



**North
Atlantic**

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The Northeast Utilities System

August 30, 2000
Docket No. 50-443
NYN-00077
CR 00-08179

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

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

On July 19, 2000, North Atlantic provided the Nuclear Regulatory Commission (letter number NYN-00066) with a tabulation of the current Small Break LOCA and Large Break LOCA Peak Clad Temperature (PCT) margin utilization tables applicable to Seabrook Station in accordance with the requirements of 10CFR 50.46(a)(3)(ii). Subsequent to the July 19, 2000 submittal, North Atlantic received Westinghouse Electric Company letter number NAH-00-029, which revised the Small Break and Large Break LOCA Peak Clad Temperature margin utilization tables. The Small Break utilization table revised the PCT total value from 1173°F to 1186°F and the Large Break LOCA utilization table PCT total value was revised from 2050°F to 2035°F. The change in PCT values is the result of a revised Westinghouse Appendix K (BART, BASH, NORTHRUMP) Evaluation Model/analyses. This letter provides the NRC with the most current PCT values for Small Break and Large Break LOCA Peak Clad Temperature (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

cc: H. J. Miller, Regional Administrator
R. M. Pulsifer, NRC Project Manager, Project Directorate I-2
R. K. Lorson, NRC Senior Resident Inspector

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NYN-00077

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

Cuoco, L. M.	e-mail
Kacich, R. M.	e-mail
Letter Distribution	e-mail
NSARC	e-mail
File 0001	01-48
RMD	02-06

ENCLOSURE TO NYN-00077

**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
Clad Temperature (°F)

**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
B. 10 CFR 50.59 SAFETY EVALUATIONS	
1. None	0
C. 2000 10 CFR 50.46 MODEL ASSESSMENTS (Permanent Assessments of PCT Margin)	
1. NOTRUMP Mixture Level Tracking / Region Depletion Errors	13
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 = 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 Δ H=1.65 SGTP=13% 3411MWt
Line Break Size: Cd = 0.6

	<u>Clad Temperature (F°)</u>
ANALYSIS OF RECORD	1889
MARGIN ALLOCATIONS (Delta PCT)	
A. PRIOR PERMANENT ECCS MODEL ASSESSMENTS	
1. LUCIFER Error Corrections	-6
2. Skewed Power Shape Penalty	64
3. Translation of Fluid Conditions from SATAN to LOCTA	15
4. LOCBART Spacer Grid Single-Phase Heat Transfer Error	15
B. 10 CFR 50.59 SAFETY EVALUATIONS	
1. None	0
C. 2000 10 CFR 50.46 MODEL ASSESSMENTS (Permanent Assessments of PCT Margin)	
1. LOCBART Vapor Film Flow Regime Heat Transfer Error	-15
2. LOCBART Dispersed Flow Regime Wall Emissivity Error	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. LOCBART Zirc-Water Oxidation Error	<u>43</u>
LICENSING BASIS PCT + MARGIN ALLOCATIONS	PCT Total = 2035°F