
Senior Vice President and
Chief Nuclear Officer
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Milwaukee, WI 53201

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Docket Nos. 50-266 and 50-301

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