



**Northeast
Nuclear Energy**

Rope Ferry Rd. (Route 156), Waterford, CT 06385

Millstone Nuclear Power Station
Northeast Nuclear Energy Company
P.O. Box 128
Waterford, CT 06385-0128
(860) 447-1791
Fax (860) 444-4277

The Northeast Utilities System

MAR 29 2001

Docket No. 50-336
B18358

RE: 10 CFR 50.46(a)(3)(ii)

U.S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, DC 20555

Millstone Nuclear Power Station, Unit No. 2
2000 Annual Reporting of Changes to and Errors in
Emergency Core Cooling System Models or Applications

In accordance with 10 CFR 50.46(a)(3)(ii), Northeast Nuclear Energy Company (NNECO) hereby submits changes to or errors discovered in the Emergency Core Cooling System (ECCS) evaluation models or applications of those models for Millstone Unit No. 2.

The attached annual report covers the period from January 2000 through December 2000. The following is a synopsis of the information provided in Attachment 1.

1. Attachment 1 reports the Framatome ANP (FRA-ANP) modifications in the ECCS models applicable to Millstone Unit No. 2. These modifications have resulted in permanent peak cladding temperature (PCT) margin allocation for Unit No. 2. NNECO has previously reported the significant changes to the NRC in a letter dated May 11, 2000,⁽¹⁾ to meet the 30-day reporting criterion of 10 CFR 50.46(a)(3)(ii).
2. NNECO analyzed the Small Break Loss of Coolant Accident (SBLOCA) analysis to support Cycle 14 operation which began in May 2000. This reanalysis incorporated all previously reported PCT margin allocations, including the errors reported on May 11, 2000, and resulted in a new Analysis of Record PCT of 2061°F. Subsequent to the reanalysis, FRA-ANP identified two changes or errors in the SBLOCA reanalysis. A correction to the RODEX2 Corrosion Enhancement Factor resulted in a change in PCT of -22°F. An assessment regarding variability in SBLOCA Analysis resulted in a change in PCT of 25°F. These changes resulted in an overall SBLOCA PCT of 2064°F.

⁽¹⁾ S. E. Scace letter to U.S. Nuclear Regulatory Commission, "Millstone Nuclear Power Station, Unit No. 2 - 30 Day Reporting of Changes to, and Errors in, Emergency Core Cooling System Models or Applications," dated May 11, 2000, (B18115).

ADD1

3. FRA-ANP identified two changes or errors in the Large Break Loss of Coolant Accident (LBLOCA) analysis during the 2000 calendar year. As summarized in Attachment 1, assessment of these items resulted in a 0°F change in PCT. The overall LBLOCA PCT is 1811°F.
4. Considering the changes summarized in Attachment 1, the corrected PCTs for the limiting SBLOCA and LBLOCA remain below the 2200°F limit as defined by 10 CFR 50.46(b)(1).

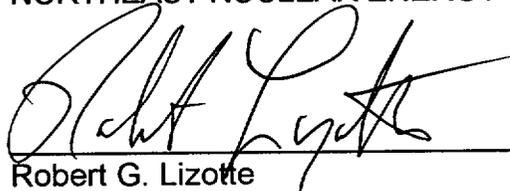
NNECO believes that this information satisfies the annual reporting requirements of 10 CFR 50.46(a)(3)(ii).

There are no regulatory commitments contained within this letter.

If you have any additional questions concerning this submittal, please contact Mr. David W. Dodson at (860) 447-1791, extension 2346.

Very truly yours,

NORTHEAST NUCLEAR ENERGY COMPANY



Robert G. Lizotte
Master Process Owner - Assessment

Attachment (1)

cc: H. J. Miller, Region I Administrator
D. S. Collins, NRC Project Manager, Millstone Unit No. 2
S. R. Jones, Senior Resident Inspector, Millstone Unit No. 2

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Attachment 1

Millstone Nuclear Power Station, Unit No. 2

2000 Annual Reporting of 10 CFR 50.46 Margin Utilization

**2000 Annual Reporting of 10 CFR 50.46 Margin Utilization
 Small Break LOCA**

Plant Name:	Millstone Unit No. 2
Utility Name:	Northeast Nuclear Energy Company

Analysis Information

EM:	EXEM/PWR Small Break	Limiting Break Size:	0.06 ft ²
Analysis Date:	03/00		
Vendor:	Framatome ANP		
Peak Linear Power:	14.6 kW/ft		
Notes:	None		

	<u>Clad Temp(°F)</u>	<u>Notes</u>
LICENSING BASIS		
Analysis of Record PCT	2061	(1)
MARGIN ALLOCATIONS (Δ PCT)		
A. Prior Permanent ECCS Model Assessments (Through 12/1999)		
1. None	0	
B. 10 CFR 50.59 Safety Evaluations		
1. None	0	
C. Current 10 CFR 50.46 Model Assessments (Permanent Assessment of PCT Margin)		
1. RODEX2 Corrosion Enhancement Factor in Millstone Cycle 14 SBLOCA Analysis	-22	
2. Variability in SBLOCA Analysis	25	(2)
D. Temporary ECCS Model Issues		
1. None	0	
E. Other Margin Allocations		
1. None	0	
LICENSING BASIS PCT + MARGIN ALLOCATIONS	PCT = 2064	

Notes:

- (1) New Analysis of Record to support Cycle 14 operation with reduced charging flow.
- (2) Limiting break size shifts to 0.07 ft².

**2000 Annual Reporting of 10 CFR 50.46 Margin Utilization
 Large Break LOCA**

Plant Name:	Millstone Unit No. 2		
Utility Name:	Northeast Nuclear Energy Company		
<u>Analysis Information</u>			
EM:	SEM/PWR-98	Limiting Break Size:	1.0 DECLG
Analysis Date:	11/98		
Vendor:	Framatome ANP		
Peak Linear Power:	15.1 kW/ft		
Notes:	None		

	<u>Clad Temp(°F)</u>	<u>Notes</u>
LICENSING BASIS		
Analysis of Record PCT	1814	(1)

MARGIN ALLOCATIONS (Δ PCT)

A. Prior Permanent ECCS Model Assessments (Through 12/1999)		
1. Corrected Corrosion Enhancement Factor	-1	
2. ICECON Coding Errors	0	
3. Setting RFPAC Fuel Temperatures at Start of Reflood	-2	
4. SISPNCH/ujun98 Code Error	0	
5. Error in Flow Blockage Model in TOODEE2	0	
6. Change in TOODEE2-Calculation of QMAX	0	
7. Change in Gadolinia Modeling	0	
B. 10 CFR 50.59 Safety Evaluations		
1. None	0	
C. Current 10 CFR 50.46 Model Assessments (Permanent Assessment of PCT Margin)		
1. PWR LBLOCA Split Break Modeling	0	
2. TEOBY Calculation Error	0	
D. Temporary ECCS Model Issues		
1. None	0	
E. Other Margin Allocations		
1. None	0	
LICENSING BASIS PCT + MARGIN ALLOCATIONS	PCT = 1811	

Notes:

(1) New Analysis of Record with SEM/PWR-98 LBLOCA Evaluation Model.