Wisconsin Electric
POWER COMPANY

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NPL 99-0687

November 23, 1999

10 CFR 50.46

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

Ladies and Gentlemen:

DOCKET 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, emergency core cooling system (ECCS) evaluation models for Point Beach Nuclear Plant (PBNP) Units 1 and 2. This letter provides a summary of ECCS evaluation model changes and errors identified since our previous annual report dated March 30, 1998, including changes summarized in the 30-day report dated February 2, 1999. Model changes include changes to the large break loss of coolant accident (LOCA) model and the small break LOCA model.

For Unit 1, model changes to the large break LOCA are reportable under the 30-day reporting requirement contained in 10 CFR 50.46(a)(3)(ii). The evaluation models are now identical for both Units 1 and 2. A summary of the changes is provided below with additional details and a summary sheet of peak cladding temperature (PCT) margin provided in the attachments.

Large Break LOCA Evaluation Model

For PBNP Units 1 and 2, three changes were identified. These include: (1) a PCT benefit of 25°F applied for the reduction of the assumed amount of steam generator tube plugging (SGTP) from 25% to 10%; (2) a PCT benefit of 15°F applied for the corresponding increase in thermal design flow from 170,400 gpm to 178,000 gpm; and (3) a penalty of 40°F applied for the decreased helium backfill pressure from 200 psig to 100 psig for rods containing Integral Fuel Burnable Absorbers (IFBAs). The net result of these errors is 0°F assessed to the large break LOCA analysis (a decrease of 25°F, a decrease of 15°F and an increase of 40°F). These changes are described in the attachments to this letter.

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Small Break LOCA Evaluation Model

For PBNP Units 1 and 2, a penalty of 10°F was applied to the small break LOCA analysis to address open issues regarding annular pellet blankets modeling. This penalty will be applied until such time that a new small break LOCA analysis is performed and the annular pellet blankets can be explicitly modeled.

Please contact us if you have any questions or require additional information.

Sincerely,

A. J. Cayia
Manager,
Regulatory Services & Licensing

FAF/tat

Attachments

cc: NRC Resident Inspector
NRC Regional Administrator
NRC Project Manager
PSCW

ECCS EVALUATION MODEL CHANGES AND ERRORS

Large Break LOCA Evaluation Model

The current large break LOCA analysis for PBNP Units 1 and 2 was performed using the WCOBRA/TRAC Two-Loop Upper Plenum Injection Best-Estimate Evaluation Model. The current analysis of record resulted in a limiting peak clad temperature (PCT) of 2028°F for the Appendix K calculation. Safety evaluations and other assessments of PCT margin have been incurred such that the current estimated cumulative PCT is 2185°F.

- **Reduction of SGTP from 25% to 10%**

  A safety assessment of the impact on the PBNP large break LOCA analysis due to the reduction of the assumed amount of steam generator tube plugging from 25% to 10% was performed by Westinghouse. The assessment also addresses the applicability of the penalty currently assigned to PBNP due to the combined effects of reduced reactor coolant system thermal design flow (TDF) and reduced vessel average temperature (Tavg). The results of the assessment show that the PCT benefit due to the reduced steam generator tube plugging is 25°F and the PCT benefit gained due to eliminating the penalty for reduced TDF is 15°F. Therefore, the net PCT benefit of the assessments performed is 40°F. The large break LOCA models were revised for Unit 2 Cycle 24 and Unit 1, effective March 8, 1999, to incorporate this 40°F benefit.

- **Decrease of IFBA backfill pressure from 200 psig to 100 psig**

  For Unit 2 Cycle 24 and Unit 1 Cycle 26, a penalty of 40°F was applied for the decreased helium backfill pressure from 200 psig to 100 psig for Integral Fuel Burnable Absorbers (IFBA) rods.

For Units 1 and 2, the net result of these errors is 0°F assessed to the large break LOCA analysis (a decrease of 25°F, a decrease of 15°F and an increase of 40°F). The cumulative change in PCT to be assessed to the analysis of record (2028°F) for the large break LOCA remains 157°F (157°F-25°F-15°F+40°F) for a total PCT of 2185°F.

Small Break LOCA Evaluation Model

The current small break LOCA analyses for both PBNP Units 1 and 2 were performed using the NOTRUMP computer code. The current analysis of record resulted in a limiting PCT of 809°F for the four inch cold-leg break. Safety evaluations and other assessments of PCT margin have been incurred such that the current estimated cumulative PCT is 1196°F.

- **Annular Pellet Blankets**

  For both Unit 2 Cycle 24 and Unit 1 Cycle 26, a penalty of 10°F was applied for annular pellet blankets until such time that the annular pellet blankets can be explicitly modeled. The cumulative change in PCT to be assessed to the analysis of record (809°F) for the small break LOCA is 387°F (377°F+10°F) resulting in a PCT of 1196°F.

LARGE BREAK PEAK CLADDING TEMPERATURE MARGIN UTILIZATION

PBNP Units 1 and 2:

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 =	62°F
C.	10 CFR 50.59 Safety Evaluations		
	1. Reduced SGTP to 10%	ΔPCT =	-25°F
	2. Reduced Tavg (ΔPCT decreased from 85°F)	ΔPCT =	70°F
	3. 100 psig Backfill Pressure (IFBA)	ΔPCT =	40°F
D.	1996 10 CFR 50.46 Model Assessments (none)	ΔPCT =	0°F
E.	Temporary ECCS Model Issues (none)	ΔPCT =	0°F
F.	Other Margin Allocations (none)	ΔPCT =	0°F
Licensing Basis PCT + Margin Allocations		**PCT =**	**2185°F**

SMALL BREAK PEAK CLADDING TEMPERATURE MARGIN UTILIZATION

PBNP Unit 1 and Unit 2:

A.	Analysis of Record (7/88)	PCT =	809°F
B.	Prior Permanent ECCS Model Assessments	ΔPCT =	57°F
C.	10 CFR 50.59 Safety Evaluations		
	1. Loss of Auxiliary Feedwater	ΔPCT =	213°F
	2. Increased Tavg	ΔPCT =	107°F
	3. Annular Pellets	ΔPCT =	10°F
D.	1999 10 CFR 50.46 Model Assessments (none)	ΔPCT =	0°F
E.	Temporary ECCS Model Issues (none)	ΔPCT =	0°F
F.	Other Margin Allocations (none)	ΔPCT =	0°F
Licensing Basis PCT + Margin Allocations		**PCT =**	**1196°F**