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VPNPD-94-056
NRC-94-040

10CFR50.4
10CFR50.90

May 26, 1994

Document Control Desk
U.S. NUCLEAR REGULATORY COMMISSION
Mail Station P1-137
Washington, DC 20555

Ladies/Gentlemen:

DOCKETS 50-266 AND 50-301
TECHNICAL SPECIFICATIONS CHANGE REQUEST 171
HEATUP AND COOLDOWN LIMIT CURVE EXPIRATION DATE EXTENSION
POINT BEACH NUCLEAR PLANT, UNITS 1 AND 2

In accordance with the requirements of 10 CFR 50.59 and 50.90, Wisconsin Electric Power Company (Licensee) requests amendments to Facility Operating Licenses DPR-24 and DPR-27 for Point Beach Nuclear Plant, Units 1 and 2, respectively. The proposed amendments extend the operation of both units with the current heatup and cooldown limit curves in the Technical Specifications to 23.6 effective full power years (EFPY). The Basis section for Technical Specification 15.3.1.B, "Pressure/Temperature Limits," is also being revised to reflect the methodology for curve compilation. Marked-up Technical Specifications pages, a safety evaluation, and a no significant hazards consideration are enclosed.

DESCRIPTION OF CURRENT LICENSE CONDITION

Technical Specifications Section 15.3.1, "Reactor Coolant System," specifies the limiting conditions for operation (LCOs) of the reactor coolant system which must be met to ensure safe reactor operation.

Technical Specifications Figures 15.3.1-1, "Heatup Limitations," and 15.3.1-2, "Cooldown Limitations," indicate the acceptable operating range of pressures and temperatures to protect the reactor vessels against non-ductile failure.

DESCRIPTION OF PROPOSED CHANGES

Technical Specifications Figures 15.3.1-1, "Heatup Limitations," and 15.3.1-2, "Cooldown Limitations," are revised to reflect their applicability through 23.6 effective full power years (EFPY), or approximately January 1, 2001.

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1. The Basis section for Technical Specification 15.3.1.B is revised as follows:

Pages 15.3.1-6 and 15.3.1-7

...As a result of fast neutron irradiation, there will be an increase in the RT_{NDT} with nuclear reactor operation. The maximum integrated fast neutron exposure of the vessel is computed to be 2.5×10^{19} neutrons/cm² for 40 years of operation at 1518 Mwt and 80 percent load factor.⁽²⁾ This maximum fluence 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...

Page 15.3.1-8, "References"

- (1) FSAR, Section 4.1.5
 - (2) Westinghouse Electric Corporation, WCAP-12794, Rev. 2/12795, Rev. 2
 - (3) Westinghouse Electric Corporation, WCAP-8743
 - (4) Westinghouse Electric Corporation, WCAP-8738
 - (5) Babcock & Wilcox, BAW 1803
 - (6) Regulatory Guide 1.99, Revision 2
2. The headings on Figures 15.3.1-1 and 15.3.1-2 are revised to indicate the extended applicability to 23.6 effective full power years (January 2001).

BASIS AND JUSTIFICATION

Exposure of reactor vessel materials to neutron radiation throughout operating life results in a change in the reference temperature (RT_{NDT}) of the materials due to neutron embrittlement. This change in reference temperature is calculated periodically and appropriate limits revised.

Wisconsin Electric implemented a Low Low Leakage Pattern (L4P) core with hafnium inserts in the guide tubes of peripheral assemblies in each unit in 1989 to reduce neutron fluence to the critical reactor vessel welds. With L4P reload cores and hafnium inserts installed, we have achieved significant flux reductions relative to previous core loading patterns. The rate of neutron embrittlement of the Point Beach reactor vessels has been reduced significantly over what was projected when the heatup and cooldown curves were previously submitted on October 2, 1989.

We are monitoring reactor vessel fluence with a reactor cavity neutron measurement program. The results of this measurement program are recorded in Westinghouse Electric Corporation WCAP-12794, "Reactor Cavity Neutron Measurement Program for Wisconsin Electric Power Company, Point Beach Unit 1," Revision 2, and WCAP-12795, "Reactor Cavity Neutron Measurement Program for Wisconsin Electric Power Company, Point Beach Unit 2," Revision 2.

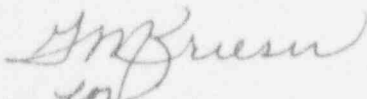
Based upon these results, we have determined and documented in Calculation N-94-058 that the reactor vessel fluence will not reach the previously analyzed limit of 2.05×10^{19} n/cm² (E > 1 MeV) until 23.6 EFPY, or approximately January 2001.

Point Beach Technical Specification 15.3.1.B.4 requires that we submit revised heatup and cooldown limit figures to the Commission at least sixty (60) days prior to the calculated exposure of the reactor vessel exceeding the exposure to which the figures apply. The current Technical Specification cumulative thermal power limit of 18.1 EFPY will be reached by Point Beach Unit 2 in approximately August 1994. However, since the calculated neutron exposure associated with the present curves will not be reached until approximately January 2001, the heatup and cooldown curves provided herein remain unchanged from the curves presently contained in our Technical Specifications.

We have determined that the proposed amendments do not involve a significant hazards consideration, authorize a significant change in the types or total amounts of any effluent release, or result in any significant increase in individual or cumulative occupational exposure. Therefore, we conclude that the proposed amendments meet the requirements of 10 CFR 51.22(c)(9) and that an environmental impact statement or negative declaration and environmental impact appraisal need not be prepared.

Please contact us if you have any questions regarding this submittal.

Sincerely,

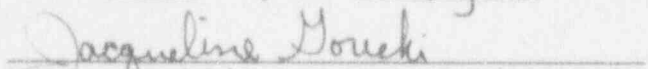


Bob Link
Vice President
Nuclear Power

DAW/jg
Enclosures

cc: NRC Regional Administrator
NRC Resident Inspector
Public Service Commission of Wisconsin

Subscribed and sworn to before me
this 26th day of May, 1994.


Notary Public, State of Wisconsin

My Commission expires 10-27-94.