10 CFR 50.46(a)(3)(ii)

CP&L
A Progress Energy Company

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United States Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555

H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2
DOCKET NO. 50-261/LICENSE NO. DPR-23

ANNUAL REPORT OF CHANGES TO OR ERRORS DISCOVERED
IN AN ACCEPTABLE LOSS-OF-COOLANT ACCIDENT EVALUATION
MODEL APPLICATION FOR THE EMERGENCY CORE COOLING SYSTEM

Ladies and Gentlemen:

In accordance with the provisions of the Code of Federal Regulations, Title 10, Part 50.46, (10 CFR 50.46) Carolina Power and Light Company is submitting the attached report of non-significant changes to and errors discovered in an acceptable Loss-of-Coolant Accident (LOCA) evaluation model (EM) for the Emergency Core Cooling System at the H. B. Robinson Steam Electric Plant (HBRSEP), Unit No. 2. The affected LOCA EMs are referenced in the HBRSEP, Unit No. 2, Core Operating Limits Report. Non-significant changes to or errors discovered in EMs and EM applications were previously reported to the Nuclear Regulatory Commission by letter dated December 14, 2001. This submittal satisfies the 10 CFR 50.46 requirement for annual reporting of LOCA EM changes for HBRSEP, Unit No. 2.

The non-significant changes and error corrections in the Siemens Power Corporation (SPC) SEM/PWR-98 Large Break LOCA (LBLOCA) EM and the SPC EXEM PWR Small Break LOCA (SBLOCA) EM since the last annual report are provided in Attachment I. The effects of these non-significant changes and error corrections on HBRSEP, Unit No. 2, peak cladding temperature (PCT) estimates are also summarized in Attachment I.

The latest PCT estimates for the LBLOCA and SBLOCA are included in Attachment II.

If you have any questions concerning this matter, please contact me.

Sincerely,

C. T. Baucom
Supervisor – Licensing/Regulatory Programs

A001

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3581 West Entrance Road
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CAC/cac

Attachments:

I. Report of Changes/Errors in Loss-of-Coolant Accident Evaluation Models for the Emergency Core Cooling System
II. Peak Cladding Temperature Estimates

c: Mr. L. A. Reyes, NRC, Region II
Mr. R. Subbaratnam, NRC, NRR
NRC Resident Inspector, HBRSEP

H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2

REPORT OF CHANGES/ERRORS IN LOSS-OF-COOLANT ACCIDENT
EVALUATION MODELS FOR THE EMERGENCY CORE COOLING SYSTEM

This report provides an estimate of the effect on peak cladding temperature (PCT) of non-significant changes and error corrections in the Loss-of-Coolant Accident (LOCA) evaluation models (EMs) and EM applications for the Emergency Core Cooling System (ECCS) at the H. B. Robinson Steam Electric Plant (HBRSEP), Unit No. 2, covering the period of December 14, 2001, through December 12, 2002.

Large Break Loss-of-Coolant Accident (LBLOCA) Evaluation Model

CHANGED CONDITION	PCT IMPACT (°F)
Error in TOODEE2 computer program cladding thermal expansion	- 1
RFPAC computer program verification and validation findings	+ 11
Pump junction area increase	- 7
Cycle 22 reload evaluation	+ 34
Cumulative Impact	**+ 37**

Small Break Loss of Coolant Accident (SBLOCA) Evaluation Model

CHANGED CONDITION	PCT IMPACT (°F)
Error in TOODEE2 computer program cladding thermal expansion	- 1
Non-convergence of nodalization[1]	- 330
Cumulative Impact	**- 331**

[1] This error was previously reported by letter dated May 20, 1999. The associated PCT impact was not implemented at that time. The PCT impact is now being included in the SBLOCA EM.

H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2

PEAK CLADDING TEMPERATURE ESTIMATES

The current peak cladding temperature (PCT) estimates associated with Loss-of-Coolant Accident (LOCA) Emergency Core Cooling System (ECCS) evaluation models are listed below. These estimates include the cumulative effects of significant and non-significant error corrections and evaluation model changes through December 12, 2002.

Event	PCT (°F)
Large Break LOCA, ECCS Injection Mode	2018
Small Break LOCA, ECCS Injection Mode	1679