Wisconsin Electric
POWER COMPANY

231 W Michigan, PO Box 2046, Milwaukee, WI 53201 (414) 221-2345

VPNPD-91-133
NRC-91-069

July 26, 1991

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

10 CFR 50.46

Gentlemen:

DOCKET 50-266 AND 50-301
ECCS EVALUATION MODELS CHANGES, 10 CFR 50.46
POINT BEACH NUCLEAR PLANT, UNITS 1 AND 2

On June 28, 1991, Wisconsin Electric received a letter from Westinghouse Electric Corporation that provides information about changes to the ECCS evaluation models used for the large break and small break loss of coolant accident (LOCA) analyses for Point Beach Nuclear Plant, Units 1 and 2. The changes identified by Westinghouse are considered to be reportable under the 30 day reporting requirement in 10 CFR 50.46 (a) (3) (ii) which states, "If the change or error is significant, the applicant or licensee shall provide this report within 30 days and include with this report a proposed schedule for providing a reanalysis or taking other action as may be needed to show compliance with §50.46 requirements."

The specific ECCS evaluation models used for the LOCA analyses for Point Beach Nuclear Plant are described in an attachment to this letter. The changes and errors are also described in this attachment.

The large break evaluation model changes have been reported previously as described in the attached report. The small break LOCA ECCS evaluation model for Point Beach uses the Westinghouse developed computer code known as NOTRUMP. Westinghouse has determined that the correction of an error in this model could cause the peak fuel cladding temperature (PCT) to change by 50°F or more. Therefore, Westinghouse has judged this error to be significant. Westinghouse does not believe that reanalysis is required for this error, because they have judged that the error correction would result in a lower PCT.

A001

Please contact us if you have any questions about this information.

Sincerely,

C. W. Fay
Vice President
Nuclear Power

Attachment

Copy to: NRC Resident Inspector
NRC Regional Administrator, Region III

ECCS Evaluation Models
Point Beach Nuclear Plant, Units 1 and 2

Large Break LOCA Evaluation Model:

Name:	UPI WCOBRA/TRAC
Application:	Analysis of Large Break LOCA for plants with Upper Plenum Injection.
Codes Used:	COBRA/TRAC for the combined thermal and hydraulic transient. COCO for the containment pressure transient.

Note: This model uses best estimate computer code, but includes required features of Appendix K.

Revisions were made to the WCOBRA/TRAC large break LOCA Evaluation Model used for plants equipped with upper plenum injection (UPI). These changes and their effects were previously reported to the NRC in "Westinghouse Large Break LOCA Best Estimate Methodology, Volume 1: Model Description and Validation," Addendum 4, (Non-proprietary), August 1990 and in letters dated March 5, 1991 and April 12, 1991 from C. W. Fay (WE) to R. B. Samworth (NRC). NRC approval of these changes is provided in a letter from R. B. Samworth (NRC) to C. W. Fay (WE) dated May 5, 1991.

Currently, this evaluation model predicts a 2028°F peak fuel cladding temperature for Point Beach. A 5% reduction in the steam generator tube plugging margin has been allocated for the simultaneous LOCA and seismic event steam generator tube collapse potential safety issue. No peak fuel cladding temperature adjustment is necessary for this issue because the analysis assumes 25% tube plugging and both units have actual tube plugging levels below 20%, which is 25% minus the 5% reduction.

Small Break LOCA Evaluation Model:

Name:	1985 SBLOCA Model
Application:	Analysis of Small Break LOCA.
Codes Used:	NOTRUMP for the system hydraulic transient. SBLOCTA for the fuel rod thermal transient.

Note: This model was developed by Westinghouse to provide more realistic SBLOCA simulations, as required by the NRC, following TMI.

Westinghouse made changes to the NOTRUMP program to enhance its performance and to implement necessary modifications (details of this are documented in a letter from W. J. Johnson [Westinghouse] to T. E. Murley [NRC], dated October 5, 1988). The solution convergence was not reconfirmed after these changes were made. Subsequently, some results of sensitivity studies performed by Westinghouse indicated that the numerical solution was not properly converged. The problem was solved by changing the time step size. The NOTRUMP program was reverified against the SUT-08

semi-scale experiment and it was confirmed that the code adequately predicts key small break phenomena.

Westinghouse has determined that this error correction may result in a change in the calculated peak fuel cladding temperature which exceeds 50°F for some plants. Based on representative calculations, Westinghouse believes that this change will most likely result in a reduction in the calculated peak fuel cladding temperature. Westinghouse has concluded that the current licensing basis results remain valid since the results are conservative relative to the change. Therefore, no additional corrective action is proposed except that this change will be used in future analyses for Point Beach.

Currently, this evaluation model predicts a 809°F peak fuel cladding temperature for Point Beach. The following peak fuel cladding temperature penalties have been assessed for changes: 37°F for a fuel rod initial condition error, 25°F for an auxiliary feedwater enthalpy switchover error, and 0°F for the NOTRUMP code convergence error. With the addition of these penalties the small break LOCA peak fuel cladding temperature is evaluated to be less than or equal to 871°F.