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

Dominion

MAR 20 2002

Docket No. 50-423
B18613

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. 3
2001 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 changes to and errors in the Emergency Core Cooling System (ECCS) evaluation models or applications of those models for Millstone Unit No. 3.

Based on a notification received from Westinghouse, dated March 12, 2002, this report covers changes to, or errors in, the small break loss of coolant accident (SBLOCA) and large break loss of coolant accident (LBLOCA) analyses performed for Millstone Unit No. 3 since the last annual report, submitted April 12, 2001.[1] The following is a synopsis of the information provided in Attachment 1.

1. Westinghouse identified the following errors or changes in the ECCS Evaluation models, applicable to Millstone Unit No. 3, which were evaluated to have a permanent peak cladding temperature (PCT) impact of 0°F:

   a. REFILL Hot Wall Delay Model Generic Input Values
   b. LOCBART Rod-Average Oxidation Error
   c. Inclusion of Required NOTRUMP Version 38.0 Input Variables in SPADES
   d. Use of NOTRUMP Subcooled Steam Table Routines in SPADES
   e. Accumulator Line Friction Factor in the NOTRUMP Evaluation Model
   f. Improved Code I/O and Diagnostics, and General Code Maintenance

   Since these errors or changes have a PCT impact of 0°F, they will not be shown on the Margin Utilization Sheets provided in Attachment 1.

[1] R. P. Necci letter to U.S. Nuclear Regulatory Commission, "Millstone Nuclear Power Station, Unit No. 3, 2000 Annual Reporting of Changes to and Errors in Emergency Core Cooling System Models or Applications," dated April 12, 2001, (B18383).

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2. Considering the changes summarized in Attachment 1, the corrected PCTs for the limiting SBLOCA (2106°F) and LBLOCA (2116°F) remain below the 2200°F limit as defined in 10 CFR 50.46(b)(1).

DNC 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.

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

Very truly yours,

DOMINION NUCLEAR CONNECTICUT, INC.

J. Alan Price
Site Vice President - Millstone

Attachment (1)

cc: H. J. Miller, Region I Administrator
V. Nerses, NRC Senior Project Manager, Millstone Unit No. 3
NRC Senior Resident Inspector, Millstone Unit No. 3

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Attachment 1

Millstone Nuclear Power Station, Unit No. 3

2001 Annual Reporting of 10 CFR 50.46 Margin Utilization

2001 Annual Reporting of 10 CFR 50.46 Margin Utilization
Small Break Loss of Coolant Accident (SBLOCA)

Plant Name:	Millstone Unit No. 3		
Utility Name:	Dominion Nuclear Connecticut, Inc.		
Analysis Information			
EM:	NOTRUMP	**Limiting Break Size:**	3 Inches
Analysis Date:	06/90		
FQ:	2.6	**FΔH:**	1.7
Fuel:	Vantage 5H	**SGTP (%):**	10
Notes:	None		

		Clad Temp (°F)	Notes
LICENSING BASIS			
	Analysis of Record PCT	1891	
MARGIN ALLOCATIONS (Delta PCT)			
A.	**Prior Permanent ECCS Model Assessments**		
1.	ECCS Evaluation Model Changes	27	
2.	Effect of SI in Broken Loop	150	
3.	Effect of Improved COSI (Condensation Model)	-150	
4.	Drift Flux Flow Regime Errors	-13	
5.	Average Rod Burst Strain Limit	14	
6.	Fuel Rod Burst Strain Limit	-14	
7.	LUCIFER Error Corrections	-16	
8.	Boiling Heat Transfer Correlation Error	-6	
9.	Steam Line Isolation Logic Error	18	
10.	Axial Nodalization, RIP Model Revision, and SBLOCTA Error Corrections Analysis	26	
11.	NOTRUMP Specific Enthalpy Error	20	
12.	SBLOCTA Fuel Rod Initialization Error	10	
13.	MSSV 3% Setpoint Uncertainty Analysis	67	
14.	AFW Purge Volume Error	17	
15.	NOTRUMP Mixture Level Tracking/Region Depletion Errors	13	
B.	**Planned Plant Change Evaluations**		
1.	Increased Pressurizer Pressure Uncertainty	14	
2.	ZIRLO™ Cladding Evaluation	24	
3.	Fuel Rod Crud	2	
4.	Reduced Thermal Design Flow	12	
5.	Fuel Reconstitution	1	
6.	Revised T-hot Average Scaling	2	
C.	**2001 Permanent ECCS Model Assessments**		
1.	None	0	
D.	**Temporary ECCS Model Issues**		
1.	None	0	

2001 Annual Reporting of 10 CFR 50.46 Margin Utilization SBLOCA (Continued)

		Clad Temp (°F)	Notes
E.	**Other Margin Allocations**		
1.	Burst and Blockage/Time in Life	183	(1), (3)
2.	Axial Offset Decrease to +20%	-135	
3.	Margin Recovery Benefit	-51	(2)

LICENSING BASIS PCT + MARGIN ALLOCATIONS	**PCT = 2106**

Notes:

(1) This assessment is a function of Base peak cladding temperature (PCT) plus permanent margin allocation and as such will increase/decrease with margin allocation changes.

(2) Margin Recovery Benefit based in part on plant-specific PCT calculations that identify margin in Model Assessments and Safety Evaluations reported in Sections "A" and "B".

(3) Value includes previous Burst and Blockage/Time in Life penalty, SPIKE Correlation Revision penalty (1999 Annual Report), and consideration of new penalty due to Item A.15 (NOTRUMP Mixture Level Tracking/Region Depletion Errors).

2001 Annual Reporting of 10 CFR 50.46 Margin Utilization
Large Break Loss of Coolant Accident (LBLOCA)

Plant Name:	Millstone Unit No. 3		
Utility Name:	Dominion Nuclear Connecticut, Inc.		
Analysis Information			
EM:	BASH	**Limiting Break Size:**	Cd=0.6
Analysis Date:	08/90		
FQ:	2.6	**FΔH:**	1.7
Fuel:	Vantage 5H	**SGTP (%):**	10
Notes:	VH5/RFA		

		Clad Temp (°F)	Notes
LICENSING BASIS			
	Analysis of Record PCT	1974	
MARGIN ALLOCATIONS (Delta PCT)			
A.	**Prior Permanent ECCS Model Assessments**		
1.	LOCBART Spacer Grid Single-Phase Heat Transfer Error, LOCBART Zirc-Water Oxidation Error, and LOCBART Reanalysis of Limiting AOR Case (9/99)	41	(1)
2.	LOCBART Vapor Film Flow Regime Heat Transfer Error	9	
3.	LOCBART Dispersed Flow Regime Wall Emissivity Error	-12	
4.	LOCBART Cladding Emissivity Errors	6	
B.	**Planned Plant Change Evaluations**		
1.	Increased Pressurizer Pressure Uncertainty	1	
2.	ZIRLO™ Cladding Evaluation	6	
3.	Reactor Vessel Flange Radiation Shield	1	
4.	Reduced Thermal Design Flow	12	
5.	Fuel Reconstitution	1	
6.	Revised T-hot Average Scaling	7	
7.	Robust Fuel Assembly Fuel Features	48	
C.	**2001 Permanent ECCS Model Assessments**		
1.	None	0	
D.	**Temporary ECCS Model Issues**		
1.	None	0	
E.	**Other Margin Allocations**		
1.	Rebaseline of AOR	22	
LICENSING BASIS PCT + MARGIN ALLOCATIONS		**PCT =**	**2116**

Notes:

(1) The LOCBART reanalysis addressed the following issues: LOCBART Spacer Grid Single-Phase Heat Transfer Error and LOCBART Zirc-Water Oxidation Error. No prior rackup assessments were incorporated into the reanalysis.