

DISTRIBUTION:

Docket  
NRC PDR  
Local PDR  
ORB#1 Reading  
NRR Reading  
VStello  
DEisenhut  
BGrimes  
RVollmer  
TJCarter  
WRussell  
CParrish  
CTrammell  
OELD  
OI&E(5)  
BJones(4)  
BScharf(10)  
DBrinkman

BHarless  
EB  
ACRS(16)  
OPA, CMiles  
RDiggs  
HRDenton

*K. Hoge*

April 6, 1979

Docket No. 50-266

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. 36 to Facility Operating License No. DPR-24 for the Point Beach Nuclear Plant, Unit No. 1. The amendment consists of changes to the Technical Specifications in response to your request dated November 16, 1978, as supplemented January 5, and February 23, 1979.

The amendment extends the reactor coolant system pressure-temperature heatup and cooldown curves from seven to eleven effective full power years for Unit No. 1.

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

Sincerely,

Original Signed By

A. Schwencer, Chief  
Operating Reactors Branch #1  
Division of Operating Reactors

*Crush  
CCP*

Enclosures:

- 1. Amendment No. 36 to DPR-24
- 2. Safety Evaluation
- 3. Notice of Issuance

cc: w/enclosures  
See next page

7905090065

*4-5-79*

OFFICE	ORB#1 DOR	EB: DOR	OELD	C-ORB#1: DOR	DOR: AD: S&P
SURNAME	<i>CTrammell</i>	VNoonan		ASchwencer	RHollmer
DATE	3/26/79	3/27/79	3/1/79	4/6/79	4/6/79



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

April 6, 1979

Docket No. 50-266

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. 36 to Facility Operating License No. DPR-24 for the Point Beach Nuclear Plant, Unit No. 1. The amendment consists of changes to the Technical Specifications in response to your request dated November 16, 1978, as supplemented January 5, and February 23, 1979.

The amendment extends the reactor coolant system pressure-temperature heatup and cooldown curves from seven to eleven effective full power years for Unit No. 1.

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

Sincerely,

A handwritten signature in cursive script, appearing to read "A. Schwencer".

A. Schwencer, Chief  
Operating Reactors Branch #1  
Division of Operating Reactors

Enclosures:

1. Amendment No. 36 to DPR-24
2. Safety Evaluation
3. Notice of Issuance

cc: w/enclosures  
See next page

Mr. Sol Burstein  
Wisconsin Electric Power Company - 2 -

April 6, 1979

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

Document Department  
University of Wisconsin  
Stevens Point Library  
Stevens Point, Wisconsin 54481

Mr. Glen Reed, Manager  
Nuclear Power Division  
Point Beach Nuclear Plant  
Wisconsin Electric Power Company  
231 West Michigan Street  
Milwaukee, Wisconsin 53201

Walter L. Myer  
Town Chairman  
Town of Two Creeks  
Route 3  
Two Rivers, Wisconsin 54241

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

Director, Technical Assessment Division  
Office of Radiation Programs (AW-459)  
U. S. Environmental Protection Agency  
Crystal Mall #2  
Arlington, Virginia 20460

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



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. 36  
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 November 16, 1978, as supplemented January 5, and February 23, 1979 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:

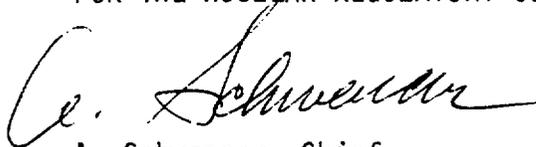
7905090068

"(B) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 36, 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



A. Schwencer, Chief  
Operating Reactors Branch #1  
Division of Operating Reactors

Attachment:  
Changes to the Technical  
Specifications

Date of Issuance:  
April 6, 1979

ATTACHMENT TO LICENSE AMENDMENT NO. 36  
CHANGES TO THE TECHNICAL SPECIFICATIONS  
FACILITY OPERATING LICENSE NO. DPR-24  
DOCKET NO. 50-266

Revise Appendix A as follows:

1. Remove Table 15.3.1-2 and Figures 15.3.1-3 and 15.3.1-4 (no replacements).
2. Remove Figures 15.3.1-1 and 15.3.1-2 and replace with revised figures bearing the same numbers.

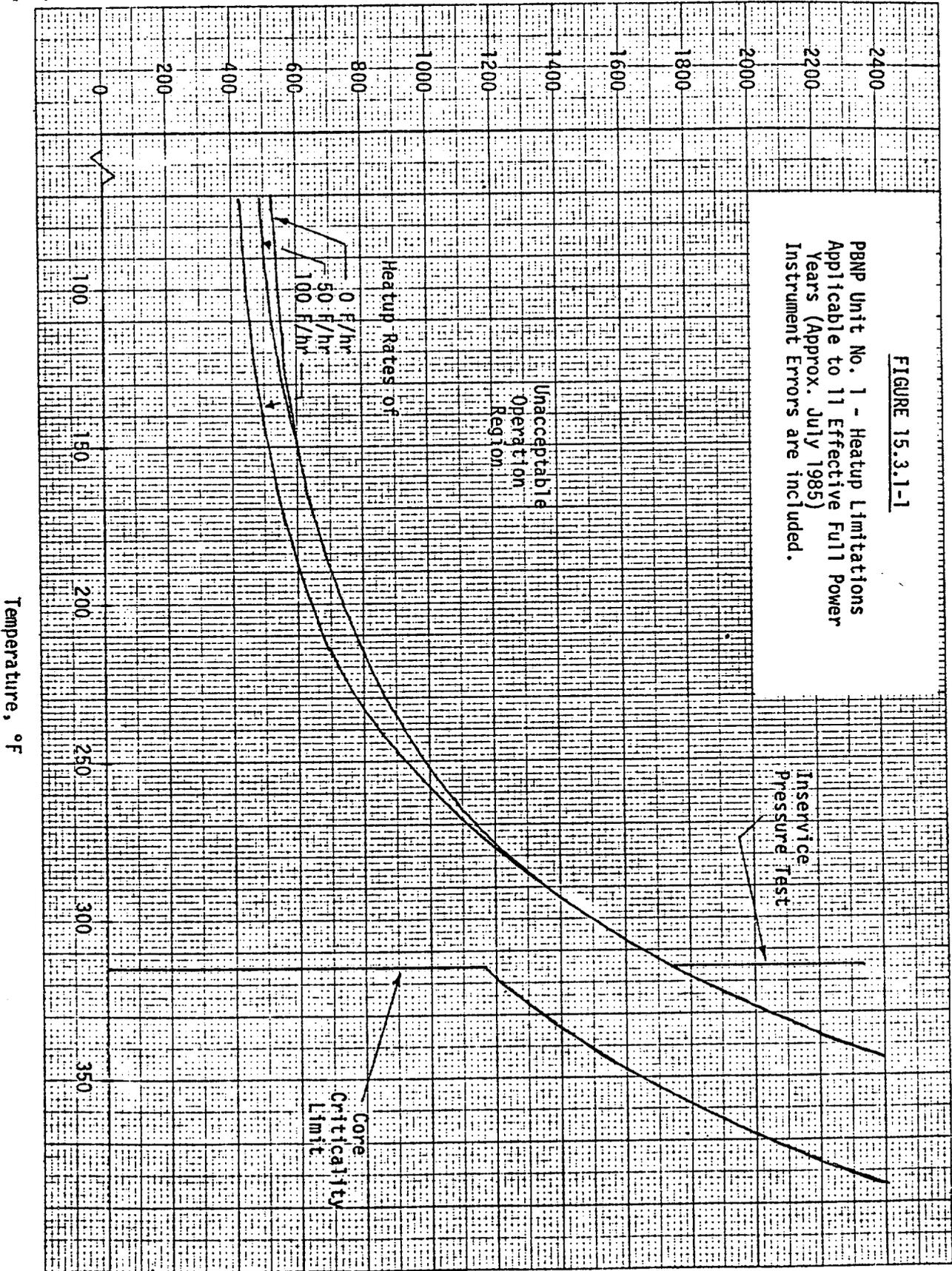


FIGURE 15.3.1-1

PBNP Unit No. 1 - Heatup Limitations  
Applicable to 11 Effective Full Power  
Years (Approx. July 1985)  
Instrument Errors are included.

Unacceptable  
Operation  
Region

Inservice  
Pressure Test

Core  
Criticality  
Limit

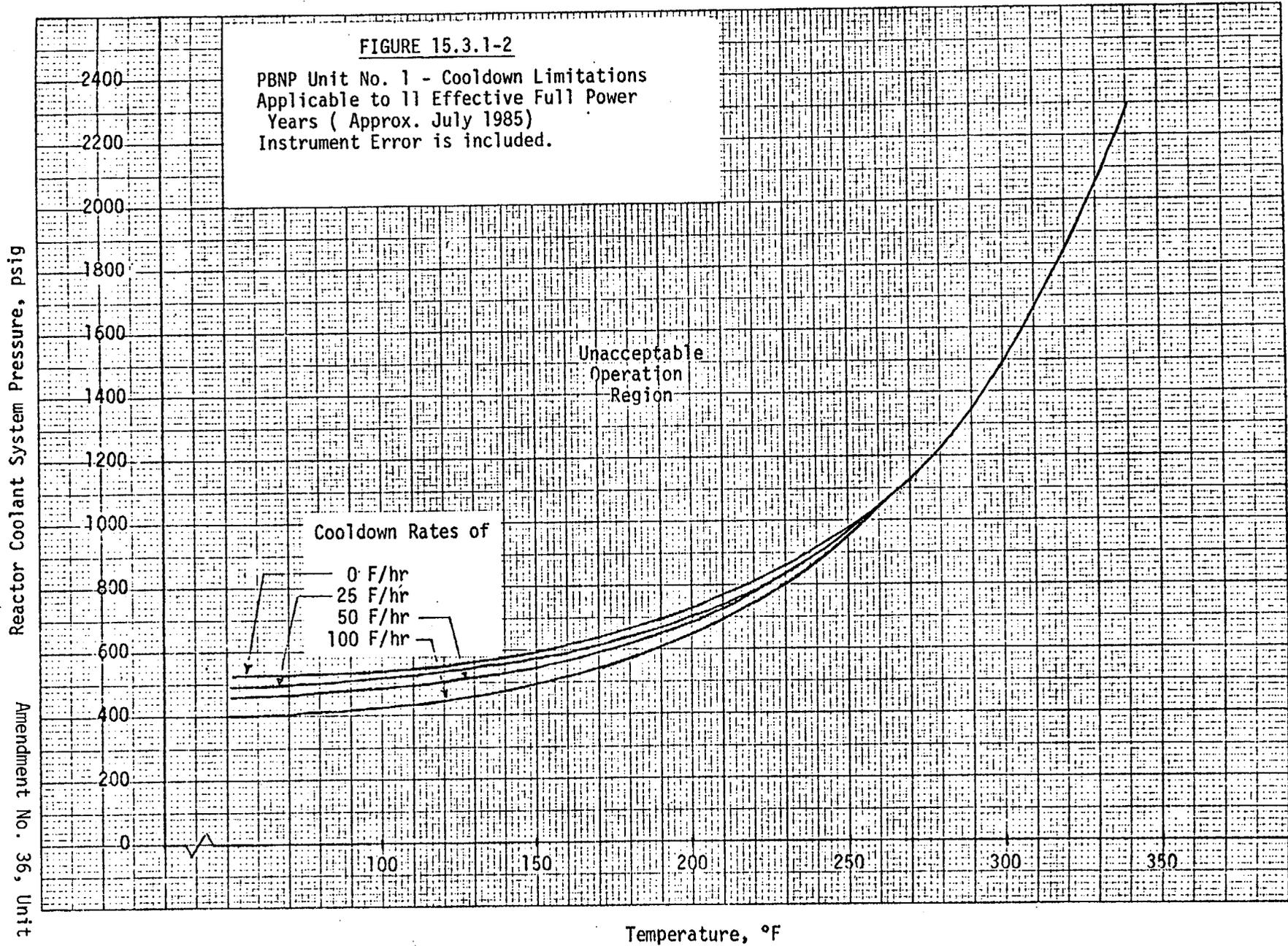
Heatup Rates of

0 F/hr  
50 F/hr  
100 F/hr

Temperature, °F

FIGURE 15.3.1-2

PBNP Unit No. 1 - Cooldown Limitations  
Applicable to 11 Effective Full Power  
Years ( Approx. July 1985)  
Instrument Error is included.



Reactor Coolant System Pressure, psig

Amendment No. 36, Unit 1

Temperature, °F



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
SUPPORTING AMENDMENT NO. 36 TO FACILITY OPERATING LICENSE DPR-24

WISCONSIN ELECTRIC POWER COMPANY  
POINT BEACH NUCLEAR PLANT, UNIT NO. 1

DOCKET NO. 50-266

Introduction

By letter dated November 16, 1978, as supplemented January 5, and February 23, 1979, Wisconsin Electric Power Company requested changes to the Technical Specifications appended to Facility Operating License DPR-24 for Point Beach Unit No. 1. The requested changes would modify the reactor coolant system pressure-temperature limits to account for neutron irradiation-induced increases in reactor vessel metal nil ductility temperature ( $RT_{NDT}$ )<sup>1</sup>.

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 specific pressure-temperature limits which are initially established depend upon the metallurgical properties of the reactor vessel material and the design service conditions. However, the metallurgical properties vary over the lifetime of the reactor vessel because of the effects of neutron irradiation. One principal effect of the neutron irradiation is that it causes the reactor vessel nil ductility temperature ( $RT_{NDT}$ ) to increase or shift with time. The practical results of

7905090071

<sup>1</sup>  $RT_{NDT}$  is the temperature associated with the transition from a ductile to a brittle fracture mode of failure of a metal test specimen.

the  $RT_{NDT}$  shift is that, for any given value of reactor coolant system pressure, the reactor vessel metal temperature must be maintained at higher values during the heatup and cooldown process. By periodically revising the pressure-temperature limits to account for neutron irradiation induced increases in  $RT_{NDT}$ , the stresses in the reactor vessel are maintained within acceptable limits.

The magnitude of the shift in  $RT_{NDT}$  is proportional to the integrated amount of neutron irradiation experienced by the reactor vessel. In addition a reactor vessel material surveillance program is established to check the validity of the predicted increases in  $RT_{NDT}$ . Surveillance specimens are periodically removed from the reactor vessel for testing and analysis. The results of the tests and analysis are compared with the predicted shifts in  $RT_{NDT}$ , and the pressure-temperature limits are revised accordingly.

#### Evaluation

The revised operating limits are based on the data and calculation methods contained in Westinghouse Report WCAP-8743.<sup>2</sup> The licensee has requested that the period of applicability of the present operating limit curves in the Technical Specifications be extended from seven to eleven effective full-power years (EFPY) for Unit 1. Point Beach Unit No. 1 will reach seven EFPY in about June 1980.

We have reviewed the proposed changes to the operating limits for Point Beach Unit No. 1, and performed independent calculations to verify compliance with 10 CFR 50, Appendix G. The amount of radiation damage, increase in  $RT_{NDT}$ , of the vessel materials is predicted from the results of the reactor vessel material surveillance program.

To date, three surveillance capsules have been removed from the Point Beach Unit No. 1 reactor vessel and tested. These capsules received neutron fluences from  $3 \times 10^{18}$  to  $2 \times 10^{19}$  n/cm<sup>2</sup>. At eleven EFPY the maximum fluence on the Unit 1 reactor vessel at the 1/4 T\* location is estimated to be  $1.05 \times 10^{19}$  n/cm<sup>2</sup>. The surveillance results show that weld metal is the limiting material. The test results from the

---

<sup>2</sup>WCAP-8743, "Heatup and Cooldown Limit Curves for the Wisconsin Electric Power Company and the Wisconsin Michigan Power Company Point Beach Nuclear Plant Unit No. 1", January 1977.

\* 1/4 T is one-fourth the thickness of the vessel wall, measured from the inside.

first two capsules removed from the vessel indicated that the Charpy upper shelf energy might fall below 50 ft-lbs at about seven EFPY. Therefore, in a previous evaluation of Point Beach 1 operating limits, the staff limited their applicability to seven EFPY. However, the results from the third capsule, removed from the vessel in 1977, indicate that the upper shelf energy is not decreasing as rapidly as previously thought. We now conclude that at 11 EFPY the upper shelf energy will be above 50 ft-lbs.

The proposed limits will be in accordance with Appendix G, 10 CFR 50 through eleven EFPY. Conformance with Appendix G to 10 CFR Part 50 in establishing safe operating limitations will ensure adequate safety margins during operation, testing, maintenance and postulated accident conditions and constitutes an acceptable basis for satisfying the requirements to NRC General Design Criterion 31, Appendix A, 10 CFR Part 50. From our review we conclude that the proposed pressure-temperature operating limits for Point Beach Unit No. 1 are acceptable for operation through eleven EFPY.

#### Environmental Consideration

We have determined that the amendment does 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 amendment involves 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 this amendment.

#### Conclusion

We have concluded, based on the considerations discussed above, that: (1) because the change does not involve a significant increase in the probability or consequences of accidents previously considered and does not involve a significant decrease in a safety margin, the change does 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 this amendment will not be inimical to the common defense and security or to the health and safety of the public.

Date: April 6, 1979

UNITED STATES NUCLEAR REGULATORY COMMISSIONDOCKET NO. 50-266WISCONSIN ELECTRIC POWER COMPANYNOTICE OF ISSUANCE OF AMENDMENT TO FACILITY  
OPERATING LICENSE

The U. S. Nuclear Regulatory Commission (the Commission) has issued Amendment No. 36 to Facility Operating License No. DPR-24 issued to Wisconsin Electric Power Company, which revised Technical Specifications for operation of Point Beach Nuclear Plant Unit No. 1, located about 15 miles north of Manitowoc, Wisconsin. The amendment is effective as of the date of issuance.

The amendment extends the reactor coolant system pressure-temperature heatup and cooldown curves from seven to eleven effective full power years for Unit No. 1.

The application for the amendment 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 amendment. Prior public notice of this amendment was not required since the amendment does not involve a significant hazards consideration.

The Commission has determined that the issuance of this amendment will not result in any significant environmental impact and that pursuant to 10 CFR §51.5(d)(4) an environmental impact statement

7905090076

- 2 -

or negative declaration and environmental impact appraisal need not be prepared in connection with issuance of this amendment.

For further details with respect to this action, see (1) the application for amendment dated November 16, 1978, as supplemented January 5 and February 23, 1979, (2) Amendment No. 36 to License No. DPR-24, 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. and at the University of Wisconsin, Stevens Point Library, Stevens Point, Wisconsin 54481. 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 Operating Reactors.

Dated at Bethesda, Maryland, this 6th day of April, 1979.

FOR THE NUCLEAR REGULATORY COMMISSION



A. Schwencer, Chief  
Operating Reactors Branch #1  
Division of Operating Reactors