September 25, 2003

Mr. David A. Christian
Sr. Vice President and Chief Nuclear Officer
Dominion Nuclear Connecticut, Inc.
Innsbrook Technical Center
5000 Dominion Boulevard
Glen Allen, VA 23060-6711

SUBJECT: MILLSTONE POWER STATION, UNIT NO. 2 - ISSUANCE OF AMENDMENT RE: ANALYTICAL METHODS USED TO DETERMINE CORE OPERATING LIMITS (TAC NO. MB6105)

Dear Mr. Christian:

The Commission has issued the enclosed Amendment No. 281 to Facility Operating License No. DPR-65 for the Millstone Power Station, Unit No. 2, in response to your application dated August 7, 2002, as supplemented on October 23, 2002.

The amendment revises Technical Specification 6.9.1.8, “Core Operating Limits Report,” to update the list of documents that describe the analytical methods used to determine the core operating limits.

A copy of the related Safety Evaluation is also enclosed. Notice of Issuance will be included in the Commission's biweekly Federal Register notice.

Sincerely,

/RA/

Richard B. Ennis, Senior Project Manager, Section 2
Project Directorate I
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket No. 50-336

Enclosures: 1. Amendment No. 281 to DPR-65
2. Safety Evaluation

cc w/encls: See next page

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PDI-2 Reading	CRaynor	SColpo	
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JClifford	ACRS	SMagruder	

*See previous concurrence

ADAMS Accession Number: ML031900203; TS(s): ML ; Package: ML

OFFICE	PDI-2/PM	PDI-2/LA	SRXB/SC*	OGC*	PDI-2/SC
NAME	REnnis	CRaynor	JUhle	RWeisman	JClifford
DATE	9/11/03	9/15/03	7/25/03	8/11/03	9/16/03

OFFICIAL RECORD COPY

Millstone Power Station
Unit 2

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DOMINION NUCLEAR CONNECTICUT, INC.

DOCKET NO. 50-336

MILLSTONE POWER STATION, UNIT NO. 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 281
License No. DPR-65

1. The Nuclear Regulatory Commission (the Commission) has found that:

   A. The application for amendment by the applicant dated August 7, 2002, as supplemented on October 23, 2002, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;

   B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;

   C. There is reasonable assurance: (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;

   D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and

   E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Facility Operating License No. DPR-65 is hereby amended to read as follows:

   (2) Technical Specifications

   The Technical Specifications contained in Appendix A, as revised through Amendment No. 281, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of the date of issuance, and shall be implemented prior to Mode 4 operation of Cycle 16.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

James W. Clifford, Chief, Section 2
Project Directorate I
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical Specifications

Date of Issuance: September 25, 2003

ATTACHMENT TO LICENSE AMENDMENT NO. 281

FACILITY OPERATING LICENSE NO. DPR-65

DOCKET NO. 50-336

Replace the following pages of the Appendix A, Technical Specifications, with the attached revised pages. The revised pages are identified by amendment number and contain marginal lines indicating the areas of change.

Remove	Insert
6-18a	6-18a
6-19	6-19

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 281

TO FACILITY OPERATING LICENSE NO. DPR-65

DOMINION NUCLEAR CONNECTICUT, INC.

MILLSTONE POWER STATION, UNIT NO. 2

DOCKET NO. 50-336

1.0 INTRODUCTION

By application dated August 7, 2002, as supplemented on October 23, 2002, Dominion Nuclear Connecticut, Inc. (the licensee), requested changes to the Millstone Power Station, Unit No. 2 (MP2) Technical Specifications (TSs). The supplement dated October 23, 2002, provided additional information that clarified the application, did not expand the scope of the application as originally noticed, and did not change the staff's original proposed no significant hazards consideration determination as published in the Federal Register on September 17, 2002 (67 FR 58639).

The proposed amendment would revise TS 6.9.1.8, "Core Operating Limits Report," to update the list of documents that describe the analytical methods used to determine the core operating limits for MP2. The specific proposed TS changes are as follows:

1.1 Deletion of EMF-84-093(P)(A)

The methodology currently referenced in TS 6.9.1.8b.4, EMF-84-093(P)(A), "Steamline Break Methodology for PWRs [pressurized water reactors]," Siemens Power Corporation, would be deleted. This methodology would be deleted because the methodology currently referenced in TS 6.9.1.8b.15, EMF-2310(P)(A), "SRP [Standard Review Plan] Chapter 15 Non-LOCA [loss-of-coolant accident] Methodology for Pressurized Water Reactors," Framatome ANP, substitutes for the function of EMF-84-093(P)(A). EMF-2310(P)(A) was approved for use at MP2 by the U.S. Nuclear Regulatory Commission (NRC or Commission) via issuance of Amendment No. 260 on December 19, 2001.

1.2 Renumbering of TSs 6.9.1.8b.5 through 6.9.1.8b.15

Due to the proposed deletion of EMF-84-093(P)(A) in TS 6.9.1.8b.4, TSs 6.9.1.8b.5 through 6.9.1.8b.15 would be renumbered as TSs 6.9.1.8b.4 through 6.9.1.8b.14.

1.3 Addition of EMF-92-153(P)(A)

The proposed amendment would add the staff-approved methodology in EMF-92-153(P)(A) and Supplement 1, "HTP: Departure from Nucleate Boiling Correlation for High Thermal Performance Fuel," Siemens Power Corporation, as TS 6.9.1.8b.15.

2.0 REGULATORY EVALUATION

In an effort to avoid TS changes for every fuel reload cycle that results in changes to the cycle-specific parameter limits, licensees have relocated the cycle-specific core operating parameters from the TSs to the Core Operating Limits Report (COLR), which is a licensee-controlled document. Generic Letter (GL) 88-16, "Removal of Cycle-Specific Parameter Limits From Technical Specifications," dated October 3, 1988, provides guidance for the preparation of license amendment requests to relocate cycle-specific TS information to the COLR. The guidance in GL 88-16 states that licensees shall identify (in the Administrative Controls, Reporting Requirements section of the TSs), the previously approved analytical methods used to determine the core operating limits by identifying the topical report number, title, and date (or identify the staff's safety evaluation (SE) report for a plant-specific methodology by NRC letter and date).

In a letter dated December 15, 1999, the NRC staff accepted a method proposed by Siemens Power Corporation of referencing approved topical reports. The proposed method would allow licensees to use current topical reports to support limits in the COLR without having to submit an amendment request for the facility operating license each time a revision to the topical report is approved by the NRC. This method would allow the references to approved topical reports in the TSs to be cited using the report number and title. The citation in the COLR would include specific information for each of the TS references to topical reports used to prepare the COLR (i.e., report number, title, revision, date, and any supplements). This method of referencing was subsequently approved for incorporation into the Standard Technical Specifications by the NRC in TSTF-363.

For this review, the staff verified that the licensee properly implemented the limitations and conditions of the proposed topical reports. This staff practice assures that the licensee uses the reports within the bounds for which the staff reviewed and approved the report.

3.0 TECHNICAL EVALUATION

The NRC staff has reviewed the licensee's justification for the proposed license amendment as described in the licensee's application dated August 7, 2002, as supplemented on October 23, 2002. The staff's detailed evaluation is provided in SE Sections 3.1 through 3.3.

3.1 Deletion of EMF-84-093(P)(A)

As described in SE Section 1.1, the methodology currently referenced in TS 6.9.1.8b.15 (EMF-2310(P)(A)) substitutes for the function of the methodology currently referenced in TS 6.9.1.8b.4 (EMF-84-093(P)(A)). Therefore, since the function of EMF-84-093(P)(A) is maintained by another methodology listed in the TSs, the staff concludes that the proposed change to delete the reference to EMF-84-093(P)(A) in TS 6.9.1.8b.4 is acceptable.

3.2 Renumbering of TSs 6.9.1.8b.5 through 6.9.1.8b.15

As described in SE Section 1.2, due to the proposed deletion of EMF-84-093(P)(A) in TS 6.9.1.8b.4, TSs 6.9.1.8b.5 through 6.9.1.8b.15 would be renumbered as TSs 6.9.1.8b.4 through 6.9.1.8b.14. The staff finds that the proposed change is editorial in nature and, therefore, is acceptable.

3.3 Addition of EMF-92-153(P)(A)

As described in SE Section 1.3, the proposed amendment would add EMF-92-153(P)(A) as TS 6.9.1.8b.15. The NRC staff's SE dated December 28, 1993, concluded that EMF-92-153(P) is acceptable for referencing in license applications subject to the following two limitations:

(1) The HTP (high thermal performance) critical heat flux correlation is applicable to fuels whose design characteristics fall within the correlation database shown in the following table:

Range of Fuel Design Parameters in HTP Correlation Database

Parameter	Range
Fuel Rod Diameter, in.	0.360 to 0.440
Fuel Rod Pitch, in.	0.496 to 0.580
Axial Spacer Span, in.	10.5 to 26.2
Hydraulic Diameter, in.	0.4571 to 0.5334
Heated Length, ft.	8.0 to 14.0

(2) The application of the HTP correlation for departure from nucleate boiling (DNB) analysis is restricted to the operating conditions given in the following table:

Range of Coolant Conditions Spanned by the HTP Correlation

Variable	Range
Pressure (psia)	1775 to 2425
Local Mass Flux (Mlb/hr/ft^2)	0.936 to 3.573
Inlet Enthalpy (Btu/lb)	382.3 to 649.9
Local Quality	-0.125 to 0.358

By letter dated October 2, 2002, the staff requested additional information from the licensee regarding how the two limitations described above would be met for MP2. The licensee provided a response to the staff's request in a letter dated October 23, 2002.

With respect to the first limitation, the licensee stated that all fuel design parameters for MP2 are within the allowed ranges for the HTP correlation as shown in the following table:

Parameter	Allowed Value	MP2 Value
Fuel Rod Diameter, in.	0.360 to 0.440	0.440
Fuel Rod Pitch, in.	0.496 to 0.580	0.580
Axial Spacer Span, in.	10.5 to 26.2	12.963 to 18.859
Hydraulic Diameter, in.	0.4571 to 0.5334	0.5334
Heated Length, ft.	8.0 to 14.0	11.39

Based on the information provided by the licensee in the above table, the staff has determined that the plant-specific values of the parameters subject to the first limitation fall within the ranges specified in the staff's SE on EMF-92-153(P). Accordingly, the staff concludes that the first limitation is satisfied.

With respect to the second limitation, the licensee's submittal stated that:

> All evaluations of DNBR [DNB ratio] for Millstone Unit No. 2 are performed with the XCOBRA-IIIC code. The ranges of coolant conditions input are checked by the code. If a parameter is input which is outside of the allowed range, a prominent warning message identifying the violation is placed in the output file. Calculation analysts and reviewers inspect the output and certify that the HTP correlation has been properly applied.

Based on the licensee's description of the process used to perform DNB analysis at MP2, the staff finds that there is reasonable assurance that the HTP correlation will be applied to within the allowed ranges of coolant conditions set forth in the staff's SE on EMF-92-153(P). Therefore, the staff concludes that the second limitation is satisfied. Section 3.5 of the MP2 Final Safety Analysis Report identifies XCOBRA-IIIC for use in evaluating DNBR and should the licensee seek to use a different code for this purpose, it would be required to evaluate such a change pursuant to 10 CFR 50.59.

Since both limitations are satisfied, the staff concludes that the addition of EMF-92-153(P)(A) to the list of documents in TS 6.9.1.8b is acceptable.

4.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Connecticut State official was notified of the proposed issuance of the amendment. The State official had no comments.

5.0 ENVIRONMENTAL CONSIDERATION

The amendment changes recordkeeping, reporting, or administrative procedures or requirements. Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(10). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendment.

6.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner; (2) such activities will be conducted in compliance with the Commission's regulations; and, (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributors: S. Colpo
R. Ennis

Date: September 25, 2003