

Dominion Nuclear Connecticut, Inc.
Millstone Power Station
Rope Ferry Road
Waterford, CT 06385



March 30, 2004

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

Serial No. 04-166
NL&OS/PRW R0
Docket No. 50-336
License No. DPR-65

DOMINION NUCLEAR CONNECTICUT, INC.
MILLSTONE POWER STATION UNIT 2
2003 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), Dominion Nuclear Connecticut, Inc. (DNC) hereby submits the annual summary of changes to and errors identified in the Emergency Core Cooling System (ECCS) evaluation models or applications of those models for Millstone Power Station Unit 2.

Attachment 1 transmits the annual report for the period January 2003 through December 2003. No changes or errors were identified for either the small break loss of coolant accident (SBLOCA) or the large break loss of coolant accident (LBLOCA) ECCS evaluation models or applications of those models during the 2003 calendar year.

Considering the changes summarized in Attachment 1, the corrected peak clad temperatures (PCTs) for the limiting SBLOCA (1808°F) and LBLOCA (1826°F) remain below the 2200°F limit specified by 10 CFR 50.46(b)(1).

This information satisfies the 2003 annual reporting requirements of 10 CFR 50.46(a)(3)(ii). No reanalysis or other actions are necessary to demonstrate compliance with 10 CFR 50.46 requirements.

If you have should have any questions regarding this submittal, please contact Mr. Paul R. Willoughby at (804) 273-3572.

Very truly yours,

A handwritten signature in black ink, appearing to read "L. Hartz", written over a white background.

Leslie N. Hartz
Vice President – Nuclear Engineering

Attachments (1)

Commitments made in this letter: None

cc: U.S. Nuclear Regulatory Commission
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Millstone Power Station

Attachment 1

Millstone Power Station Unit 2
2003 Annual Reporting of 10 CFR 50.46 Margin Utilization

10 CFR 50.46 Margin Utilization - Small Break LOCA

Plant Name: Millstone Power Station, Unit 2
Utility Name: Dominion Nuclear Connecticut, Inc.

Analysis Information

EM: PWR Small Break LOCA, **Limiting Break Size:** 0.08 ft²
 S-RELAP5 Based
Analysis Date: 01/02
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	1941	(1)
MARGIN ALLOCATIONS (Delta PCT)		
A. Prior Permanent ECCS Model Assessments		
1. Decay Heat Model Error	-133	
2. Revised SBLOCA Guideline	0	(2)
B. Planned Plant Change Evaluations		
1. None	0	
C. 2003 Permanent ECCS Model Assessments		
1. None	0	
D. Temporary ECCS Model Issues		
1. None	0	
E. Other Margin Allocations		
1. None	0	
LICENSING BASIS PCT + MARGIN ALLOCATIONS	PCT = 1808	

NOTES:

- (1) New Analysis of Record using S-RELAP5 based methodology.
- (2) Assessment of this change resulted in a $\Delta PCT = +66^\circ F$. FRA-ANP provided this assessment for information. The $+66^\circ F$ assessment does not apply since the current Analysis of Record incorporates the revised SBLOCA guideline.

10 CFR 50.46 Margin Utilization - Large Break LOCA

Plant Name: Millstone Power Station, Unit 2
Utility Name: Dominion Nuclear Connecticut, Inc.

Analysis Information

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 (Delta PCT)		
A. Prior Permanent ECCS Model Assessments		
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	
8. PWR LBLOCA Split Break Modeling	0	
9. TEOBY Calculation Error	0	
10. Inappropriate Heat Transfer in TOODEE2	0	
11. End-of-Bypass Prediction by TEOBY	0	
12. R4SS Overwrite of Junction Inertia	0	
13. Incorrect Junction Inertia Multipliers	1	
14. Errors Discovered During RODEX2 V&V	0	
15. Error in Broken Loop SG Tube Exit Junction Inertia	0	
16. RFPAC Refill and Reflood Calculation Code Errors	16	
17. Incorrect Pump Junction Area Used in RELAP4	0	
18. Error in TOODEE2 Clad Thermal Expansion	-1	
19. Accumulator Line Loss Error	-1	
B. Planned Plant Change Evaluations		
1. None	0	
C. 2003 Permanent ECCS Model Assessments		
1. None	0	
D. Temporary ECCS Model Issues		
1. None	0	
E. Other Margin Allocations		
1. None	0	
LICENSING BASIS PCT + MARGIN ALLOCATIONS	PCT = 1826	

Notes:

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