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Point Beach Nuclear Plant
Operated by Nuclear Management Company, LLC

April 12, 2004

NRC 2004-0038
10 CFR 50.46

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington DC 20555

Point Beach Nuclear Plant, Units 1 and 2
Dockets 50-266 and 50-301
License Nos. DPR-24 and DPR-27
ECCS Evaluation Model Changes, 10 CFR 50.46

As required by 10 CFR 50.46(a)(3)(ii), Nuclear Management Company, LLC (NMC), 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 is intended to provide a summary of ECCS evaluation model changes and errors identified since our previous annual report dated April 11, 2003 (NRC-2003-0036). Model changes include changes to the large break loss of coolant accident (LOCA) model and the small break LOCA model. Changes are summarized below with additional details and a summary sheet of peak cladding temperature (PCT) margin provided in the enclosure.

For PBNP Units 1 and 2, there were no changes or errors to the Best Estimate LOCA Evaluation Model since the last reporting period that resulted in a change to the PCT. However, implementation of the Measurement Uncertainty Recapture (MUR) Power Uprate resulted in an +8°F penalty to the PCT. For the small break LOCA evaluation model, there was a mid-year report from Westinghouse that resulted in a maximum +35°F penalty to the PCT. Enclosure 1 provides a more detailed discussion of the change.

Current PCT rack-up sheets are provided in the enclosure to this letter.

There are no new commitments contained in this submittal.

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Enclosure: 1 ECCS Evaluation Model Changes and Errors

cc: Regional Administrator, Region III, USNRC
Project Manager, Point Beach Nuclear Plant, NRR, USNRC
NRC Resident Inspector - Point Beach Nuclear Plant
PSCW

ENCLOSURE I

ECCS EVALUATION MODEL CHANGES AND ERRORS

POINT BEACH NUCLEAR PLANT, UNITS 1 AND 2

Large Break LOCA Evaluation Model

There were no changes or errors to the Evaluation Model during this reporting period that resulted in a change to the calculated PCT for Point Beach Nuclear Plant.

Implementation of the Measurement Uncertainty Recapture (MUR) power uprate of 1.4% resulted in a +8°F peak cladding temperature (PCT) penalty. The penalty is assessed because the nominal power rating of 1650 MWt used in the Best Estimate LOCA analysis was increased by 1.4%. This is considered a Planned Plant Change Evaluation.

Small Break LOCA Evaluation Model

There were several small changes made to the 1985 Westinghouse NOTRUMP small break LOCA evaluation model. The NOTRUMP code was updated to resolve some inconsistencies in several drift flux models and the nodal bubble rise/droplet fall models. These changes include:

1. Bubble rise and droplet fall model calculations were made consistent with flow link calculations.
2. Corrections were made to limits employed in the vertical counter-current flooding models.
3. Checking logic was added to correct situations where drift flux model inconsistencies could result (prevent no liquid from an all vapor node and no vapor from an all liquid node).
4. Implemented a more rigorous version of the Yeh Drift Flux Model.

These changes represent a closely related group of Non-Discretionary Changes in accordance with Section 4.1.2 of WCAP-13451.

The estimated effect of these changes on representative plant calculations using NOTRUMP is a bounding +35°F increase in the calculated PCT for 10 CFR 50.46 purposes.

LARGE BREAK PEAK CLADDING TEMPERATURE MARGIN UTILIZATION FOR BELOCA

PBNP Units 1 & 2:

A.	Analysis of Record (11/2000)	PCT =	2128°F
B.	Prior Permanent ECCS Model Assessments		
	1. MONTECF Decay Heat Uncertainty Factor	ΔPCT =	4°F
C.	Planned Plant Change Evaluations		
	1. Measurement Uncertainty Recapture Power Uprate	ΔPCT =	8°F
D.	2003 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 =**	**2140°F**

SMALL BREAK PEAK CLADDING TEMPERATURE MARGIN UTILIZATION (Three Inch Cold Leg)

PBNP Units 1 & 2:

A.	Analysis of Record (11/2000)**	PCT =	1157°F / 1046°F
B.	Prior Permanent ECCS Model Assessments		
	1. NOTRUMP Mixture Level Tracking/Region Depletion	ΔPCT =	13°F
C.	10 CFR 50.59 Safety Evaluations (none)	ΔPCT =	0°F
D.	2003 10 CFR 50.46 Model Assessments		
	1. NOTRUMP Bubble Rise/Drift Flux Model Inconsistency	ΔPCT =	35°F
E.	Temporary ECCS Model Issues (none)	ΔPCT =	0°F
F.	Other Margin Allocations (none)	ΔPCT =	0°F
Licensing Basis PCT + Margin Allocations		**PCT =**	**1205°F / 1094°F**

** Unit 1/Unit 2