

November 20, 2001

Mr. J. A. Price  
Vice President - Nuclear Technical Services - Millstone  
Dominion Nuclear Connecticut, Inc.  
c/o Mr. David A. Smith  
Rope Ferry Road  
Waterford, CT 06385

SUBJECT: SAFETY EVALUATION OF RELIEF REQUEST R-3 FOR THE SUCCESSIVE  
ACTUATION TIME REQUIREMENT FOR SAFETY AND RELIEF VALVES IN  
THE INSERVICE TESTING PROGRAM, MILLSTONE NUCLEAR POWER  
STATION, UNIT NO. 2 (TAC NO. MB1817)

Dear Mr. Price:

The U.S. Nuclear Regulatory Commission (NRC) staff has reviewed the subject relief request for the Millstone Nuclear Power Station, Unit No. 2, submitted by Dominion Nuclear Connecticut, Inc. (the licensee), in its letter dated April 25, 2001. The licensee proposed the use of an alternative to the hold time between successive actuations of safety and relief valves required in the 1999 Edition of the American Society of Mechanical Engineers *Boiler and Pressure Vessel Code*, and applicable addenda. Based on the information provided in the relief request, the staff concludes that for Relief Request R-3, the licensee's proposed alternative will provide an acceptable level of quality and safety. Therefore, the proposed alternative is authorized pursuant to the requirements of 10 CFR 50.55a(a)(3)(i) for the remainder of the third 10-year IST interval.

The NRC staff's evaluation and conclusions are contained in the enclosed Safety Evaluation. If you have any questions please contact John Harrison at (301) 415-3199. This completes the staff's effort on TAC No. MB1817.

Sincerely,  
*/RA/*

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

Docket No. 50-336

Enclosure: Safety Evaluation

cc w/encl: See next page

November 20, 2001

Mr. J. A. Price  
Vice President - Nuclear Technical Services - Millstone  
Dominion Nuclear Connecticut, Inc.  
c/o Mr. David A. Smith  
Rope Ferry Road  
Waterford, CT 06385

SUBJECT: SAFETY EVALUATION OF RELIEF REQUEST R-3 FOR THE SUCCESSIVE  
ACTUATION TIME REQUIREMENT FOR SAFETY AND RELIEF VALVES IN  
THE INSERVICE TESTING PROGRAM, MILLSTONE NUCLEAR POWER  
STATION, UNIT NO. 2 (TAC NO. MB1817)

Dear Mr. Price:

The U.S. Nuclear Regulatory Commission (NRC) staff has reviewed the subject relief request for the Millstone Nuclear Power Station, Unit No. 2, submitted by Dominion Nuclear Connecticut, Inc. (the licensee), in its letter dated April 25, 2001. The licensee proposed the use of an alternative to the hold time between successive actuations of safety and relief valves required in the 1999 Edition of the American Society of Mechanical Engineers *Boiler and Pressure Vessel Code*, and applicable addenda. Based on the information provided in the relief request, the staff concludes that for Relief Request R-3, the licensee's proposed alternative will provide an acceptable level of quality and safety. Therefore, the proposed alternative is authorized pursuant to the requirements of 10 CFR 50.55a(a)(3)(i) for the remainder of the third 10-year IST interval.

The NRC staff's evaluation and conclusions are contained in the enclosed Safety Evaluation. If you have any questions please contact John Harrison at (301) 415-3199. This completes the staff's effort on TAC No. MB1817.

Sincerely,  
*/RA/*

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

Docket No. 50-336

Enclosure: Safety Evaluation

cc w/encl: See next page

DISTRIBUTION:

PUBLIC	JClifford	RJenkins, EDO	ACRS
PDI-2 R/F	TClark	CHammer	GHill (2)
OGC	JHarrison	YHuang	CCowgill, RI
EAdensam			

ACCESSION NUMBER: ML012980383

OFFICE	PDI-2/PM	PDI-2/LA	OGC	PDI-2/SC
NAME	JHarrison:lf	TClark	RHoeffling	JClifford
DATE	11/01/01	11/01/01	11/09/01	11/15/01

OFFICIAL RECORD COPY

Millstone Nuclear Power Station  
Unit 2

cc:

Ms. L. M. Cuoco  
Senior Nuclear Counsel  
Dominion Nuclear Connecticut, Inc.  
Rope Ferry Road  
Waterford, CT 06385

Edward L. Wilds, Jr., Ph.D.  
Director, Division of Radiation  
Department of Environmental Protection  
79 Elm Street  
Hartford, CT 06106-5127

Regional Administrator, Region I  
U.S. Nuclear Regulatory Commission  
475 Allendale Road  
King of Prussia, PA 19406

First Selectmen  
Town of Waterford  
15 Rope Ferry Road  
Waterford, CT 06385

Charles Brinkman, Manager  
Washington Nuclear Operations  
ABB Combustion Engineering  
12300 Twinbrook Pkwy, Suite 330  
Rockville, MD 20852

Senior Resident Inspector  
Millstone Nuclear Power Station  
c/o U.S. Nuclear Regulatory Commission  
P.O. Box 513  
Niantic, CT 06357

Mr. W. R. Matthews  
Vice President and Senior Nuclear  
Executive - Millstone  
Dominion Nuclear Connecticut, Inc.  
Rope Ferry Road  
Waterford, CT 06385

Ernest C. Hadley, Esquire  
P.O. Box 1104  
West Falmouth, MA 02574-1104

Mr. P. J. Parulis  
Process Owner - Oversight  
Dominion Nuclear Connecticut, Inc.  
Rope Ferry Road  
Waterford, CT 06385

Mr. D. A. Christian  
Senior Vice President - Nuclear Operations  
and Chief Nuclear Officer  
Innsbrook Technical Center - 2SW  
5000 Dominion Boulevard  
Glen Allen, VA 23060

Mr. C. J. Schwarz  
Master Process Owner - Operate the Asset  
Dominion Nuclear Connecticut, Inc.  
Rope Ferry Road  
Waterford, CT 06385

Citizens Regulatory Commission  
ATTN: Ms. Geri Winslow  
P. O. Box 199  
Waterford, CT 06385

Deborah Katz, President  
Citizens Awareness Network  
P. O. Box 83  
Shelburne Falls, MA 03170

Mr. John Markowicz  
Co-Chair  
Nuclear Energy Advisory Council  
9 Susan Terrace  
Waterford, CT 06385

Mr. Evan W. Woollacott  
Co-Chair  
Nuclear Energy Advisory Council  
128 Terry's Plain Road  
Simsbury, CT 06070

Millstone Nuclear Power Station  
Unit 2

cc:

Mr. D. A. Smith  
Process Owner - Regulatory Affairs  
Dominion Nuclear Connecticut, Inc.  
Rope Ferry Road  
Waterford, CT 06385

Ms. Nancy Burton  
147 Cross Highway  
Redding Ridge, CT 00870

Mr. G. D. Hicks  
Master Process Owner - Training  
Dominion Nuclear Connecticut, Inc.  
Rope Ferry Road  
Waterford, CT 06385

Mr. E. S. Grecheck  
Vice President - Nuclear Operations/Millstone  
Dominion Nuclear Connecticut, Inc.  
Rope Ferry Road  
Waterford, CT 06385

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
RELATED TO SAFETY AND RELIEF VALVE SUCCESSIVE ACTUATION TIMES

DOMINION NUCLEAR CONNECTICUT, INC.

MILLSTONE NUCLEAR POWER STATION, UNIT NO. 2

DOCKET NO. 50-336

## 1.0 INTRODUCTION

Title 10 of the *Code of Federal Regulations*, (10 CFR) Section 50.55a, requires that inservice testing (IST) of certain American Society of Mechanical Engineers (ASME) Code Class 1, 2, and 3 pumps and valves be performed in accordance with Section XI of the ASME Boiler and Pressure Vessel Code and applicable addenda, except where relief has been requested and granted or proposed alternatives have been authorized by the Commission pursuant to 10 CFR 50.55a (f)(6)(i), (a)(3)(i), or (a)(3)(ii). In order to obtain authorization or relief, the licensee must demonstrate that: (1) a conformance is impractical for its facility; (2) the proposed alternative provides an acceptable level of quality and safety; or (3) compliance would result in a hardship or unusual difficulty without a compensating increase in the level of quality and safety.

## 2.0 BACKGROUND

By letter dated April 25, 2001, Dominion Nuclear Connecticut, Inc., the licensee for Millstone Nuclear Power Station, Unit No. 2 (MP2), submitted a request for relief from certain ASME Code IST requirements pertaining to testing of ASME Class 1, 2, and 3 safety and relief valves. The plant IST program requires that the testing meet the requirements of Part 10 of ANSI/ASME Operations and Maintenance (OM) Standard, OM-1987 Edition through the OMa-1988 Addenda which references the requirements of OM Part 1-1987 Edition (herein referred to as OM-1). Specifically, this request seeks relief from performing testing on safety and relief valves in a manner that includes a 10-minute hold time between consecutive set pressure tests as required by OM-1 paragraphs 8.1.1.8, 8.1.2.8, and 8.1.3.7. For the plant safety and relief valves, the licensee proposes to relax the hold time from 10 minutes to 5 minutes. The licensee seeks this relief for the remainder of the third 10-year IST interval, which began on April 1, 1999.

Enclosure

### 3.0 LICENSEE'S BASIS FOR RELIEF

The licensee states that the current test method for set pressure testing of safety and relief valves requires a minimum of two consecutive actuations with 10 minutes between actuations. This generic relief would allow a 5-minute hold time between successive actuations for safety and relief valves. The licensee states that the proposed change would be a slightly different test method than specified by the current IST Program, but provides a similar level of performance monitoring. When performing set pressure testing of safety and relief valves, a 5-minute hold time will also reduce test time and potential radiation exposure. The licensee also states that the ASME OM Committee conducted an evaluation comparing the 5-minute versus the 10-minute hold time between successive valve actuations with regard to set pressure when using saturated steam. The comparison is based on actual valve test data compiled over several years and includes both main steam and pressurizer safety relief valves. The licensee states that the main steam and pressurizer safety relief valves at MP2 are manufactured by Ingersoll Dresser and are similar to those identified by the ASME OM Committee. The data from the OM Committee evaluation includes averaged deviation values which are compared to the same valve groups with both a 5-minute and 10-minute hold period between openings. The licensee states that the average deviations found are within normal gauge increments and accuracy.

The licensee concludes that, based on the study conducted by the ASME OM Committee, comparing the average deviation resulting from 5-minute hold times with the average deviation resulting from 10-minute hold times, the 5-minute hold time between tests is as effective at ensuring repeatable results as the 10-minute hold time. The licensee also states that for valves that are tested at ambient conditions, temperature stabilization is not a concern, and for set pressure testing of air and water system safety and relief valves, it is also expected that temperature stabilization will have less impact on set pressure test accuracy and repeatability than for the steam conditions evaluated for the main steam and pressurizer safety valve applications. The licensee notes that following completion of the study conducted by the ASME OM Committee that compared the 5-minute versus 10-minute hold times, the requirement for a 5-minute hold time was introduced into the 1997 Edition of the OM Code, Appendix I, for steam, compressible fluids other than steam, and liquid service conditions. Therefore, the licensee concludes that this proposed relief is consistent with later ASME Code requirements.

### 4.0 EVALUATION

The staff finds that the proposed 5-minute hold time between consecutive set pressure tests for the plant ASME Class 1, 2, and 3 safety and relief valves provides an adequate method of accurately and repeatedly determining set pressures. Based on a review of the supporting test data, the staff finds that the proposed 5-minute hold time provides the necessary steady-state thermal conditions for testing. The staff also notes that the licensee's proposal is consistent with a revision in the 1997 Addenda to the 1995 ASME OM Code. The 1997 Addenda specifies a 5-minute hold time which is a relaxation of the 10-minute hold time specified in previous editions of the ASME OM Code. Therefore, the staff finds the licensee's proposed method of set pressure testing the plant ASME Class 1, 2, and 3 safety and relief valves with a 5-minute hold time provides an acceptable level of quality and safety.

## 5.0 CONCLUSION

The staff concludes that the licensee's proposed alternative to the previously discussed ASME Code testing requirements for the MP2 ASME Code Class 1, 2, and 3 safety and relief valves is authorized for the remainder of the third 10-year IST interval pursuant to 10 CFR 50.55a(a)(3)(i) on the basis that the proposed alternative testing provides an acceptable level of quality and safety.

Principal Contributors: C. Gary Hammer  
Y. S. Huang

Date: November 20, 2001