



FPL Energy
Seabrook Station

FPL Energy Seabrook Station
P.O. Box 300
Seabrook, NH 03874
(603) 773-7000

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Docket No. 50-443
SBK-L-04020

United States Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, D.C. 20555-0001


Seabrook Station
Annual Reporting of Changes to, or Errors in
Emergency Core Cooling System Models or Applications

In accordance with the requirements of 10 CFR 50.46(a)(3)(ii), FPL Energy Seabrook, LLC (FPL Energy Seabrook) submits a tabulation of the current Small Break and Large Break LOCA PCT margin utilization tables applicable to Seabrook Station. The Small Break LOCA utilization table is consistent with the table provided in FPL Energy Seabrook's 2002 10 CFR 50.46 Report, NYN-03046, dated June 3, 2003. The Large Break LOCA PCT decreased 50°F to a new PCT value of 1901°F as the result of the removal of the 50°F Transition Core Penalty. Seabrook Station is now operating with a full core of fuel with Intermediate Flow Mixing grids.

Should you have any questions regarding this report, please contact Mr. Paul V. Gurney, Reactor Engineering Supervisor, at (603) 773-7776.

Very truly yours,

FPL Energy Seabrook, LLC


James M. Peschel
Regulatory Programs Manager

cc: H. J. Miller, NRC Region I Administrator
S. P. Wall, NRC Project Manager, Project Directorate I-2
G.T. Dentel, NRC Senior Resident Inspector

A001

ENCLOSURE TO SBK-L-04020

**Small Break Peak Clad Temperature Margin Utilization
ECCS EVALUATION MODEL REVISIONS/ERRORS
10 CFR 50.46 ANNUAL REPORT**

Evaluation Model: NOTRUMP Fuel: 17x17 V5H FQ=2.5
 F Δ H=1.65 SGTP=13% 3411 MWt
 Limiting Break: 4 inch

| | <u>Clad Temperature (°F)</u> |
|---|------------------------------|
| ANALYSIS OF RECORD | |
| MARGIN ALLOCATIONS (Delta PCT) | 1082 |
| A. PRIOR PERMANENT ECCS MODEL ASSESSMENTS | |
| 1. Effect of SI in Broken Loop | 150 |
| 2. Effect of Improved COSI | -150 |
| 3. Drift Flux Flow Regime Errors | -13 |
| 4. LUCIFER Error Corrections | -16 |
| 5. Boiling Heat Transfer Correlation Error | -6 |
| 6. Steam Line Isolation Logic Error | 30 |
| 7. Axial Nodalization, RIP Model Revision and SBLOCTA Error Corrections | 13 |
| 8. NOTRUMP Specific Enthalpy Error | 20 |
| 9. SBLOCTA Fuel Rod Initialization Error | 10 |
| 10. NOTRUMP Mixture Level Tracking / Region Depletion Errors | 13 |
| B. PLANNED PLANT CHANGE EVALUATIONS | |
| 1. Increased Safety Injection Pump Head Degradation Limiting Case Evaluation | 105 |
| 2. Annular Blankets | 10 |
| C. 2002 10 CFR 50.46 MODEL ASSESSMENTS (Permanent Assessments of PCT Margin) | |
| 1. None | 0 |
| D. TEMPORARY ECCS MODEL ISSUES | |
| 1. None | 0 |
| E. OTHER | |
| 1. Increased T-Avg Uncertainty for RTD Bypass Elimination | 8 |
| 2. +/-3°F T-Avg Window | 24 |
| 3. Increase of 2°F to T-AvgWindow | 16 |
| 4. AFW Actuation on SI Signal Only | 5 |

LICENSING BASIS PCT + MARGIN ALLOCATIONS

PCT Total = 1301°F

**Large Break Peak Clad Temperature Margin Utilization
ECCS EVALUATION MODEL REVISIONS/ERRORS
10 CFR 50.46 ANNUAL REPORT**

Evaluation Model : BASH
F Δ H=1.65
Limiting Break Size: Cd = 0.6

Fuel: 17x17 V5H
SGTP=13%

FQ=2.5
3411 MWt

| | <u>Clad Temperature (F°)</u> |
|---|------------------------------|
| ANALYSIS OF RECORD | |
| MARGIN ALLOCATIONS (Delta PCT) | 1889 |
| A. PRIOR PERMANENT ECCS MODEL ASSESSMENTS | |
| 1. None | 0 |
| B. PLANNED PLANT CHANGE EVALUATIONS | |
| 1. None | 0 |
| C. 2002 10 CFR 50.46 MODEL ASSESSMENTS (Permanent Assessments of PCT Margin) | |
| 1. None | 0 |
| D. TEMPORARY ECCS MODEL ISSUES | |
| 1. None | 0 |
| E. OTHER | |
| 1. Increased T-Avg Uncertainty for RTD Bypass Elimination | 5 |
| 2. +/-3°F T-Avg Window | 15 |
| 3. Increase of 2°F to T-Avg Window | 10 |
| 4. V5H AOR Limiting Case w/IFMs Reanalysis | -51 |
| 5. RFA Fuel Evaluation | 33 |
| LICENSING BASIS PCT + MARGIN ALLOCATIONS | PCT Total = 1901°F |