

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



**Dominion™**

APR 25 2001

Docket No. 50-336  
B18396

RE: 10 CFR 50.55a(a)(3)(i)

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

Millstone Nuclear Power Station, Unit No. 2  
Relief Request R-3 for the Inservice Test Program

This letter submits Relief Request R-3 for the third 10-year interval of the Inservice Testing (IST) Program at Millstone Unit No. 2. The third 10-year interval for Millstone Unit No. 2 began on April 1, 1999, and the IST Program follows the requirements of the 1989 Edition of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, Section XI, OM-1987 and Addendum OMA-1988. Dominion Nuclear Connecticut, Inc. (DNC) proposes an alternative to the IST requirements of 10 CFR 50.55a(f) to change the hold time between successive actuations during set pressure testing of safety and relief valves in the IST Program from 10-minutes to 5-minutes. This proposed alternative provides an acceptable level of quality and safety, as allowed under the provisions of 10 CFR 50.55a(a)(3)(i).

It is requested that NRC approval be provided by December 1, 2001, to support implementation prior to the next planned refueling outage scheduled in early February 2002.

There are no regulatory commitments contained within this letter.

Should you have any questions regarding this matter, please contact Mr. Ravi G. Joshi at (860) 440-2080.

Very truly yours,

DOMINION NUCLEAR CONNECTICUT, INC.

Eugene S. Grecheck  
Vice President - Nuclear Operations/Millstone

cc: See next page

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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

Relief Request R-3 for Safety and Relief Valves

## RELIEF REQUEST R-3 FOR SAFETY AND RELIEF VALVES

### I. IDENTIFICATION OF COMPONENTS

This relief request pertains to Code Class 1, 2 and 3, safety and relief valves in the Inservice Testing (IST) Program at Millstone Unit No. 2.

Function: Safety and relief valves provide over pressure protection to safety related systems.

### II. CODE REQUIREMENTS FROM WHICH RELIEF IS REQUESTED

The Millstone Unit No. 2 IST Program follows the requirements of the 1989 Edition of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, Section XI, ASME/American National Standards Institute (ANSI) OM-1987 and Addendum OMa-1988.

Test Requirement: OM-10, Paragraph 4.3.1, states that safety and relief valves shall meet the IST requirements of the OM-1, 1987 Edition. Paragraphs 8.1.1.8, 8.1.2.8, and 8.1.3.7, of OM-1 require that, for the time between valve openings, a minimum of 10-minutes shall elapse between successive openings.

### III. ALTERNATIVE REQUESTED

Safety and relief valves will be tested with a 5-minute hold time between tests.

### IV. BASIS FOR RELIEF

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 will allow a 5-minute hold time between successive actuations for safety and relief valves. This IST Program change is a slightly different test method than specified by the IST Program's current Code of Record, 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 potentially radiation exposure. A similar request for relief has been reviewed and approved by the NRC for Millstone Unit No. 3 on December 2, 1996.<sup>(1)</sup>

The ASME OM Committee conducted an evaluation comparing the 5-minute versus 10-minute hold time between successive valve actuations with regard to set pressure when using saturated steam. The comparison is based on actual

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<sup>(1)</sup> NRC letter, "Relief Request for Valve Inservice Testing Program - Millstone Unit 3 (TAC No. M95353)," dated December 2, 1996.

valve test data compiled over several years and includes both main steam and pressurizer safety relief valves. The main steam and pressurizer safety relief valves at Millstone Unit No. 2 are manufactured by Ingersoll Dresser and are similar to those identified by the ASME OM committee. The data from the OM committee evaluation is presented in Table 1 below. The data is an averaged value of the standard deviation for each valve in that particular group. These averaged values are compared to the same valve group with both a 5-minute and 10-minute hold period between openings. Normal range for main steam relief valves is approximately 1200 psig, and for pressurizer safety relief valves is 2500 psig. The average deviations found are within normal gauge increments and accuracy.

Table 1: Summary of the Averaged Values of the Standard Deviation for Each Valve Type and Hold Period Interval

<u>Valve Type</u>	<u>Average Deviation (psig)</u>
Crosby main steam safety valves:	
10 minutes between openings	2.463
5 minutes between openings	2.358
Crosby pressurizer safety relief valves:	
10 minutes between openings	5.273
5 minutes between openings	5.075
Dresser main steam safety valves:	
10 minutes between openings	1.823
5 minutes between openings	2.973*
*Note: This data came from a full flow test program rather than a limited lift.	
Dresser main steam safety valves:	
10 minutes between openings	3.476
5 minutes between openings	5.200
(Data compiled by Wyle Laboratories' Engineering Staff)	
Dresser main steam safety valves:	
10 minutes between openings	3.696
5 minutes between openings	3.365
Target Rock main steam safety relief valves:	
10 minutes between openings	3.250
5 minutes between openings	3.069
(Data compiled by Westinghouse Safety Valve Test Facility Staff)	

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.

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. Following completion of the study conducted by the 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, this proposed relief is consistent with later ASME Code requirements.

The 5-minute hold time results in comparable accuracy to a 10-minute hold time for the relief valve set pressure test. Therefore, this is an alternative that provides an acceptable level of quality and safety, as allowed under the provisions of 10 CFR 50.55a(a)(3)(i).

#### V. PERIOD FOR WHICH RELIEF IS REQUESTED

This relief is requested to be effective immediately upon its approval, and to remain in effect during the third 10-year interval for Millstone Unit No. 2, which began April 1, 1999.