



**North
Atlantic**

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The Northeast Utilities System

June 26, 2002

Docket No. 50-443
NYN-02060

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

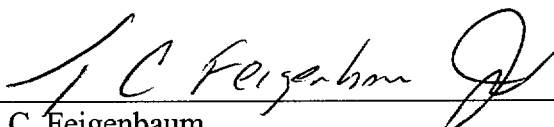
Pursuant to the requirements of 10CFR 50.46(a)(3)(i) and (ii), North Atlantic Energy Service Corporation (North Atlantic) provides notification of a change in peak cladding temperature (PCT) of more than 50 °F. A modeling change in the Limiting Case Evaluation for Safety Injection Pump Head Degradation resulted in a 105 °F increase in the PCT. In addition, there was a 10 °F PCT penalty assessment for annular blankets that is part of the Seabrook Station Cycle 9 Core Reload Safety Evaluation. The increase for the Small Break LOCA PCT is 115 °F resulting in a total new PCT value of 1301 °F. The Large Break LOCA PCT increased 6°F to a new PCT value of 1951 °F as a result of the Seabrook Station Cycle 9 Core Reload Safety Evaluation.

Enclosure 1 contains a tabulation of the current Small Break and Large Break LOCA PCT margin utilization tables applicable to Seabrook Station.

Should you have any questions regarding this report, please contact Mr. James M. Peschel, Manager-Regulatory Programs at (603) 773-7194.

Very truly yours,

NORTH ATLANTIC ENERGY SERVICE CORP.



Ted C. Feigenbaum
Executive Vice President and
Chief Nuclear Officer

A0001

cc: H. J. Miller, NRC Region I Administrator
R.D. Starkey, NRC Project Manager, Project Directorate I-2
G.T. Dentel, NRC Senior Resident Inspector

ENCLOSURE TO NYN-02060

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

Evaluation Model: NOTRUMP
F Δ H=1.65
Limiting Break: 4 inch

Fuel: 17x17 V5H
SGTP=13%

FQ=2.5
3411 MWt

| | <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. 2001 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-Avg Window | 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

Fuel: 17x17 V5H

FQ=2.5

F Δ H=1.65

SGTP=13%

3411MWt

Limiting Break Size: Cd = 0.6

| | <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. 2001 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. Transition Core Penalty | 50 |
| 6. RFA Fuel Evaluation | 33 |
| LICENSING BASIS PCT + MARGIN ALLOCATIONS | PCT Total = 1951°F |