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SUBJECT: Provides annual rept pursuant to 10CFR50.46(a)(3)(ii) for  
H.B. Robinson Steam Electric Plant, Unit 2 re estimated  
effect of changes or errors in ECCS evaluation models or in  
application of models.

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Carolina Power & Light Company

JUL 24 1992

SERIAL: NLS-92-206  
10CFR50.46

United States Nuclear Regulatory Commission  
ATTENTION: Document Control Desk  
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H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2  
DOCKET NO. 50-261/LICENSE NO. DPR-23  
REPORT PURSUANT TO 10CFR50.46

Gentlemen:

The purpose of this letter is to provide the annual report pursuant to 10CFR50.46(a)(3)(ii) for the H. B. Robinson Steam Electric Plant, Unit No. 2 (HBR2) regarding the estimated effect of changes or errors in Emergency Core Cooling System (ECCS) evaluation models or in the application of the models. This report covers the period of June 1991 through May 1992. There have been no changes to the Westinghouse ECCS Evaluation Model during this reporting period. However, there are supplements to the analysis of record which were implemented during the previous reporting period, June 1990 through May 1991, which continue to be applicable. These supplements resulted in permanent assessment of Peak Clad Temperature (PCT) margin as reported to the NRC by Carolina Power & Light Company (CP&L) on July 26, 1991.

The enclosure to this letter provides the Margin Utilization Table, which shows the effects of permanent assessment of PCT margin for various issues for the Small-Break Loss of Coolant Accident (SBLOCA) analysis of record. The information provided is identical to that provided in the July 26, 1991 letter, with one exception. Subsequent investigation has identified an adjustment to the value of PCT for SBLOCA for Fuel Rod Initial Condition Inconsistency (Table item D.1) from +25°F to +37°F. Additionally, as a point of clarification, the July 26, 1991 report showed 40°F for the SBLOCA Rod Internal Pressure Assumption. This item consisted of two components, SBLOCA Cladding Creep Model (20°F) and SBLOCA Rod Internal Pressure Assumption (20°F). In this annual report, these items are listed separately as items D.3 and D.4.

The Large-Break Loss of Coolant Accident analysis of record is supplied by Siemens Nuclear Power Corporation. A complete Large-Break reanalysis was performed to conservatively bound current operation and notification provided to the NRC by CP&L letter NLS-92-080, dated April 3, 1992, as a 10CFR50.46 "30-day" report.

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The Margin Utilization Table also includes a listing of current open issues which are being investigated, but for which no conclusions have yet been reached. If the resolution of these issues impacts the 10CFR50.46 ECCS evaluation, CP&L will report them in the next annual report. Likewise, if any of the issues result in significant change in the calculated PCT, as defined by 10CFR50.46, they will be reported to the NRC in accordance with the 30-day reporting requirement.

A complete Small-Break Loss of Coolant Analysis reanalysis is planned to support Cycle 16 (late 1993). Based upon the information provided by Westinghouse, CP&L has no indication that a safety concern exists or that the 10CFR50.46 acceptance criteria have been exceeded for HBR2. Therefore, operation of the facility has not been called into question by these issues.

Questions regarding this matter may be referred to Mr. R. W. Prunty at (919) 546-7318.

Yours very truly,



for David C. McCarthy  
Manager  
Nuclear Licensing Section

JSK/jbw

Enclosure

cc: Mr. S. D. Ebnetter  
Mr. L. W. Garner  
Ms. B. L. Mozafari

## **REPORTING OF 10CFR50.46 MARGIN UTILIZATION** **SMALL-BREAK LOCA**

Plant Name: H. B. Robinson Unit 2 (CPL)  
Utility Name: Carolina Power & Light Company

- A. Analysis of Record PCT = 2003.8°F  
May 1988: Evaluation Model: NOTRUMP, FQT = 2.32, FAH = 1.65  
SGTP = 5%, Other: 1.5 in Limiting Break
- B. Prior LOCA Model Assessments - 1989  $\Delta$ PCT = + 36.8°F  
(Permanent Assessment of PCT Margin - Letter #: CPL-91-070)
- C. Prior LOCA Model Assessments - 1990  $\Delta$ PCT = + 0°F  
(Permanent Assessment of PCT Margin - Letter #: CPL-91-015)
- D. Prior LOCA Model Assessments - 1991  
(Permanent Assessment of PCT Margin - Letter #: CPL-91-049)
1. Fuel Rod Initial Condition Inconsistency<sup>1</sup>  $\Delta$ PCT = + 37°F
  2. NOTRUMP Solution Convergence Reliability  $\Delta$ PCT = + 0°F
  3. SBLOCA Cladding Creep Model  $\Delta$ PCT = + 20°F
  4. SBLOCA Rod Internal Pressure Assumption  $\Delta$ PCT = + 20°F
- E. 10CFR50.59 Safety Evaluations - (Permanent Assessment of PCT Margin)
1. Issue: AFW Enthalpy Delay Time Increase  $\Delta$ PCT = - 10°F  
Letter: CPL-90-540
- F. Current Permanent PCT PCT = 2107.6°F
- G. Current LOCA Model Issues (No PCT Assessment Due to Preliminary Nature)
1. LOCTA Coding Methodology Issues (see reference 1)
  2. Main Feedwater Isolation Issue (see reference 2)
  3. IMP Data Base Errors Issue (see reference 3)
  4. Hot Leg Recirculation Switchover (see reference 4)
  5. Core Average Zirc-Water Reaction (see reference 2)
  6. SBLOCA Burst and Blockage (see references 2 and 5)

<sup>1</sup> Note: Increased from 25°F due to an error in CPL-91-049.

## **REFERENCES**

1. ET-NRC-92-3718, "Interim Report of a Deviation or Failure to Comply Pursuant to 10CFR21.21(a)(2)," July 1, 1992 from N. J. Liparulo (W) to NRC.
2. ET-NRC-91-3647, "Interim Report of a Deviation or Failure to Comply Pursuant to 10CFR21.21(a)(2)," December 20, 1991 from S. R. Tritch (W) to NRC.
3. ET-NRC-92-3655, "Interim Report of a Deviation or Failure to Comply Pursuant to 10CFR21.21(a)(2)," January 21, 1992 from S. R. Tritch (W) to NRC.
4. ET-NRC-92-3712, "Interim Report of a Deviation or Failure to Comply Pursuant to 10CFR21.21(a)(2)," June 23, 1992 from N. J. Liparulo (W) to NRC.
5. ET-NRC-92-3695, "Interim Report of a Deviation or Failure to Comply Pursuant to 10CFR21.21(a)(2)," April 30, 1992 from N. J. Liparulo (W) to NRC.