

July 3, 1986

Docket Nos. 50-266  
and 50-301

Mr. C. W. Fay, Vice President  
Nuclear Power Department  
Wisconsin Electric Power Company  
231 West Michigan Street, Room 308  
Milwaukee, Wisconsin 53201

Dear Mr. Fay:

The Commission has issued the enclosed Amendment Nos. 103 and 106 to Facility Operating License Nos. DPR-24 and DPR-27 for the Point Beach Nuclear Plant, Unit Nos. 1 and 2. The amendments consist of changes to the Technical Specifications in response to your application dated April 10, 1985 as modified February 14 and March 10, 1986.

These amendments revise the limiting conditions for operation (LCOs) for the reactor coolant pumps to provide more restrictive limits for critical and subcritical operation. Administrative renumbering of several Technical Specifications was also done.

As discussed with and agreed to by members of your staff during a March 10, 1986 conference call, additional words clarifying the intent of proposed Technical Specification 15.3.1.A1a(3) were added. Your February 14, 1986 submittal has been modified accordingly to reflect these changes.

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

Sincerely,

*TS/*

Timothy G. Colburn, Project Manager  
PWR Project Directorate #1  
Division of PWR Licensing-A

Enclosures:

1. Amendment No. 103 to DPR-24
2. Amendment No. 106 to DPR-27
3. Safety Evaluation

cc w/enclosures:  
See next page

\*SEE PREVIOUS CONCURRENCE

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Date: 06/17/86

06/17/86

06/18/86

06/20/86

Mr. C. W. Fay  
Wisconsin Electric Power Company

Point Beach Nuclear Plant  
Units 1 and 2

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

WISCONSIN ELECTRIC POWER COMPANY

DOCKET NO. 50-266

POINT BEACH NUCLEAR PLANT, UNIT NO. 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 103  
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 April 10, 1985 as modified February 14 and March 10, 1986 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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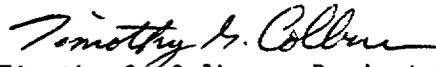
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 3.B of Facility Operating License No. DPR-24 is hereby amended to read as follows:

B. Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 103, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective 20 days from the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Timothy G. Colburn, Project Manager  
PWR Project Directorate #1  
Division of PWR Licensing-A

Attachment:  
Changes to the Technical  
Specifications

Date of Issuance: July 3, 1986



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

WISCONSIN ELECTRIC POWER COMPANY  
DOCKET NO. 50-301  
POINT BEACH NUCLEAR PLANT, UNIT NO. 2  
AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 106  
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 April 10, 1986 as modified February 14, and March 10, 1986 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.

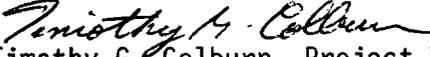
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 3.B of Facility Operating License No. DPR-27 is hereby amended to read as follows:

B. Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 106, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective 20 days from the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

  
Timothy G. Colburn, Project Manager  
PWR Project Directorate #1  
Division of PWR Licensing-A

Attachment:  
Changes to the Technical  
Specifications

Date of Issuance: July 3, 1986

ATTACHMENT TO LICENSE AMENDMENT NOS.103 AND106  
TO FACILITY OPERATING LICENSE NOS. DPR-24 AND 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 the captioned amendment number and contain marginal lines indicating the area of change.

REMOVE

15.2.3-7  
15.3.1-1  
15.3.1-3b  
15.3.1-3d

INSERT

15.2.3-7  
15.3.1-1  
15.3.1-3b  
15.3.1-3d

the reactor coolant pump breaker opening 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 <sup>(2)</sup> 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.<sup>(9)</sup>

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 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.

#### References

- |                     |                   |                  |
|---------------------|-------------------|------------------|
| (1) FSAR 14.1.1     | (4) FSAR 14.3.1   | (7) FSAR 3.2.1   |
| (2) FSAR, Page 14-3 | (5) FSAR 14.1.2   | (8) FSAR 14.1.9  |
| (3) FSAR 14.2.6     | (6) FSAR 7.2, 7.3 | (9) FSAR 14.1.11 |

Unit 1 Amendment No. 88, 94, 103  
Unit 2 Amendment No. 90, 98, 106

15.2.3-7

### 15.3 LIMITING CONDITIONS FOR OPERATION

#### 15.3.1 REACTOR COOLANT SYSTEM

##### Applicability

Applies to the operating status of the Reactor Coolant System.

##### Objective

To specify those limiting conditions for operation of the Reactor Coolant System which must be met to ensure safe reactor operation.

##### Specification

#### A. OPERATIONAL COMPONENTS

##### 1. Coolant Pumps\*

- a. When the reactor is critical, except for tests, at least one reactor coolant pump shall be in operation.
  - (1) Reactor power shall not be maintained above 3.5% of rated power unless both reactor coolant pumps are in operation.
  - (2) If either reactor coolant pump ceases operating, immediate power reduction shall be initiated under administrative control as necessary to reduce power to less than 3.5% of rated power.
  - (3) If both reactor coolant pumps cease operating and power is greater than 3.5% of rated power, but less than 10% of rated power, reactor shutdown will commence immediately and verify the reactor trip breakers are opened within one hour.
- b. When the reactor is subcritical and the average reactor coolant temperature is greater than 350°F, except for tests, at least one reactor coolant pump shall be in operation.
  - (1) Both reactor coolant pumps may be deenergized provided:
    - a. No operations are permitted that would cause dilution of the reactor coolant system boron concentration.
    - b. Core outlet temperature is maintained at least 10°F below saturation temperature, and
    - c. The reactor trip breakers are open.
- c. At least one reactor coolant pump or residual heat removal system shall be in operation when a reduction is made in the boron concentration of the reactor coolant.

##### 2. Steam Generator\*

- a. One steam generator shall be operable whenever the average reactor coolant temperature is above 350°F.

##### 3. Components Required for Redundant Decay Heat Removal Capability\*

- a. Reactor coolant temperature less than 350°F and greater than 140°F.
  - (1) At least two of the decay heat removal methods listed shall be operable.
    - (a) Reactor Coolant Loop A, its associated steam generator and either reactor coolant pump
    - (b) Reactor Coolant Loop B, its associated steam generator and either reactor coolant pump

\*Applicable only when one or more fuel assemblies are in the reactor vessel.

Specification 15.3.1.A.1 requires that at least one reactor coolant pump must be operating whenever the average reactor coolant temperature is above 350 F unless the listed restrictions are established. This is required so that the FSAR zero power transients (rod withdrawal from subcritical and rod ejection) are addressed from conservative conditions. With the reactor subcritical, with required shut-down margin, and with the trip breakers open, a single rod ejection will not result in criticality being reached. With the reactor subcritical and the average reactor coolant temperature above 350°F, a single reactor coolant pump provides sufficient decay heat removal capability. Heat transfer analyses<sup>(1)</sup> show that reactor heat equivalent to 3.5% of the rated power can be removed with natural circulation only.

Items 15.3.1.A.1.a.(2) permits an orderly reduction in power if a reactor coolant pump is lost during operation between 3.5% and 50% of rated power.

Above 50% power, an automatic reactor trip will occur if either pump is lost. The power-to-flow ratio will be maintained equal to or less than 1.0, which ensures that the minimum DNB ratio increases at lower flow since the maximum enthalpy rise does not increase above its normal full-flow maximum value.<sup>(2)</sup>

Specification 15.3.1.A.3 provides limiting conditions for operation to ensure that redundancy in decay heat removal methods is provided. A single reactor coolant loop with its associated steam generator and a reactor coolant pump or a single residual heat removal loop provides sufficient heat removal capacity for removing the reactor core decay heat; however, single failure considerations require that at least two decay heat removal methods be available. Operability of a steam generator for decay heat removal includes two sources of water, water level indication in the steam generator, a vent path to atmosphere, and the Reactor Coolant System filled and vented so thermal convection cooling of the core is possible. If the steam generators are not available for decay heat removal, this Specification requires both residual heat removal loops to be operable unless the reactor system is in the refueling shutdown condition with the refueling cavity flooded and no operations in progress which could cause an increase in reactor decay heat load or a decrease in boron concentration. In this condition, the reactor vessel is essentially a fuel storage pool and removing a RHR loop from service provides conservative conditions should operability problems develop in the other RHR loop. Also, one residual heat removal loop may be temporarily out of service due to

restricts leakage so that, in the event of a pipe break or isolation valve failure, makeup water for the leakage can be provided by a single coolant charging pump. If a RCGVS vent path from either the pressurizer or reactor vessel head is inoperable, Specification 15.3.1.A.7.c requires the remotely operable valves in that inoperable path to be shut with power removed. If a vent path from the common header to the pressurizer relief tank or containment atmosphere is inoperable, the isolation valve in that path must be shut but reactor operations may continue. If both vent paths to or both vent paths from the common header are inoperable, the RCGVS is inoperable and the steps in specification 15.3.1.A.7.d must be taken.

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- (1) FSAR Section 14.1.11.
  - (2) FSAR Section 7.2.3.

Unit 1 Amendment No. 93, 103  
Unit 2 Amendment No. 97, 106



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
RELATED TO AMENDMENT NOS. 103 AND 106 TO  
FACILITY OPERATING LICENSE NOS. DPR-24 AND DPR-27  
WISCONSIN ELECTRIC POWER COMPANY  
POINT BEACH NUCLEAR PLANT, UNIT NOS. 1 AND 2  
DOCKET NOS. 50-266 AND 50-301

INTRODUCTION

On April 10, 1985, and modified February 14, and March 10, 1986, Wisconsin Electric Power Company (licensee) submitted an application for amendment to the Point Beach Nuclear Plant Unit 1 and 2 Technical Specifications (TS). The proposed amendments would modify the T.S. to provide more restrictive limiting conditions for operation for the reactor coolant pumps. These changes were submitted to correct a deficiency in the Technical Specifications. Namely, that the subcritical uncontrolled rod withdrawal analysis assumes one reactor coolant pump is in operation; yet, this was not required by the Technical Specifications for plant conditions covered by the accident analysis. Details of the licensee's immediate corrective actions following discovery of the problem are contained in Licensee Event Report 84-005-00 for Point Beach Unit 1 dated October 1, 1984.

EVALUATION

The Final Safety Analysis Report (FSAR) for Point Beach Nuclear Plant Units 1 and 2 contains evaluations of several postulated reactor transients and accidents at zero power. The zero power evaluations are designed to bound the consequences of the event if it occurred during shutdown. Recent evaluations by Westinghouse indicate that the FSAR might not be bounding for a postulated inadvertent control rod withdrawal at shutdown. This is because the Technical Specifications currently do not require either reactor coolant pump to operate below 1.0% power whereas the FSAR analysis assumes that one of the two coolant pumps is operating.

The licensee requested revisions to the Technical Specifications for reactor coolant pump operation by which at least one reactor coolant pump must be in operation or the reactor trip breakers are opened so that control rod withdrawal would be prevented. At power levels above 3.5% both reactor coolant pumps are required to be operating. The Technical Specifications supplement the Reactor Protection System which trips the reactor on loss of forced coolant flow above 10% power. At power levels below 10% power core cooling would be provided by natural circulation.

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The staff verified that adequate natural circulation would occur below 10% power to prevent core damage following a complete loss of forced flow. Continued operation in natural circulation at 10% power has not been evaluated for Point Beach. The Technical Specifications, therefore, require immediate operator action to shutdown the reactor following loss of forced coolant flow through the core during low power operation when automatic trip does not occur. The staff finds this provision to be acceptable.

The appropriate bases for the Technical Specifications have been modified accordingly and one administrative correction to an incorrect FSAR reference was also made.

#### ENVIRONMENTAL CONSIDERATION

These amendments involve 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 amendments involve 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 published a proposed finding that these amendments involve no significant hazards consideration and there has been no public comment on such finding. Accordingly, these amendments meet the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). These amendments also involve changes in recordkeeping, reporting or administrative procedures or requirements. Accordingly, with respect to these items, the amendments meet 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 these amendments.

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

Principal Contributors:

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Date: July 3, 1986

Distribution Copies:

Docket Files 50-266/301

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