Wisconsin Electric
POWER COMPANY

231 W. Michigan, PO Box 2046, Milwaukee, WI 53201-2046

(414) 221-2345

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Document Control Desk
U.S. NUCLEAR REGULATORY COMMISSION
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Gentlemen:

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

As required by Title 10 of the Code of Federal Regulations Part 50.46 (a) (3) (ii), Wisconsin Electric Power Company (licensee) is submitting this annual report of changes to, and errors discovered in the emergency core cooling system (ECCS) evaluation models for Point Beach Nuclear Plant, Units 1 and 2. This letter provides a summary of ECCS evaluation model changes and errors identified since the last annual report dated March 27, 1995 (letter NPL 95-0144). Model changes include changes to the small break and large break loss of coolant accident (LOCA) models. A summary of the changes is provided below with additional details and a summary sheet of peak cladding temperature (PCT) margin in the attachments.

Small Break LOCA Evaluation Model

A typographical error was corrected in the NOTRUMP code. The error was in the set of calculations for determining specific enthalpy. The error correction resulted in a 20° F penalty assessed to the small break LOCA analysis.

Large Break LOCA Evaluation Model

Two dependent errors were discovered in the large break LOCA evaluation model. The first error was in the fixed heat transfer node assignment logic. The second error caused a small amount of vapor, injected during the final phases of accumulator discharge, to be counted as liquid. The combined effect of these two errors was assessed a PCT penalty of 48° F.

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The current cumulative change in PCT for small break LOCA analysis is 595° F for a total PCT of 1404° F (Attachment 2). The cumulative change in PCT for the large break LOCA is 109° F (Attachment 3). The ECCS model will be reanalyzed as part of the uprating analysis for both units. The expected completion date for the analysis is June, 1997.

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

Sincerely,

Gary M. Krieser
Manager
Industry and Regulatory Services

BAH/cms

cc: NRC Resident Inspector
NRC Regional Administrator, Region III

ECCS EVALUATION MODEL CHANGES AND ERRORS

- NOTRUMP SPECIFIC ENTHALPY ERROR

  A typographical error was found in a line of coding in the NOTRUMP code. This line of coding was intended to model the calculation found in Equation L-127 of WCAP-10079-P-A. Although the equation in the topical report is correct, the coding represented the last term as a partial derivative with respect to the fluid node mixture region total energy instead of the mixture region total mass. This correction is a Non-Discretionary Change in accordance with Section 4.1.2 of WCAP-13451.

  Representative plant calculations for this issue resulted in an estimated PCT penalty of 20° F.

- FIXED HEAT TRANSFER NODE ASSIGNMENT ERROR/ACCUMULATOR WATER INJECTION ERROR

  During development efforts on the best estimate version of WCOBRA/TRAC, MOD 7A, an error was discovered in the fixed heat transfer node assignment logic. A correction was incorporated into the code, along with a recommendation for input changes.

  It was found that during the final phases of accumulator water injection that a small amount of vapor being discharged from the accumulator was counted as liquid injection. This resulted in a small amount of excess mass being injected into the primary system.

  The fixed heat transfer node assignment error and the accumulator water injection error are dependent and were evaluated simultaneously. The combined PCT penalty is 48° F.

SMALL BREAK PEAK CLADDING TEMPERATURE MARGIN UTILIZATION

Point Beach Nuclear Plant:

A. Analysis of Record (7/88)	PCT=	809	°F
B. Prior Permanent ECCS Model Assessments	ΔPCT=	27	°F
C. 10 CFR 50.59 Safety Evaluations	ΔPCT=	548	°F
D. 1995 10 CFR 50.46 Model Assessments			
1. NOTRUMP Specific Enthalpy Error	ΔPCT=	20	°F
E. Temporary ECCS Model Issues (none)	ΔPCT=	0	°F
F. Other Margin Allocations (none)	ΔPCT=	0	°F
Licensing Basis PCT + Margin Allocations	**PCT=**	**1404**	**°F**

LARGE BREAK PEAK CLADDING TEMPERATURE MARGIN UTILIZATION

Point Beach Nuclear Plant:

A. Analysis of Record (2/91)	PCT=	2028	°F
1. Combined SSE and LOCA Events	ΔPCT=	10	°F
B. Prior Permanent ECCS Model Assessments	ΔPCT=	-34	°F
C. 10 CFR 50.59 Safety Evaluations	ΔPCT=	85	°F
D. 1995 10 CFR 50.46 Model Assessments			
1. Fixed Heat Transfer Node Assignment Error/Accumulator Water Injection Error	ΔPCT=	48	°F
E. Temporary ECCS Model Issues (none)	ΔPCT=	0	°F
F. Other Margin Allocations (none)	ΔPCT=	0	°F
Licensing Basis PCT + Margin Allocations	**PCT=**	**2137**	**°F**

10 CFR 50.59 SAFETY EVALUATIONS

Point Beach Nuclear Plant:

1. Small Break ECCS Safety Evaluations			
A. Loss of Auxiliary Feedwater	ΔPCT=	213	°F
B. 30% SGTP/166,000 gpm TDF	ΔPCT=	125	°F
C. Main Feedwater Temperature = 347° F	ΔPCT=	10	°F
D. 38% Peak SGTP	ΔPCT=	200	°F
Total 10 CFR 50.59 Small Break Assessments	**PCT=**	**548**	**°F**
2. Large Break ECCS Safety Evaluations			
A. Reduced Tavg and Reduced TDF	ΔPCT=	85	°F
Total 10 CFR 50.59 Large Break Assessments	**PCT=**	**85**	**°F**