



**North  
Atlantic**

North Atlantic Energy Service Corporation  
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The Northeast Utilities System

July 27, 2001

Docket No. 50-443  
NYN-01058

CR 00-08117-01

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

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

In accordance with the requirements of 10CFR 50.46(a)(3)(ii), Enclosure 1 includes a tabulation of the current Small Break and Large Break LOCA Peak Clad Temperature (PCT) margin utilization tables applicable to Seabrook Station. The Small Break and Large Break LOCA utilization tables are consistent with the tables provided in North Atlantic's PCT reporting letter NYN-01010, dated February 12, 2001.

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

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

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**ENCLOSURE TO NYN-01058**

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

Evaluation Model : NOTRUMP      Fuel: 17x17 V5H  
F Δ H=1.65

FQ=2.5  
SGTP=13%      3411 MWt

	<u>Clad Temperature (°F)</u>
<b>ANALYSIS OF RECORD</b>	1082
<b>MARGIN ALLOCATIONS (Delta PCT)</b>	
<b>A. PRIOR PERMANENT ECCS MODEL ASSESSMENTS</b>	
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
<b>B. 10 CFR 50.59 SAFETY EVALUATIONS</b>	
1. None	0
<b>C. 2000 10 CFR 50.46 MODEL ASSESSMENTS (Permanent Assessments of PCT Margin)</b>	
1. NOTRUMP Mixture Level Tracking / Region Depletion Errors	13
<b>D. TEMPORARY ECCS MODEL ISSUES</b>	
1. None	0
<b>E. OTHER</b>	
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 = 1186°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  $\Delta$  H=1.65                      SGTP=13%                      3411MWt  
Line Break Size: Cd = 0.6

	<u>Clad Temperature (F°)</u>
<b>ANALYSIS OF RECORD</b>	1889
<b>MARGIN ALLOCATIONS (Delta PCT)</b>	
<b>A. PRIOR PERMANENT ECCS MODEL ASSESSMENTS</b>	
1. LOCBART Spacer Grid Single-Phase Heat Transfer Error, LOCBART Zinc-Water Oxidation Error and Reanalysis of Limiting AOR Case (9/99)	24
<b>B. 10 CFR 50.59 SAFETY EVALUATIONS</b>	
1. None	0
<b>C. 2000 10 CFR 50.46 MODEL ASSESSMENTS (Permanent Assessments of PCT Margin)</b>	
1. LOCBART Vapor Film Flow Regime Heat Transfer Error	9
2. LOCBART Dispersed Flow Regime Wall Emissivity Error	-12
3. LOCBART Cladding Emissivity Errors	6
<b>D. TEMPORARY ECCS MODEL ISSUES</b>	
1. None	0
<b>E. OTHER</b>	
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
<b>LICENSING BASIS PCT + MARGIN ALLOCATIONS</b>	<b>PCT Total = 1945°F</b>