

July 21, 1998

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

SUBJECT: POINT BEACH NUCLEAR PLANT, UNIT 2 - ISSUANCE OF AMENDMENT
RE: SCHEDULE FOR IMPLEMENTING BORON CONCENTRATION
CHANGES RELATED TO UNIT 2 18-MONTH FUEL CYCLES
(TAC NO. MA1960)

Dear Mr. Sellman:

The Commission has issued the enclosed Amendment No. 190 to Facility Operating License No. DPR-27 for the Point Beach Nuclear Plant, Unit 2. The amendment consist of changes to the Technical Specifications (TS) in response to your application dated May 15, 1998 (TSCR 205).

This amendment revises the schedule for implementing the boron concentration changes from refueling outage 24 to refueling outage 23 for the planned conversion of Unit 2 to 18-month fuel cycles.

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

Cynthia A. Carpenter, Director
Project Directorate III-1
Division of Reactor Projects - III/IV
Office of Nuclear Reactor Regulation

Docket Nos. 50-266 and 50-301

Enclosures: 1. Amendment No. 190 to DPR-27
2. Safety Evaluation

cc w/encls: See next page

DISTRIBUTION: See attached page

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Mr. Michael B. Sellman
Wisconsin Electric Power Company

Point Beach Nuclear Plant
Units 1 and 2

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March 1998

DATED: July 21, 1998

AMENDMENT NO. 190 TO FACILITY OPERATING LICENSE NO. DPR-27 - POINT BEACH UNIT 2

Docket File (50-266, 50-301)

PUBLIC

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*Amendment and revised TS pages to be filed under both docket numbers and Unit 1 and Unit 2 authority files to maintain document integrity.



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. 190
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 15, 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.

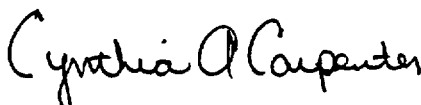
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 3.B of Facility Operating License No. DPR-27 is hereby amended to read as follows:

B. Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 190, 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



Cynthia A. Carpenter, Director
Project Directorate III-1
Division of Reactor Projects - III/IV
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical
Specifications

Date of issuance: July 21, 1998

ATTACHMENT TO LICENSE AMENDMENT NO. 190

TO FACILITY OPERATING LICENSE NO. DPR-27

DOCKET NO. 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

15.3.2-2

Table 15.3.2-1

15.3.3-1

15.3.6-7

15.3.6-19

15.3.8-1

INSERT

15.3.2-2

Table 15.3.2-1

15.3.3-1

15.3.6-7

15.3.6-19

15.3.8-1

- D. During power operation, the requirements of 15.3.2-B and C may be modified to allow the following components to be inoperable for a specified time. If the system is not restored to meet the requirements of 15.3.2-B or C within the time period specified, the appropriate reactor(s), except as otherwise noted, shall be placed in the hot shutdown condition within 6 hours and borated to a shutdown margin equivalent of at least 1.0% delta k/k at cold shutdown, no xenon conditions. If the requirements of 15.3.2-B or C are not satisfied within an additional 7 days, the appropriate reactor(s) shall be placed in the cold shutdown condition within the next 30 hours.
1. One of the two operable charging pumps associated with an operating reactor may be removed from service provided a charging pump associated with that reactor is restored to operable status within 72 hours.
 2. One of the two boron injection flow paths specified in B.2 or C.2 may be out of service provided two boron injection flow paths are restored to operable status within 72 hours.
 3. One of the boric acid transfer pumps designated in B.3 or C.3 may be out of service provided a boric acid transfer pump is restored to operable status within 72 hours.

Basis

The chemical and volume control system provides control of the reactor coolant system boron inventory. This is normally accomplished by using one or more charging pumps in series with one of the two boric acid transfer pumps. Above cold shutdown conditions, a minimum of two boron injection flow paths are required per unit to insure functional capability in the event that an assumed single active failure renders one of the flow paths inoperable. The boration volume available through any flow path is sufficient to provide the required shutdown margin at cold shutdown, xenon-free conditions from any expected operating condition. The volume requirement is associated with boration from just critical, hot zero or full power, peak xenon with control rods at the insertion limit, to xenon-free, cold shutdown with the highest worth control rod assembly fully withdrawn. This requires approximately *26,600 gallons of 2700 ppm borated water from the refueling water storage tank (RWST) or the concentrations and volumes of borated water specified in Table 15.3.2-1 from the boric acid storage tanks (BASTs).

- * These RWST parameters are in effect following U1R25 for Unit 1 and U2R23 for Unit 2; and take effect prior to leaving the cold shutdown condition of those outages. Prior to U1R25, the Unit 1 minimum RWST volume and boron concentration values for this basis statement are 24,100 gallons and 2000 ppm respectively. Prior to U2R23, the Unit 2 minimum RWST volume and boron concentration values for this basis statement are 24,100 gallons and 2000 ppm respectively.

Unit 1 - Amendment No. ~~48,458~~, 180 (SEP 23 1997)

Unit 2 - Amendment No. ~~23,462~~, ~~484~~, 190

Table 15.3.2-1
Boric Acid Storage Tank(s)
Minimum Volume/Temperature/Concentration

Boric Acid Soln Concentration (Wt%)	Minimum Combined Volume (Gal.) ⁽¹⁾		Minimum Temperature (°F)
	Prior to U1R25 or U2R23	After U1R25 or U2R23	
3.00 to <3.50	6860 ⁽²⁾	7950 ⁽²⁾	56.0
3.50 to <4.00	5870 ⁽²⁾	6740 ⁽²⁾	62.5
4.00 to <4.50	5120 ⁽²⁾	5850 ⁽²⁾	69.5
4.50 to <5.50	4550 ⁽³⁾	5180 ⁽²⁾	85.0
5.50 to <6.50	3700 ⁽³⁾	4210 ⁽³⁾	97.0
6.50 to <7.50	3150 ⁽³⁾	3550 ⁽³⁾	107.0
7.50 to <8.50	2720 ⁽³⁾	3070 ⁽³⁾	116.0
8.50 to <9.50	2390	2710 ⁽³⁾	123.5
9.50 to <10.50	2140	2420	131.0
10.50 to <11.50	1930	2190	138.0
11.50 to ≤12.50	1750	2000	145.0

- (1) Per unit relying on BAST(s) as source of borated water.
- (2) Requires more than one BAST per unit.
- (3) Requires more than one BAST for two units combined.

Unit 1 - Amendment No. 458, 180 (SEP 23 1997)

Unit 2 - Amendment No. 462, 484, 190

15.3.3 EMERGENCY CORE COOLING SYSTEM, AUXILIARY COOLING SYSTEMS, AIR RECIRCULATION FAN COOLERS, AND CONTAINMENT SPRAY

Applicability:

Applies to the operating status of the Emergency Core Cooling System, Auxiliary Cooling Systems, Air Recirculation Fan Coolers, and Containment Spray.

Objective:

To define those limiting conditions for operation that are necessary: (1) to remove decay heat from the core in emergency or normal shutdown situations, (2) to remove heat from containment in normal operating and emergency situations, and (3) to remove airborne iodine from the containment atmosphere following a postulated Design Basis Accident.

Specification:

A. Safety Injection and Residual Heat Removal Systems

1. A reactor shall not be made critical, except for low temperature physics tests, unless the following conditions associated with that reactor are met:
 - a. The refueling water tank contains not less than 275,000 gal. of water with a boron concentration of at least 2700 ppm.*
 - b. Each accumulator is pressurized to at least 700 psig and contains at least 1100 ft³ but no more than 1136 ft³ of water with a boron concentration of at least 2600 ppm.** Neither accumulator may be isolated.
 - c. Two safety injection pumps are operable.
 - d. Two residual heat removal pumps are operable.
 - e. Two residual heat exchangers are operable.

* This value is in effect following U1R25 for Unit 1 and U2R23 for Unit 2; and takes effect prior to leaving the cold shutdown condition of those outages. Prior to U1R25, the Unit 1 minimum RWST boron concentration is 2000 ppm. Prior to U2R23, the Unit 2 minimum RWST boron concentration is 2000 ppm.

** This value is in effect following U1R25 for Unit 1 and U2R23 for Unit 2; and takes effect prior to leaving the cold shutdown condition of those outages. Prior to U1R25, the Unit 1 minimum SI accumulator boron concentration is 2000 ppm. Prior to U2R23, the Unit 2 minimum SI accumulator boron concentration is 2000 ppm.

Unit 1 - Amendment No. 180 (SEP 23 1997)

Unit 2 - Amendment No. 484, 190

B. Internal Pressure

1. If the internal pressure exceeds 3 psig or the internal vacuum exceeds 2.0 psig, the condition shall be corrected within one hour.
2. If the above action cannot be completed within the time specified, place the affected unit in:
 - a. hot shutdown within six hours,
 - AND
 - b. cold shutdown within 36 hours.

- C. Positive reactivity changes shall not be made by rod drive motion when the containment integrity is not intact except for the testing of one bank of rods at a time, rod disconnecting, and rod reconnecting provided the reactor is initially subcritical by at least 5% $\Delta k/k$.
- D. Positive reactivity changes shall not be made by boron dilution when the containment integrity is not intact unless the boron concentration in the reactor is maintained > 2100 ppm*.

- * This boron concentration value is in effect following U1R25 for Unit 1 and following U2R23 for Unit 2; and takes effect prior to loading fuel for those outages. Prior to U1R25, the Unit 1 boron concentration value of this specification is 1800 ppm. Prior to U2R23, the Unit 2 boron concentration value of this specification is 1800 ppm.

Unit 1 - Amendment 9,86,460, 180 (SEP 23 1997)
Unit 2 - Amendment 42,90,464, 484, 190

experience, to reach the required plant conditions from full power conditions in an orderly manner and without challenging plant systems.

Specifications 15.3.6.C. and D.

The shutdown conditions of the reactor are selected based on the type of activities that are being carried out. When the reactor head is not to be removed, the specified cold shutdown margin of 1% $\Delta k/k$ precludes criticality under any occurrence. During refueling the reactor is subcritical by 5% $\Delta k/k$. Positive reactivity changes for the purpose of rod assembly testing will not result in criticality because no control bank worth exceeds 3%. Positive reactivity changes by boron dilution may be required or small concentration fluctuations may occur during preparation for, recovery from, or during refueling but maintaining the boron concentration greater than 2100 ppm* precludes criticality under these circumstances. 2100 ppm* is a nominal value that ensures 5% shutdown for typical reload cores. Should continuous dilution occur, the time intervals for this incident are discussed in Section 14.1.4 of the FSAR.

References

- (1) FSAR - Section 5.1.1
- (2) FSAR - Section 14.3.4
- (3) FSAR - Section 5.5.2

- * This boron concentration value is in effect following U1R25 for Unit 1 and following U2R23 for Unit 2; and takes effect prior to loading fuel for those outages. Prior to U1R25, the Unit 1 boron concentration value of this specification is 1800 ppm. Prior to U2R23, the Unit 2 boron concentration value of this specification is 1800 ppm.

Unit 1 - Amendment ~~64,86,89,104,160~~, 180 (SEP 23 1997)
Unit 2 - Amendment ~~69,91,94,107,164, 184~~, ¹⁹⁰

15.3.8 REFUELING

Applicability:

Applies to operating limitations during refueling operations.

Objective:

To ensure that no incident could occur during refueling operations that would affect public health and safety.

Specifications:

During refueling operations:

1. The equipment hatch shall be closed and the personnel locks shall be capable of being closed. A temporary third door on the outside of the personnel lock shall be in place whenever both doors in a personnel lock are open (except for initial core loading).
2. Radiation levels in fuel handling areas, the containment and spent fuel storage pool shall be monitored continuously.
3. Core subcritical neutron flux shall be continuously monitored by at least two neutron monitors, each with continuous visual indication in the control room and one with audible indication in the containment available whenever core geometry is being changed. When core geometry is not being changed, at least one neutron flux monitor shall be in service.
4. At least one residual heat removal loop shall be in operation. However, if refueling operations are affected by the residual heat removal loop flow, the operating residual heat removal loop may be removed from operation for up to one hour per eight hour period.
5. During reactor vessel head removal and while loading and unloading fuel from the reactor, a minimum boron concentration of 2100 ppm* shall be maintained in the primary coolant system.

- * This boron concentration value is in effect following U1R25 for Unit 1 and following U2R23 for Unit 2; and takes effect prior to loading fuel for those outages. Prior to U1R25, the Unit 1 boron concentration value of this specification is 1800 ppm. Prior to U2R23, the Unit 2 boron concentration value of this specification is 1800 ppm.

Unit 1 - Amendment No. 35,66, 96, 180 (SEP 23 1997)

Unit 2 - Amendment No. 41,74,100, 184, 190



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 190

TO FACILITY OPERATING LICENSE NO. DPR-27

WISCONSIN ELECTRIC POWER COMPANY

POINT BEACH NUCLEAR PLANT, UNIT 2

DOCKET NO. 50-301

1.0 INTRODUCTION

By letter dated May 15, 1998, the Wisconsin Electric Power Company (WE, the licensee) requested an amendment to the Technical Specifications (TS) appended to Facility Operating License No. DPR-27 for Point Beach Nuclear Plant, Unit 2. The proposed amendment would revise the schedule for implementing the boron concentration changes from refueling outage 24 to refueling outage 23 for the planned conversion of Unit 2 to 18-month fuel cycles in TS 15.3.2 Bases and 15.3.3.A.1 for the refueling water storage tank (RWST), TS 15.3.8.5 for the safety injection tanks, TS Table 3.2-1 for the boric acid storage tanks, TS 15.3.8.5 and TS 15.3.6.D for the primary coolant system.

2.0 EVALUATION

Amendment No. 184 revised the Point Beach TS to add pertinent footnotes to reflect increases in boron concentration that are required to account for excess reactivity when fuel designed to last for an 18-month fuel cycle is loaded into the core. The footnotes indicated that the implementation of the 18-month fuel cycle for Unit 2 would be at the beginning of refueling cycle 24. Because of extended outages and changes in the schedule for the operating cycle for Unit 2, WE proposes to implement the 18-month cycles at the start of refueling cycle 23. The proposed amendment is to make the administrative changes to the applicable TS footnotes to reflect the new schedule. The staff finds the proposed changes are consistent with the evaluation in supporting Amendment No. 184 and the licensee's revised schedule. Therefore, the changes are acceptable.

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

The amendment changes 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 amendment involves 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 this amendment involves no significant hazards consideration and there has been no public comment on such finding (63 FR 33111). Accordingly, the amendment meets 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 the amendment.

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

Principal Contributor: L. Gundrum

Date: July 21, 1998