

March 2, 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: UNDERVOLTAGE REACTOR TRIP (TAC NOS. MA4161  
AND MA4162)

Dear Mr. Sellman:

The Commission has issued the enclosed Amendment No. 188 to Facility Operating License No. DPR-24 and Amendment No. 193 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 October 7, 1998.

These amendments incorporate changes to the TS to ensure the 4 kV bus undervoltage input to the reactor trip protective function is controlled in accordance with the design and licensing basis for the facility. An additional administrative change removes the footnote related to the definition of Rated Power in TS 15.1.j.

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,

Original signed by:

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

Docket Nos. 50-266 and 50-301

- Enclosures: 1. Amendment No. 188 to DPR-24
- 2. Amendment No. 193 to DPR-27
- 3. Safety Evaluation

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DATE	2/10/99		2/16/99		2/19/99		02/01/99		2/24/99		3/1/99	

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NAME	FLyon		BWetzel		CJamerson		JWermiel		R Backmann		CACarpenter	
DATE	2/10/99		2/16/99		2/9/99		02/01/99		2/24/99		3/1/99	

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

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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,

A handwritten signature in cursive script that reads "Beth A. Wetzel".

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

Docket Nos. 50-266 and 50-301

Enclosures: 1. Amendment No. 188 to DPR-24  
2. Amendment No. 193 to DPR-27  
3. Safety Evaluation

cc w/encls: See next page

Mr. Michael B. Sellman  
Wisconsin Electric Power Company

Point Beach Nuclear Plant  
Units 1 and 2

cc:

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U.S. Nuclear Regulatory Commission  
6612 Nuclear Road  
Two Rivers, Wisconsin 54241

DATED: March 2, 1999

AMENDMENT NO.188 TO FACILITY OPERATING LICENSE NO. DPR-24 - POINT BEACH UNIT 1  
AMENDMENT NO.193 TO FACILITY OPERATING LICENSE NO. DPR-27 - POINT BEACH UNIT 2

Docket File (50-266, 50-301)

PUBLIC

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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. 188  
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 October 7, 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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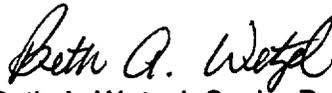
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 3.B of Facility Operating License No. DPR-24 is hereby amended to read as follows:

B. Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 188, 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 from the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



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

Attachment: Changes to the Technical  
Specifications

Date of issuance: March 2, 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. 193  
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 October 7, 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. 193 , 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 from the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



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

Attachment: Changes to the Technical  
Specifications

Date of issuance: March 2, 1999

ATTACHMENT TO LICENSE AMENDMENT NO. 188  
TO FACILITY OPERATING LICENSE NO. DPR-24  
AND LICENSE AMENDMENT NO. 193  
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

15.1-4  
Table 15.3.5-2 (page 2 of 3)

INSERT

15.1-4  
Table 15.3.5-2 (page 2 of 3)

2) Cold Shutdown

The reactor is in the cold shutdown condition when the reactor has a shutdown margin of at least 1%  $\Delta k/k$  and reactor coolant temperature is  $\leq 200^\circ\text{F}$ .

3) Refueling Shutdown

The reactor is in the refueling shutdown condition when the reactor is subcritical by at least 5%  $\Delta k/k$  and  $T_{\text{avg}}$  is  $\leq 140^\circ\text{F}$ . A refueling shutdown refers to a shutdown to move fuel to and from the reactor core.

4) Shutdown Margin

Shutdown margin is the instantaneous amount of reactivity by which the reactor core would be subcritical if all withdrawn control rods were tripped into the core but the highest worth withdrawn RCCA remains fully withdrawn. If the reactor is shut down from a power condition, the hot shutdown temperature should be assumed. In other cases, no change in temperature should be assumed.

h. Power Operation

The reactor is in power operating condition when the reactor is critical and the average neutron flux of the power range instrumentation indicates greater than 2% of rated power.

i. Refueling Operation

Refueling operation is any operation involving movement of core components (those that could affect the reactivity of the core) within the containment when the vessel head is removed.

j. Rated Power

Rated power is here defined as a steady state reactor core output of 1518.5 MWT.

k. Thermal Power

Thermal power is defined as the total core heat transferred from the fuel to the coolant.

TABLE 15.3.5-2 (continued)

NO.	FUNCTIONAL UNIT	1	2	3	4	OPERATOR ACTION IF CONDITIONS OF COLUMN 3 CANNOT BE MET
		TOTAL NO. OF CHANNELS	NO. OF CHANNELS TO TRIP	MINIMUM OPERABLE CHANNELS	PERMISSIBLE BYPASS CONDITIONS	
9.	Hi Pressurizer Water Level	3	2	2**		Be in hot shutdown in 8 hours
10.	Low Reactor Coolant System Flow					
a.	Low Flow in One Loop (>50% full power)	3/loop	2/loop (any loop)	2/loop**		Be in hot shutdown in 8 hours
b.	Low Flow in Both Loops (10-50% full power)	3/loop	2/loop (both loops)	2/loop**		Be in hot shutdown in 8 hours
11.	Turbine Trips					
a.	Turbine Autostop Oil Pressure	3	2	2**		Be <50% of rated power within 4 hours
b.	Turbine Stop Valve Position	2	2	2**		Be <50% of rated power within 4 hours
12.	Steam Flow-Feedwater Flow Mismatch	2/loop	1/loop	1/loop		Be in hot shutdown in 8 hours
13.	Lo Lo Steam Generator Water Level (input to reactor trip)	3/loop	2/loop	2/loop**		Be in hot shutdown in 8 hours
14.	4KV Bus (A01 and A02)					
a.	Undervoltage (input to reactor trip)	2/each bus	1/each bus	1/each** bus		Be in hot shutdown in 8 hours
b.	Underfrequency	2/each bus	1/each bus	1/each bus		Be in hot shutdown in 8 hours



UNITED STATES  
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 188

TO FACILITY OPERATING LICENSE NO. DPR-24

AND AMENDMENT NO. 193 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 October 7, 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 (PBNP), Unit 1, and Facility Operating License No. DPR-27 for PBNP, Unit 2. The proposed amendments would incorporate changes to the TS to ensure the 4 kV bus undervoltage input to the reactor trip protective function is controlled in accordance with the design and licensing basis for the facility. An additional administrative change would remove the footnote related to the definition of Rated Power in TS 15.1.j.

2.0 EVALUATION

2.1 Definition of Rated Power

The licensee proposes to delete the footnote indicated by \* at the bottom of TS page 15.1-4 and delete reference to the footnote in TS 15.1.j, the definition of "Rated Power." The footnote states:

For Unit 2: If the Reactor Coolant System raw measured total flow rate is <174,000 gpm but  $\geq$  169,500 gpm, Unit 2 shall be limited to  $\leq$ 98% rated power.

The footnote was originally approved by Amendments 165 and 169 to Facility Operating License Nos. DPR-24 and DPR-27 for the PBNP, Units 1 and 2, dated November 17, 1995. The amendments supported operation of Unit 2 at reduced reactor coolant system flows as a result of increased steam generator tube plugging levels. Subsequently, the Unit 2 steam generators were replaced. Operation with the new steam generators was approved by Amendments 173 and 177, dated July 1, 1997.

The analyses supporting Amendments 173 and 177 were performed at a reactor coolant system total flow rate of 181,800 gpm based on an assumed measurement uncertainty of 2.1

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percent over thermal design flow (178,000 gpm), as reflected in TS 15.3.1.G. Therefore, the footnote is no longer applicable and no longer supported by the approved analyses. The proposed change is supported by the analyses reviewed and approved for Amendments 173 and 177. The footnote should have been removed with the approval of Amendments 173 and 177. The change is administrative and reflects the current approved operation of Unit 2 and is acceptable to the staff.

## 2.2 Undervoltage Reactor Trip

The licensee proposes to add the existing table footnote \*\* to TS Table 15.3.5-2, "Instrument Conditions for Reactor Trip," Item 14.a, "4KV Bus (A01 and A02) Undervoltage (input to reactor trip)," column 3, "Minimum Operable Channels." The existing footnote \*\* states:

If a channel is determined to be inoperable, resulting in one less than the total number of channels being operable, power operation may continue if the following conditions are met:

1. The minimum number of operable channels is still satisfied.
2. The affected channel is placed in trip within 1 hour.

As discussed in the PBNP Final Safety Analysis Report (FSAR), Section 14.1.8, the undervoltage reactor trip is the primary protective function credited in the complete loss-of-reactor-coolant-flow analysis. As noted in FSAR Section 7.2.1, primary protective functions are designed to meet the criteria of proposed IEEE [Institute of Electrical and Electronics Engineers] Standard 279 - 1968, "Nuclear Power Plant Protection Systems," including protection against single failures.

Four kV buses A01 and A02 each supply one reactor coolant pump. An undervoltage on a bus will result in the loss of power to the associated pump. Loss of power to both buses will result in a complete loss of reactor coolant flow. The undervoltage reactor trip protection function is made up of a "one out of two taken twice" channel logic. That is, there are two channels sensing undervoltage on each 4 kV bus, A01 and A02, for a total of four channels. One channel on each bus must sense an undervoltage to make up the trip logic.

The present TS for this function allows an inoperable channel to exist indefinitely with no action required. If one channel on a bus were failed in the untripped condition and the remaining channel on that bus failed to trip during an actual undervoltage condition, an undervoltage on that bus would not be sensed. Since the logic would only sense an undervoltage on the bus with the two operable channels, the trip logic would not be satisfied and a protective reactor trip would be prevented. Thus, the single failure criterion of IEEE 279 is not satisfied for this primary protective function under the existing TS-allowed condition.

The licensee proposes to make the existing table footnote \*\* applicable to this line item. With the logic for this function, placing one channel on a single bus in trip results in that half of the trip logic being satisfied. Therefore, the response of one or both channels on the other bus to an undervoltage condition would result in a protective reactor trip. Since one operable channel can fail and the protective function still be satisfied with an inoperable channel in the tripped condition, the proposed change ensures meeting the single failure criterion required by IEEE 279 and documented in the FSAR.

Placing an inoperable channel on a single bus in the tripped condition will ensure the protective function will be fulfilled assuming a single failure in the remaining channels. When failures occur within the function that would prevent the protective function actuation while assuming a single failure occurs, action is required to place the unit in a hot shutdown condition, where the protective function is not required.

The proposed change will ensure that applicable safety limits are met for the complete loss-of-reactor-coolant-flow event, as analyzed in the FSAR. The proposed change is essentially identical to the provisions contained in NUREG 1431, Rev.1, "Standard Technical Specifications, Westinghouse Plants," Section 3.3.1, and is acceptable to the staff.

### 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 71978). 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: C. Lyon

Date: March 2, 1999