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Docket Nos. 50-266
and 50-301

Mr. Sol Burstein
Executive Vice President
Wisconsin Electric Power Company
231 West Michigan Street
Milwaukee, Wisconsin 53201

Dear Mr. Burstein:

The Commission has issued the enclosed Amendment No. 51 to Facility Operating License No. DPR-24 and Amendment No. 57 to Facility Operating License No. DPR-27 for the Point Beach Nuclear Plant, Unit Nos. 1 and 2, respectively. The amendments consist of changes to the Technical Specifications in partial response to your application transmitted by letter dated March 31, 1981.

These amendments update reactor coolant system temperature and pressure operating curves for Unit 2 and revise reactor vessel materials surveillance capsule removal schedules for both units. The updating of reactor coolant system temperature and pressure operating curves for Unit 1 will be the subject of a future transmittal from the NRC.

Copies of the Safety Evaluation and the Notice of Issuance are also enclosed.

Sincerely,

Original signed by
Robert A. Clark

Robert A. Clark, Chief
Operating Reactors Branch #3
Division of Licensing

Enclosures:
1. Amendment No. 51 to DPR-24
2. Amendment No. 57 to DPR-27
3. Safety Evaluation
4. Notice of Issuance

cc: w/enclosures
See next page

OFFICE	ORB#3:DL	ORB#3:DL	ORB#3:DL	AD:ORB:DL	OELD		
SURNAME	PMKreutzer	TColburn/pn	RAClark	TMNovak	C. BARTH		
DATE	7/2/81	7/7/81	7/6/81	7/6/81	7/8/81		

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

July 10, 1981

Docket Nos. 50-266
and 50-301

Mr. Sol Burstein
Executive Vice President
Wisconsin Electric Power Company
231 West Michigan Street
Milwaukee, Wisconsin 53201

Dear Mr. Burstein:

The Commission has issued the enclosed Amendment No. 51 to Facility Operating License No. DPR-24 and Amendment No. 57 to Facility Operating License No. DPR-27 for the Point Beach Nuclear Plant, Unit Nos. 1 and 2, respectively. The amendments consist of changes to the Technical Specifications in partial response to your application transmitted by letter dated March 31, 1981.

These amendments update reactor coolant system temperature and pressure operating curves for Unit 2 and revise reactor vessel materials surveillance capsule removal schedules for both units. The updating of reactor coolant system temperature and pressure operating curves for Unit 1 will be the subject of a future transmittal from the NRC.

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Sincerely,

Robert A. Clark, Chief
Operating Reactors Branch #3
Division of Licensing

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cc: w/enclosures
See next page

Wisconsin Electric Power Company

cc:
Mr. Bruce Churchill, Esquire
Shaw, Pittman, Potts and Trowbridge
1800 M Street, N. W.
Washington, D. C. 20036

Joseph Mann Library
1516 Sixteenth Street
Two Rivers, Wisconsin 54241

Mr. Glenn A. Reed, Manager
Nuclear Operations
Wisconsin Electric Power Company
Point Beach Nuclear Plant
6610 Nuclear Road
Two Rivers, Wisconsin 54241

Mr. Gordon Blaha
Town Chairman
Town of Two Creeks
Route 3
Two Rivers, Wisconsin 54241

Ms. Kathleen M. Falk
General Counsel
Wisconsin's Environmental Decade
302 E. Washington Avenue
Madison, Wisconsin 53703

U. S. Environmental Protection Agency
Federal Activities Branch
Region V Office
ATTN: EIS COORDINATOR
230 S. Dearborn Street
Chicago, Illinois 60604

cc w/enclosure(s) and incoming
dtd: 3/31/81

Chairman
Public Service Commission of Wisconsin
Hills Farms State Office Building
Madison, Wisconsin 53702

Mr. William Guldemond
USNRC Resident Inspectors Office
6612 Nuclear Road
Two Rivers, Wisconsin 54241

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. 51
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 March 31, 1981, 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-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. 51 , are hereby incorporated in the license. The licensee 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

Robert A. Clark, Chief
Operating Reactors Branch #3
Division of Licensing

Attachment:
Changes to the Technical
Specifications

Date of Issuance: July 10, 1981

ATTACHMENT TO LICENSE AMENDMENT

AMENDMENT NO. 51 TO FACILITY OPERATING LICENSE NO. DPR-24

DOCKET NO. 50-266

Revise Appendix A as follows:

Remove Pages	Insert Pages
15.3.1-8a	15.3.1-8a
15.3.1-17	15.3.1-17
Table 15.3.1-1	Table 15.3.1-1

scheduled removal dates will provide materials data representative of about 10%, 20%, 50%, 70%, and 90% of the actual reactor vessel exposure anticipated during the vessel life.

References

(1) FSAR, Section 4.1.5

(2) Westinghouse Electric Corporation, WCAP-8739

(3) Westinghouse Electric Corporation, WCAP-8743

(4) Westinghouse Electric Corporation, WCAP-8738

F. MINIMUM CONDITIONS FOR CRITICALITY

Specification:

1. Except during low power physics tests, the reactor shall not be made critical unless the moderator temperature coefficient is negative.
2. In no case shall the reactor be made critical (other than for the purpose of low level physics tests) to the left of the reactor core criticality curve presented in Figures 15.3.1-1 for Unit 1 and 15.3.1-3 for Unit 2.
3. When the reactor coolant temperature is in a range where the moderator temperature coefficient is positive, the reactor shall be subcritical by an amount equal to or greater than the potential reactivity insertion due to depressurization.
4. The reactor shall be maintained subcritical by at least 1% $\frac{\Delta k}{k}$ until normal water level is established in the pressurizer.

Basis:

During the early part of the initial fuel cycle, the moderator temperature coefficient is calculated to be slightly positive at coolant temperatures below the power operating range.(1)(2) The moderator coefficient at low temperatures will be most positive at the beginning of life of the initial fuel cycle, when the boron concentration in the coolant is the greatest. Later in the life of the fuel cycle, the boron concentrations in the coolant will be lower and the moderator coefficients will be either less positive or will be negative. At all times, the moderator coefficient is negative in the power operating range.(1)(2) Suitable physics measurements of moderator coefficient of reactivity will be made as part of the startup program to verify analytic predictions.

TABLE 15.3.1-1

POINT BEACH NUCLEAR PLANT, UNIT NO. 1
REACTOR VESSEL SURVEILLANCE CAPSULE REMOVAL SCHEDULE

Capsule Letter	Approximate Removal Date*
V	September 1972 (actual)
S	December 1975 (actual)
R	October 1977 (actual)
T	Fall 1983
P	Fall 1987
N	Standby

*The actual removal dates will be adjusted to coincide with the closest scheduled plant refueling outage or major reactor plant shutdown.

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. 57
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 March 31, 1981, 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. 57 , are hereby incorporated in the license. The licensee 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

Robert A. Clark, Chief
Operating Reactors Branch #3
Division of Licensing

Attachment:
Changes to the Technical
Specifications

Date of Issuance: July 10, 1981

ATTACHMENT TO LICENSE AMENDMENT

AMENDMENT NO. 57 TO FACILITY OPERATING LICENSE NO. DPR-27

DOCKET NO. 50-301

Revise Appendix A as follows:

Remove Pages	Insert Pages
15.3.1-7	15.3.1-7
15.3.1-8a	15.3.1-8a
15.3.1-17	15.3.1-17
Table 15.3.1-2	Table 15.3.1-2
Figure 15.3.1-3	Figure 15.3.1-3
Figure 15.3.1-4	Figure 15.3.1-4

neutron exposure of the vessel is computed to be 3.9×10^{19} neutrons/cm^2 for 40 years of operation at 1518 MWt and 80 percent load factor.(2) This is the exposure expected at the inner reactor vessel wall. However, the neutron fluence used to predict the ΔRT_{NDT} shift is the one-quarter shell thickness neutron exposure. The relationship between fluence at the vessel ID wall and the fluence at the one-quarter and three-quarter shell thickness locations has been calculated and is presented in References 3 and 4 as a function of Effective Full Power Years. These curves are used to determine the fluence at the location of interest when the heatup and cooldown curves are to be revised.

Once the fluence is determined, the temperature shift used in revising the heatup and cooldown curves is obtained from the temperature versus fluence curves (the 0.25% Copper Base, 0.20% Weld line for Unit 1 and the 0.30% Copper base, 0.25% Weld line for Unit 2) also contained in References 3 and 4. These curves are used because they are based upon a substantial amount of experimental data and represent the results of the chemical analysis of the weld metal in the reactor vessels.

The heatup and cooldown curves presented in Figures 15.3.1-1 and 15.3.1-2 (Unit 1) and 15.3.1-3 and 15.3.1-4 (Unit 2) were calculated based on the above information and the methods of ASME Code Section III (1974 Edition) Appendix G, "Protection Against Nonductile Failure", and are applicable up to the operational exposure indicated on the figures. Corrections for possible instrumentation inaccuracies have been incorporated into these curves. The temperature correction is made by adding the temperature error (24°F, Unit 2) to the required temperature and the pressure correction is made by subtracting the pressure error (64 psi, Unit 2) from the required pressure. These corrections adjust the curves in the conservative direction.

scheduled removal dates will provide materials data representative of about 10%, 20%, 50%, 70%, and 90% of the actual reactor vessel exposure anticipated during the vessel life.

References

(1) FSAR, Section 4.1.5

(2) Westinghouse Electric Corporation, WCAP-8739

(3) Westinghouse Electric Corporation, WCAP-8743

(4) Westinghouse Electric Corporation, WCAP-8738

F. MINIMUM CONDITIONS FOR CRITICALITY

Specification:

1. Except during low power physics tests, the reactor shall not be made critical unless the moderator temperature coefficient is negative.
2. In no case shall the reactor be made critical (other than for the purpose of low level physics tests) to the left of the reactor core criticality curve presented in Figures 15.3.1-1 for Unit 1 and 15.3.1-3 for Unit 2.
3. When the reactor coolant temperature is in a range where the moderator temperature coefficient is positive, the reactor shall be subcritical by an amount equal to or greater than the potential reactivity insertion due to depressurization.
4. The reactor shall be maintained subcritical by at least 1% $\frac{\Delta k}{k}$ until normal water level is established in the pressurizer.

Basis:

During the early part of the initial fuel cycle, the moderator temperature coefficient is calculated to be slightly positive at coolant temperatures below the power operating range.(1)(2) The moderator coefficient at low temperatures will be most positive at the beginning of life of the initial fuel cycle, when the boron concentration in the coolant is the greatest. Later in the life of the fuel cycle, the boron concentrations in the coolant will be lower and the moderator coefficients will be either less positive or will be negative. At all times, the moderator coefficient is negative in the power operating range.(1)(2) Suitable physics measurements of moderator coefficient of reactivity will be made as part of the startup program to verify analytic predictions.

TABLE 15.3.1-2

POINT BEACH NUCLEAR PLANT, UNIT NO. 2
REACTOR VESSEL SURVEILLANCE CAPSULE REMOVAL SCHEDULE

Capsule Letter	Approximate Removal Date*
V	November 1974 (actual)
T	March 1977 (actual)
R	April 1979 (actual)
P	March 1986
S	Spring 1991
N	Standby

*The actual removal dates will be adjusted to coincide with the closest scheduled plant refueling outage or major reactor plant shutdown.

Figure 15.3.1-3/PBNP Unit No. 2
Heatup Limitations Applicable to
14 Effective Full Power Years
(Approximately September 1990)

Instrument Error Included

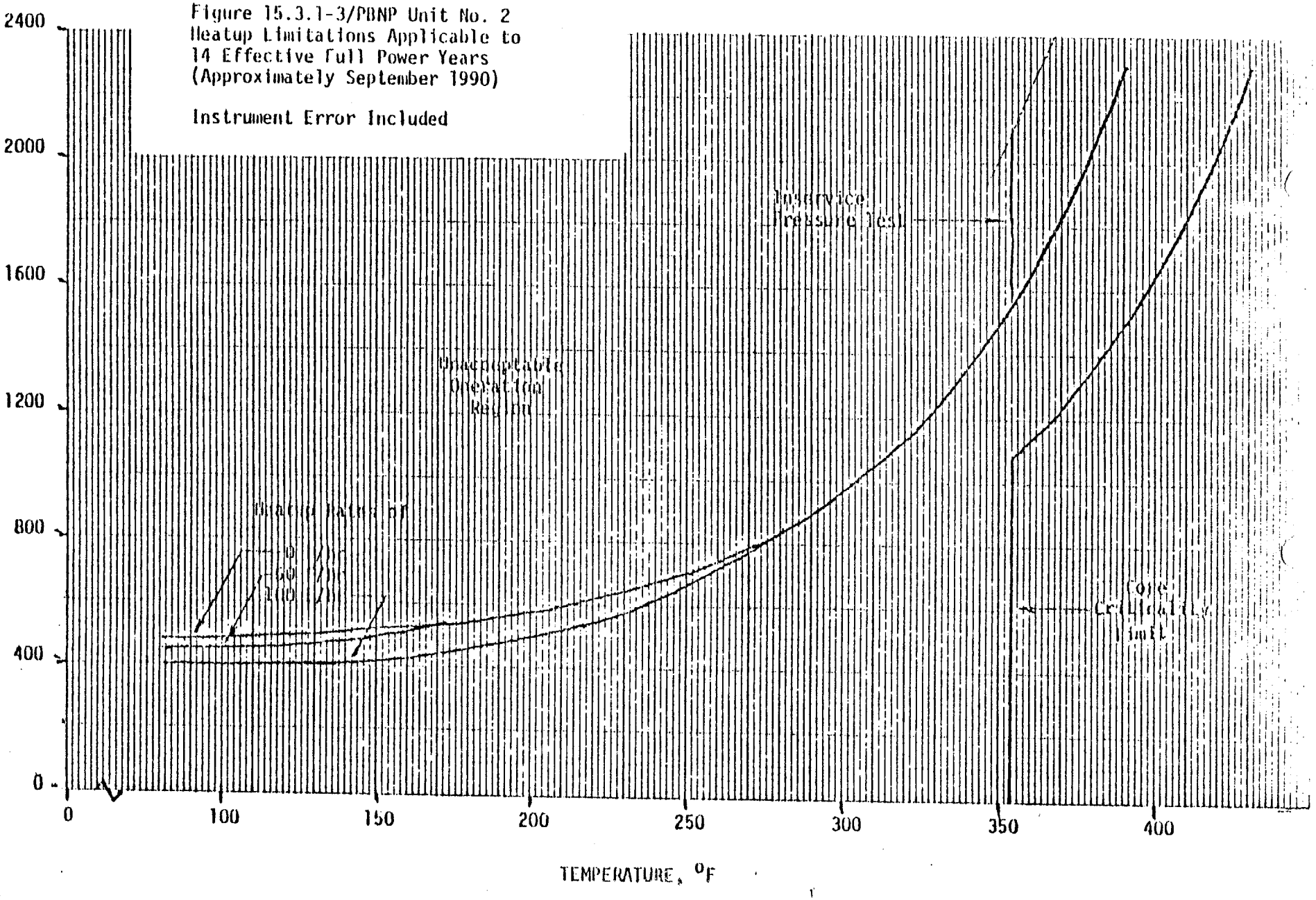
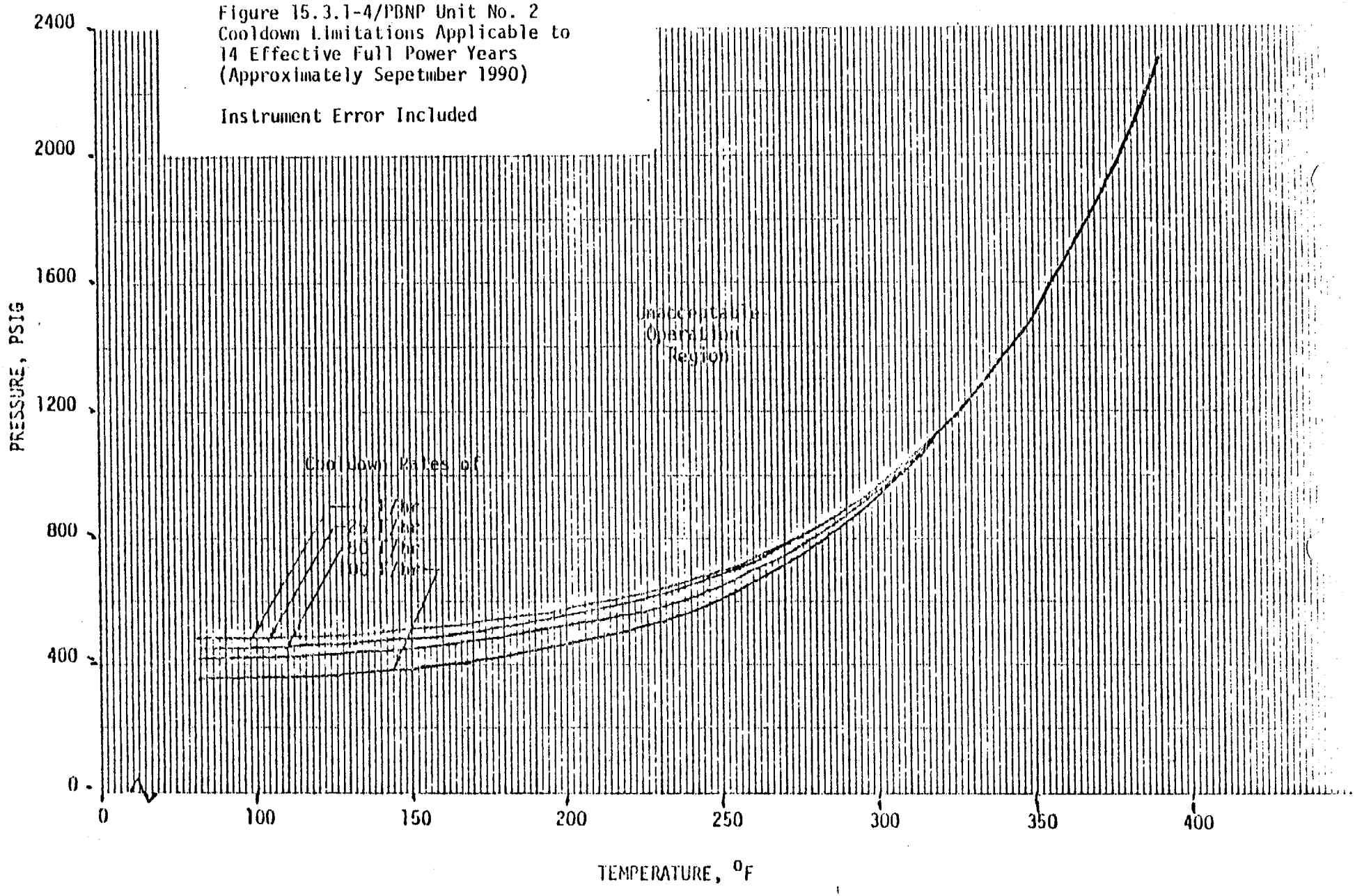


Figure 15.3.1-4/PBNP Unit No. 2
Cooldown Limitations Applicable to
14 Effective Full Power Years
(Approximately Sepetmber 1990)

Instrument Error Included



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NO. 51 TO FACILITY OPERATING LICENSE NO. DPR-24

AND AMENDMENT NO. 57 TO FACILITY OPERATING LICENSE NO. DPR-27

WISCONSIN ELECTRIC POWER COMPANY

POINT BEACH NUCLEAR PLANT, UNIT NOS. 1 AND 2

DOCKET NOS. 50-266 AND 50-301

Background

In a letter dated March 31, 1981, Wisconsin Electric Power Company proposed changes in the Technical Specifications of Point Beach Nuclear Plant Units 1 and 2. The proposed changes for both Units 1 and 2 include revisions in the reactor coolant system temperature and pressure operating curves and revisions in the reactor vessel surveillance specimen capsule removal schedules.

Discussion

10 CFR Part 50, Appendix G "Fracture Toughness Requirements", requires that pressure-temperature limits be established for reactor coolant system heatup and cooldown operations, inservice leak and hydrostatic tests, and reactor core operation. These limits are required to ensure that the stresses in the reactor vessel remain within acceptable limits. They are intended to provide adequate margins of safety during any condition of normal operation, including anticipated operational occurrences.

The pressure-temperature limits depend upon the metallurgical properties of the reactor vessel materials. The properties of materials in the vessel beltline region vary over the lifetime of the vessel because of the effects of neutron irradiation. One principal effect of the neutron irradiation is that it causes the vessel material nil-ductility temperature (RT_{NDT}) to increase with time. The pressure-temperature operating limits must be modified periodically to account for this radiation induced increase in RT_{NDT} by increasing the temperature required for a given pressure. The operating limits for a particular operating period are based on the material properties at the end of the operating period. By periodically revising the pressure-temperature limits to account for radiation damage, the stresses and stress intensities in the reactor vessel are maintained within acceptable limits.

The magnitude of the shift RT_{NDT} is proportional to the neutron fluence to which the materials are subjected. The shift in RT_{NDT} can be predicted from Regulatory Guide 1.99. To check the validity of the predicted shift in RT_{NDT}, a reactor vessel material surveillance program is required. Surveillance specimens are periodically removed from the vessel and tested. The results of these tests are compared to the predicted shifts in RT_{NDT}, and the pressure-temperature operating limits are revised accordingly.

Evaluation

The proposed revisions in the heatup and cooldown limitations for Units 1 and 2 are based on methods and data provided in Westinghouse Electric Corporation Topical Reports WCAP-8743 and 8738 respectively. The revised temperature and pressure curves are to be applicable through fourteen (14) effective full power years (EFPY) of operation for Point Beach Unit 2 which is estimated to end in September 1990. The licensee stated that it is desirable for plant operational reasons that the temperature and pressure curves and heatup and cooldown limitations for both units be identical. Accordingly, the temperature and pressure limitations developed for Unit 2 for 14 EFPY are applicable to Unit 1 for 21.5 EFPY of operation.

We have performed independent calculations to verify the validity of the proposed limits. Our calculations are based on information contained in the March 21, 1981 letter, WCAP-8738 and WCAP-8743 and information received from the reactor vessel manufacturer; we found the proposed operating limits acceptable for operation through 14 EFPY, for both Units 1 and 2, instead of 21.5 EFPY and 14 EFPY respectively as specified in the licensee letter of March 21, 1981. Therefore, we find the licensee's proposed reactor coolant system temperature and pressure operating curves for Unit 2 to be acceptable and for Unit 1 to be unacceptable. The above mentioned curves for Unit 2 are in conformance with Appendix G to 10 CFR Part 50 in establishing safe operating limits and will ensure adequate safety margins during operation, testing, maintenance and postulated accident conditions and constitue an acceptable basis for satisfying the requirements to NRC General Design Criteria 31, Appendix A, 10 CFR Part 50.

If the reactor coolant system temperature and pressure operating curves for Unit 1 are revised to limit operation to 14 EFPY, we conclude that they will be in conformance with the above requirements.

We further conclude that the proposed Technical Specification changes in the reactor vessel surveillance specimen capsule removal schedules as listed in Tables 15.3.1-1 and 15.3.1-2 are in accordance with Appendix H of 10 CFR 50 and therefore are acceptable.

We have discussed our findings with members of the licensee's staff, and at their request we are issuing an amendment to incorporate the Technical Specification changes for the Unit 2 temperature and pressure operating curves, which we find acceptable. We will defer issuance of an amendment incorporating the Technical Specification changes requested for the Unit 1 temperature and pressure operating curves pending the result of further discussions with the licensee's staff.

Environmental Consideration

We have determined that the amendments do not authorize a change in effluent types or total amounts nor an increase in power level and will not result in any significant environmental impact. Having made this determination, we have further concluded that the amendments involve an action which is insignificant from the standpoint of environmental impact and, pursuant to 10 CFR §51.5(d)(4), that an environmental impact statement or negative declaration and environmental impact appraisal need not be prepared in connection with the issuance of these amendments.

Conclusion

We have concluded, based on the considerations discussed above, that: (1) because the amendments do not involve a significant increase in the probability or consequences of accidents previously considered and do not involve a significant decrease in a safety margin, the amendments do not involve a significant hazards consideration, (2) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (3) such activities will be conducted in compliance with the Commission's regulations and the issuance of these amendments will not be inimical to the common defense and security or to the health and safety of the public.

Date: July 10, 1981

Prepared by: T. G. Colburn, ORB#3
W. Hazelton, MTEB
H. Walker, MTEB

7590-01

UNITED STATES NUCLEAR REGULATORY COMMISSION

DOCKET NOS. 50-266 AND 50-301

WISCONSIN ELECTRIC POWER COMPANY

NOTICE OF ISSUANCE OF AMENDMENTS TO FACILITY OPERATING LICENSES

The U. S. Nuclear Regulatory Commission (the Commission) has issued Amendment No. 51 to Facility Operating License No. DPR-24, and Amendment No. 57 to Facility Operating License No. DPR-27 issued to Wisconsin Electric Power Company (the licensee), which revised Technical Specifications for operation of Point Beach Nuclear Plant, Unit Nos. 1 and 2 (the facilities) located in the Town of Two Creeks, Manitowoc County, Wisconsin. The amendments are effective as of the date of issuance.

The amendments update reactor coolant system temperature and pressure operating curves for Unit 2 and revise reactor vessel materials surveillance capsule removal schedules for both units.

The application for the amendments complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations. The Commission has made appropriate findings as required by the Act and the Commission's rules and regulations in 10 CFR Chapter I, which are set forth in the license amendments. Prior public notice of these amendments was not required since the amendments do not involve a significant hazards consideration.

The Commission has determined that the issuance of these amendments will not result in any significant environmental impact and that pursuant to 10 CFR §51.5(d)(4) an environmental impact statement or negative declaration and environmental impact appraisal need not be prepared in connection with issuance of these amendments.

For further details with respect to this action, see (1) the application for amendments dated March 31, 1981, (2) Amendment Nos. 51 and 57 to License Nos. DPR-24 and DPR-27, and (3) the Commission's related Safety Evaluation. All of these items are available for public inspection at the Commission's Public Document Room, 1717 H Street, N.W., Washington, D.C. 20555, and at the Joseph Mann Library, 1516 16th Street, Two Rivers, Wisconsin 54241. A copy of items (2) and (3) may be obtained upon request addressed to the U. S. Nuclear Regulatory Commission, Washington, D.C. 20555, Attention: Director, Division of Licensing.

Dated at Bethesda, Maryland, this 10th day of July, 1981.

FOR THE NUCLEAR REGULATORY COMMISSION

Robert A. Clark, Chief
Operating Reactors Branch #3
Division of Licensing