Dominion Nuclear Connecticut, Inc.
5000 Dominion Boulevard, Glen Allen, Virginia 23060
Web Address: www.dom.com

Dominion®

August 17, 2006

U.S. Nuclear Regulatory Commission
Attention: Document Control Desk
One White Flint North
11555 Rockville Pike
Rockville, MD 20852-2739

Serial No. 06-305
NL&OS/PRW R0
Docket Nos. 50-336/423
License Nos. DPR-65/NPF-49

DOMINION NUCLEAR CONNECTICUT, INC.
MILLSTONE POWER STATION UNITS 2 AND 3
USE OF ALTERNATIVE CLASS 1 PRESSURE TEST REQUIREMENTS
REQUESTS RR-89-56 AND IR-2-45

Pursuant to 10 CFR 50.55a(a)(3)(i) and 10 CFR 50.55a(a)(3)(ii), Dominion Nuclear Connecticut, Inc. (DNC) requests approval to use alternatives to the system hydrostatic pressure test requirements of the American Society of Mechanical Engineers (ASME) Code, Section XI, 1989 Edition, under Examination Category B-P, for segments of Class 1 reactor coolant pressure boundary (RCPB) piping. Requests RR-89-56 and IR-2-45 for Millstone Power Station Units 2 and 3 (MPS2&3), respectively, are included in Enclosure 1 to this letter.

Enclosure 1 requests the use of ASME Code Case N-731, "Alternative Class 1 System Leakage Test Pressure Requirements Section XI, Division 1," for RCPB Class 1 safety injection system piping segments that are continuously pressurized during an operating cycle. The recent ASME approval and publication of this code case was in the last quarter of 2005. The request for use of Code Case N-731 at MPS2&3 is pursuant to provisions of 10 CFR 50.55a(a)(3)(i) as an alternative that will provide an acceptable level of quality and safety. Alternative requirements are also proposed to the ASME Code hydrostatic pressure test requirements under IWB-5222 for Class 1 RCPB piping segments, including multiple vents, drains, and branch connections, where compliance with these requirements result in a hardship related to personnel safety, radiation exposure and plant safety without a compensating increase in the level of quality and safety per 10 CFR 50.55a(a)(3)(ii). The piping segment reference drawings are included in Attachment 3 to Enclosure 1. To facilitate the review and use of the drawings in Attachment 3, a computer disk with the drawings in text searchable formats is also provided as Enclosure 2.

Performance of the hydrostatic pressure test requirements associated with the end of the inservice inspection interval will be conducted during the MPS3 refueling outage in the spring of 2007 and the MPS2 refueling outage in the spring of 2008. Consequently, the approval of RR-89-56 and IR-2-45, for MPS2 and MPS3 respectively, are requested by April 2007, to support the performance of these requirements.

A047

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

Very truly yours,

Gerald T. Bischof
Vice President – Nuclear Engineering

Enclosures (2)

1. Use of Alternative Class 1 Pressure Test Requirements, [Millstone Power Station Units 2 and 3] Requests RR-89-56 and IR-2-45
2. Computer Disk (3 copies to the NRC Project Manager)

Commitments made in this letter: None.

cc: U.S. Nuclear Regulatory Commission (w/o Enclosure 2)
Region I
475 Allendale Road
King of Prussia, PA 19406-1415

Mr. V. Nerses
NRC Senior Project Manager – Power Station
U.S. Nuclear Regulatory Commission
One White Flint North
11555 Rockville Pike
Mail Stop 8C2
Rockville, Maryland 20852-2738

Mr. S. M. Schneider (w/o Enclosure 2)
NRC Senior Resident Inspector
Millstone Power Station

ENCLOSURE 1

USE OF ALTERNATIVE CLASS 1 PRESSURE TEST REQUIREMENTS REQUESTS RR-89-56 AND IR-2-45

DOMINION NUCLEAR CONNECTICUT, INC.
MILLSTONE POWER STATION UNITS 2 AND 3

USE OF ALTERNATIVE CLASS 1 PRESSURE TEST REQUIREMENTS REQUESTS RR-89-56 AND IR-2-45

(for Millstone Power Station Units 2 and 3, respectively)

Proposed Alternative
In Accordance with 10 CFR 50.55a(a)(3)(i) and 10 CFR 50.55a(a)(3)(ii)

- Alternative Provides Acceptable Level Of Quality And Safety And Compliance With The Specified Requirements Result In A Hardship Without A Compensating Increase In The Level Of Quality And Safety -

CONTENTS

USE OF ALTERNATIVE CLASS 1 PRESSURE TEST REQUIREMENTS REQUESTS RR-89-56 AND IR-2-45

(for Millstone Power Station Units 2 and 3, respectively)

1.0 ASME CODE COMPONENTS AFFECTED

Code Class:	Class 1	
References:	IWB-2500, IWB-5222	
Examination Category:	B-P	
Item Number:	B15.51, B15.71	
Parts Examined:	Piping and Valves	
Description:	Class 1 components that are in the Reactor Coolant Pressure Boundary (RCPB) that will require a system hydrostatic pressure test be performed once each 10-year inspection interval.	
Component(s):	RCPB piping segments primarily consisting of small bore $\leq$ 2" Nominal Pipe Size (NPS) piping vents, drains, and branch (VTDB) lines and connections. Additional segments are portions of larger diameter piping 6", 8", 10" and 12" NPS located between check valves and isolated, required to be isolated at operation, or otherwise continually under pressure and monitored for loss of pressure. Details related to these piping segments are provided by Tables 1-8 in Section 4.0 and Attachment 1.	
Units:	Millstone Unit 2 (MPS2):	Millstone Unit 3 (MPS3):
Quantity:	36 segments	41 segments
Systems:	pressurizer auxiliary spray pressurizer spray, relief reactor head vent refuel level indication reactor coolant charging, letdown low pressure safety injection shutdown cooling systems	pressurizer auxiliary spray reactor head vent reactor coolant low pressure safety injection high pressure safety injection residual heat removal

2.0 APPLICABLE CODE EDITION AND ADDENDA

The 1989 Edition of ASME Code Section XI, no Addenda (Reference 1), is the current ASME Code used for the Inservice Inspection (ISI) program at Millstone Power Station Units 2 and 3 (MPS2, MPS3).

3.0 APPLICABLE CODE REQUIREMENTS

All Class 1 RCPB components including the pipe segments that are described by this request for MPS2 and MPS3 are required to be pressure tested in accordance with Table IWB-2500-1, Examination Category B-P. The pressure test requirements subject to this alternative request are limited to the system hydrostatic test to be performed per the following:

a. ASME Code Section XI, 1989 Edition
b. Table IWB-2500-1, All Pressure Retaining Components, Examination Category B-P.
c. Item No.: B15.51, Piping, Pressure Retaining Boundary, (IWB-5222)
d. Item No.: B15.71, Valves, Pressure Retaining Boundary, (IWB-5222)

MPS2 is currently in its third 10-year inservice inspection (ISI) interval, which started on April 1, 1999 and is scheduled to end on March 31, 2009. MPS3 is currently in its second 10-year ISI interval, which started on April 23, 1999 and is scheduled to end on October 23, 2008.

For both MPS2 and MPS3, the 1989 Edition of Section XI with no Addenda applies to the ISI program and the 1998 Edition of Section XI with no Addenda is used as the primary ASME Code Edition for Section XI Repair/Replacement program activities.

MPS2&3 ISI program requirements currently includes the use of ASME Code Case N-498-4, "Alternative Requirements for 10-Year System Hydrostatic Testing for Class 1, 2, and 3 Systems Section XI, Division 1" with the conditions as currently approved in USNRC Regulatory Guide 1.147, Rev.14. This is an NRC acceptable alternative for system hydrostatic pressure test requirements that will not be revised by this request. MPS2&3 will continue to use this Code Case for Class 1, 2, and 3 systems, including the remainder of the Class 1 RCPB components that are not covered under this request.

4.0 REASONS FOR REQUEST

Reasons associated with MPS2 Request RR-89-56 are described in the Component Groups 1 through 3 in Section 4.1. Reasons for the Millstone Unit 3 Request IR-2-45 are described in Component Groups 4 through 8 in Section 4.2. The following is a summary list of names for these groups of piping segments.

Request RR-89-56 (Millstone Unit 2):

Group	Piping Segment Summary Name
1	Small bore ≤ 2" NPS piping vents, drains, and branch (VTDB) lines and connections
2	Low Pressure Safety Injection (LPSI) header pipe segments
3	Shutdown Cooling (SDC) return line to the LPSI suction bypass line and SDC return line relief

Request IR-2-45 (Millstone Unit 3):

Group	Piping Segment Summary Name
4	Small bore ≤ 2" NPS piping vents, drains, and branch (VTDB) lines and connections
5	Low Pressure Safety Injection (LPSI) header pipe segments
6	Safety Injection to RCS Cold and Hot Legs
7	Residual Heat Removal (RHS) Suction
8	Auxiliary Pressurizer Spray

4.1 Request RR-89-56 Component Groups 1 through 3: (Millstone Unit 2)

Reasons for this alternative request (RR-89-56) are in the balance of this section. Three separate component groups for Millstone Unit 2 apply to this request.

Group 1: Small bore ≤ 2" NPS piping vents, drains, and branch (VTDB) lines and connections in the following systems:

- pressurizer spray, auxiliary spray and relief,
- reactor coolant system, reactor head vent,
- refueling water level indication,
- charging, letdown,
- low pressure safety injection (LPSI), and shutdown cooling (SDC).

The component Group 1 piping segments (1-26, 28, 30, 32, 34, and 36) are shown in Table 1. Additional details are in Attachment 1, Table 1.

Table 1: Affected Piping Segments of Group 1

Seg.	Description	Segment Boundary (1)	Dia. (inches)	Length (Ft)
M2-1	PZR Spray Line Drain	2-RC-036A to 2-RC-037A	3/4	< 1
M2-2	PZR Spray Line Drain	2-RC-036B to 2-RC-037B	3/4	< 1
M2-3	RX Head Vent to EBFS	2-RC-039 to 2-RC-413	3/4	< 1
M2-4	Refuel Level Indication	2-RC-214 to 2-RC-433	3/4	< 1
M2-5	Loop 1A Hot Leg Drain	2-RC-215 to 2-RC-040	2	2
M2-6	Loop 2B RCP Suction Drain	2-RC-232 to 2-RC-035D	2	2
M2-7	Loop 2A RCP Suction Drain	2-RC-233 to 2-RC-035C	2	4
M2-8	Loop 1A Drain to PDT	2-RC-234 to 2-RC-035A	2	2
M2-9	Loop 1B Drain to PDT	2-RC-235 to 2-RC-035B	2	2
M2-10	RX Head Vent	2-RC-414 to 2-RC-415	1	< 1
M2-11	RX Head Vent	2-RC-416 to 2-RC-417	1	1
M2-12	RX Head Vent Header Drain	2-RC-426 to 2-RC-427	3/4	2
M2-13	PZR Spray line Vent	2-RC-015 to 2-RC-014 / 030	3/4	2
M2-14	PZR Relief Line Vent	2-RC-021 to 2-RC-421	3/4	2
M2-15	PZR Head Vent	2-RC-422 to 2-RC-423	1	< 1
M2-16	PZR Head Vent	2-RC-424 to 2-RC-425	1	< 1
M2-17	PZR Relief Line Drain	2-RC-428 to 2-RC-429	3/4	1
M2-18	Loop 1A Charging Header Vent	2-CH-679 to 2-CH-680	3/4	8
M2-19	Loop 1A Charging Header Drain	2-CH-681 to 2-CH-682	1	1
M2-20	Loop 2A Charging Header Vent	2-CH-684 to 2-CH-683	3/4	< 1
M2-21	Loop 2A Charging Header Drain	2-CH-685 to 2-CH-686	1	1
M2-22	Aux Spray Line Charging Header Drain	2-CH-699 to 2-CH-700	3/4	1
M2-23	Auxiliary Spray Line	2-CH-431 to 2-CH-697, 517 and 752	2, 1	61
M2-24	Letdown Line Inlet Header Drain	2-CH-656 to 2-CH-657	1	< 1
M2-25	Letdown Line Inlet Header Drain	2-CH-652 to 2-CH-653	1	< 1
M2-26	Letdown Line Inlet Header Drain	2-CH-654 to 2-CH-655	1	< 1
M2-28	Loop 1A LPSI Header Drain	2-SI-024A to 024B	1	<1
M2-30	Loop 1B LPSI Header Drain	2-SI-013A to 2-SI-013B	1	<1
M2-32	Loop 2A LPSI Header Drain	2-SI-713A to 2-SI-713B	1	<1
M2-34	Loop 2B LPSI Header Drain	2-SI-712A to 2-SI-712B	1	<1

Table 1: Affected Piping Segments of Group 1

Seg.	Description	Segment Boundary (1)	Dia. (inches)	Length (Ft)
M2-36	SDC Return Line Drain	2-SI-100B to 2-SI-100A	1	2

NOTE: 1. The segment boundaries are described in terms of valve-to-valve.

Each of these VTDB lines and connections are equipped with manual valves, which provide double isolation of the RCPB. These valves are generally maintained closed during normal operation. The piping outboard of the first isolation valve is not normally pressurized. Under normal operating conditions, these VTDB lines and connections, except for the low pressure safety injection (LPSI) VTDB lines and connections are subject to reactor coolant system (RCS) pressures and temperatures only if leakage through the inboard valves occurs. For the LPSI VTDB lines and connections, leakage at inboard valves will only result in pressures associated with the pressure of the safety injection tanks.

Because these VTDB lines and connections typically do not have test connections that would allow them to be individually hydrostatically tested without design modifications, it will be necessary to open the inboard valves to pressurize these VTDB lines and connections to perform the test required by the ASME Code. Pressurization by this method defeats the double isolation feature and potentially presents significant personnel safety concerns for the personnel performing the test on the valves that are at normal RCS pressure and temperature.

Performing this test with the inboard isolation valves open requires several man-hours to position or cycle these valves for the test and restore the valves after the test is complete. Most of these valves are located in close proximity to the RCS loop piping and thus require personnel entry into high radiation areas within the containment. Based on previous outage data, estimated radiation exposure associated with valve alignment and realignment would result in an additional 0.4 man-Rem. Since this test would be performed near the end of an outage when all RCPB work has been completed, the time required opening and closing the valves on these VTDB lines and connections could impact the outage schedule.

Group 2: Low Pressure Safety Injection (LPSI) header pipe segments:

The Group 2 piping segments (27, 29, 31 and 33) for Millstone Unit 2 are shown in Table 2. Additional details are in Attachment 1, Table 2.

Table 2: Affected Piping Segments of Group 2

Seg.	Description	Segment Boundary (1)	Dia. (inches)	Length (Ft)
M2-27	Loop 1A LPSI Header	2-SI-706A to 2-SI-215, 2-SI-217, 2-SI- 618, and 2-SI-024B	12 6 1 1	40 169 76 <1
M2-29	Loop 1B LPSI Header	2-SI-706B to 2-SI-225, 2-SI-227, 2-SI-628, and 2-SI-013B	12 6 1 1	45 136 70 <1
M2-31	Loop 2A LPSI Header	2-SI-706C to 2-SI-235, 2-SI-237, 2-SI-638, and 2-SI-713B	12 6 1 1	41 24 60 <1
M2-33	Loop 2B LPSI Header	2-SI-706D to 2-SI-245, 2-SI-247, 2-SI-648, and 2-SI-712B	12 6 1 1	49 41 62 <1

NOTE: 1. The segment boundaries are described in terms of valve-to-valve.

The pipe segments of Group 2 are part of the LPSI system at Millstone Unit 2 and are continuously pressurized because they are in the injection flow path from the safety injection tanks.

In order to meet the ASME Code test requirements to perform the system hydrostatic test on these pipe segments, it would be necessary to connect jumpers circumventing the inboard check valve boundaries from the Reactor Coolant System (RCS). This is a significant personnel safety hazard that also results in unnecessary personnel radiation exposure.

Group 3: Shutdown Cooling (SDC) return line to the LPSI suction bypass line and SDC return line relief:

The component Group 3 piping segment (35) is shown in Table 3. Additional details are in Attachment 1, Table 3.

Table 3: Affected Piping Segments of Group 3

Seg.	Description	Segment Boundary (1)	Dia. (inches)	Length (Ft)
M2-35	SDC Return Line to LPSI Suction Bypass line and SDC Return Line Relief	2-SI-651 to 2-SI-652, 2-SI-100B and RO-3664	12 3/4 1	36 9 14

NOTE: 1. The segment boundary is described in terms of valve-to-valve unless otherwise annotated.

Segment 35 is part of shutdown cooling (SDC). It cannot be pressurized to full RCPB pressure because of the pressure interlock and alarm that is associated with the SDC isolation valve 2-SI-652. Opening this valve is prevented when the RCS pressure exceeds 300 psig.

4.2 Request IR-2-45, Component Groups 4 through 8: (Millstone Unit 3)

Reasons for this alternative request (IR-2-45) are in the balance of this section. Five separate groups (4 through 8) for Millstone Unit 3 apply to this request.

Group 4: Small bore $\leq$ 2" NPS piping vents, drains, and branch (VTDB) lines and connections in the Reactor Coolant and Reactor Head Vent systems:

The component Group 4 piping segments 1-29 are shown in Table 4. Additional details are in Attachment 1, Table 4.

Table 4: Affected Piping Segments of Group 4

Seg.	Description	Segment Boundary (1)	Dia. (inches)	Length (Ft)
M3-1	RCS Loop 1 Fill Line	3RCS*V24 to 3RCS*V23 (AV8036A)	2	<1
M3-2	RCS Loop 2 Fill Line	3RCS*V99 to 3RCS*V100 (AV8036C)	2	<1
M3-3	RCS Loop 3 Fill Line	3RCS*V68 to 3RCS*V67 (AV8036B)	2	<1
M3-4	RCS Loop 4 Fill Line	3RCS*V140 to 3RCS*V141 (AV8036D)	2	<1
M3-5	Loop 1 Drains to Primary Drain Header	3RCS*V202 / 3RCS*V203 to Line 3-RCS-002-148-1	2	81
M3-6	Loop 2 Drains to Primary Drain Header	3RCS*V205 / 3RCS*V206 to Line 3-RCS-002-148-1	2	65

Table 4: Affected Piping Segments of Group 4

Seg.	Description	Segment Boundary (1)	Dia. (inches)	Length (Ft)
M3-7	Loop 3 Drains to Primary Drain Header	3RCS*V208 / 3RCS*V209 to Line 3-RCS-002-148-1	2	83
M3-8	Loop 4 Drains to Primary Drain Header	3RCS*V211 / 3RCS*V212 to Line 3-RCS-002-148-1	2	137
M3-9	Primary Loop Drain Header	3RCS*V213 to 3RCS*V198 and 3RCS*V898	2, 1	236
M3-10	Primary Loop Drain Header Drain	3RCS*V895 to 3RCS*V898 and 3RCS*V899	1, 3/4	2
M3-11	Loop 1 T-Cold Stop Valve Disk Pressure Connection	3RCS*V989 to flange	3/4	<1
M3-12	Loop 1 T-Cold Stop Valve Disk Pressure Connection	3RCS*V990 to flange	3/4	<1
M3-13	Loop 1 T-Hot Stop Valve Disk Pressure Connection	3RCS*V991 to flange	3/4	<1
M3-14	Loop 1 T-Hot Stop Valve Disk Pressure Connection	3RCS*V992 to flange	3/4	<1
M3-15	Loop 3 T-Cold Stop Valve Disk Pressure Connection	3RCS*V979 to flange	3/4	<1
M3-16	Loop 3 T-Cold Stop Valve Disk Pressure Connection	3RCS*V980 to flange	3/4	<1
M3-17	Loop 3 T-Hot Stop Valve Disk Pressure Connection	3RCS*V981 to flange	3/4	<1
M3-18	Loop 3 T-Hot Stop Valve Disk Pressure Connection	3RCS*V982 to flange	3/4	<1
M3-19	Loop 2 T-Cold Stop Valve Disk Pressure Connection	3RCS*V984 to flange	3/4	<1
M3-20	Loop 2 T-Cold Stop Valve Disk Pressure Connection	3RCS*V985 to flange	3/4	<1
M3-21	Loop 2 T-Hot Stop Valve Disk Pressure Connection	3RCS*V986 to flange	3/4	<1
M3-22	Loop 2 T-Hot Stop Valve Disk Pressure Connection	3RCS*V987 to flange	3/4	<1
M3-23	Loop 4 T-Cold Stop Valve Disk Pressure Connection	3RCS*V974 to flange	3/4	<1
M3-24	Loop 4 T-Cold Stop Valve Disk Pressure Connection	3RCS*V975 to flange	3/4	<1
M3-25	Loop 4 T-Hot Stop Valve Disk Pressure Connection	3RCS*V976 to flange	3/4	<1

Table 4: Affected Piping Segments of Group 4

Seg.	Description	Segment Boundary (1)	Dia. (inches)	Length (Ft)
M3-26	Loop 4 T-Hot Stop Valve Disk Pressure Connection	3RCS*V977 to flange	3/4	<1
M3-27	Reactor Vessel Head Vent Line	3RCS*V958 to flange	1	1
M3-28	Reactor Vessel Head Vent Line Drain	3RCS*V956 to flange	1	1
M3-29	Loop 1 TC Instrument Line	3RCS*V33 to 3RCS*V34 and V35.	2, 3/4	3

NOTE: 1. The segment boundaries are described in terms of valve-to-valve unless otherwise annotated for a flange or line designation.

Each of these VTDB lines and connections are equipped with manual valves, which provide double isolation of the RCPB. These valves are generally maintained closed during normal operation. The piping outboard of the first isolation valve is not normally pressurized. Under normal operating conditions, these VTDB lines and connections, except for the low pressure safety injection (LPSI) VTDB lines and connections are subject to reactor coolant system (RCS) pressures and temperatures only if leakage through the inboard valves occurs. For the LPSI VTDB lines and connections, leakage at inboard valves will only result in pressures associated with the pressure of the safety injection tanks.

Because these VTDB lines and connections typically do not have test connections that would allow them to be individually hydrostatically tested without design modifications, it will be necessary to open the inboard valves to pressurize these VTDB lines and connections to perform the test required by the ASME Code. Pressurization by this method defeats the double isolation feature and potentially presents significant personnel safety concerns for the personnel performing the test on the valves that are at normal RCS pressure and temperature.

Performing this test with the inboard isolation valves open requires several man-hours to position or cycle these valves for the test and restore the valves after the test is complete. Most of these valves are located in close proximity to the RCS loop piping and thus require personnel entry into high radiation areas within the containment. Based on previous outage data, estimated radiation exposure associated with valve alignment and realignment would result in an additional 1.9 man-Rem. Since this test would be performed near the end of an outage when all RCPB work has been completed, the time required opening and

closing the valves on these VTDB lines and connections could impact the outage schedule.

Group 5: Low Pressure Safety Injection (LPSI) header pipe segments:

The component Group 5 piping segments (30 through 33) are shown in Table 5. Additional details are in Attachment 1, Table 5.

Table 5: Affected Piping Segments of Group 5

Seg.	Description	Segment Boundary (1)	Dia. (inches)	Length (Ft)
M3-30	Loop 1 LPSI Header	3RCS*V30 to 3SIL*V15 & 3SIL*V987	6 10	15
M3-31	Loop 2 LPSI Header	3RCS*V107 to 3SIL*V19 & 3SIL*V985	6 10	20
M3-32	Loop 3 LPSI Header	3RCS*V71 to 3SIL*V17 & 3SIL*V986	6 10	20
M3-33	Loop 4 LPSI Header	3RCS*V146 to 3SIL*V21 & 3SIL*V984	6 10	20

NOTE: 1. Segment boundary is described in terms of valve-to-valve.

The pipe segments of group 5 are part of the LPSI system at Millstone Unit 3 and are continuously pressurized because they are in the injection flow path from the safety injection tanks.

In order to meet the ASME Code test requirements to perform the system hydrostatic test on these pipe segments it would be necessary to connect jumpers circumventing the inboard check valve boundaries from the RCS. This is a significant personnel safety hazard that results in an estimated additional 0.2 man-Rem of unnecessary personnel radiation exposure.

Group 6: Safety Injection to RCS Cold and Hot Legs:

The component Group 6 piping segments (34 through 38) are shown in Table 6. Additional details are in Attachment 1, Table 6.

Table 6: Affected Piping Segments of Group 6

Seg.	Description	Segment Boundary (1)	Dia. (inches)	Length (Ft)
M3-34	SI to Loop 1 Hot Leg	3SIH*V110 to 3RCS*V26	2, 6	200
M3-35	SI to Loop 2 Hot Leg	3SIH*V112 to 3RCS*V102	2, 6	208

Table 6: Affected Piping Segments of Group 6

Seg.	Description	Segment Boundary (1)	Dia. (inches)	Length (Ft)
M3-36	SI to Loop 3 Hot Leg	3SIL*V27 and 3SIL*V26 to 3RCS*V69	2, 6, 8	275
M3-37	SI to Loop 4 Hot Leg	3SIL*V29 & 3SIL*V28 to 3RCS*V142	2, 6, 8	101
M3-38	SI to (4) Cold Legs	3SIH*V5 to 3RCS*V29, 3RCS*V106, 3RCS*V70, and 3RCS*V145	1.5, 3	758

NOTE: 1. Segment boundary is described in terms of valve-to-valve.

The pipe segments of Group 6 are in high pressure and low pressure Safety Injection (HPSI, LPSI) systems, in portions of piping between check valves that are not normally pressurized during plant operation.

In order to pressurize these segments to meet the ASME Code test requirements it would be necessary to connect jumpers circumventing the inboard check valve boundaries from the RCS. This is a significant personnel safety hazard and results in an estimated additional 0.375 man-Rem of unnecessary personnel radiation exposure.

Group 7: Residual Heat Removal (RHS) Suction:

The component Group 7 piping segments (39, 40) are shown in Table 7. Additional details are in Attachment 1, Table 7.

Table 7: Affected Piping Segments of Group 7

Seg.	Description	Segment Boundary (1)	Dia. (inches)	Length (Ft)
M3-39	A RHS Suction Line	3RCS*V999 to 3RHS*V997 (8701A)	12	59
M3-40	B RHS Suction	3RCS*V998 to 3RHS*V996 (8702B)	12	59

NOTE: 1. Segment boundary is described in terms of valve-to-valve.

The pipe segments 39 and 40 are part of the RHS system, which is not pressurized during normal plant operation. In order to pressurize this segment to meet the ASME Code requirements to perform the system hydrostatic test it would be necessary to open the isolation valves 3RHS*8701C ("A" train) and 3RHS*8702C ("B" train). These isolation

valves are required to be closed when the plant is in Modes 1, 2, and 3, as described in the Millstone Unit 3 UFSAR Section 5.4.7.1. Alternatively, temporary high pressure hoses with a hydrostatic pump would need to be installed to pressurize these segments during a refuel outage, which would introduce a significant personnel safety hazard if the connection or hose fails in the presence of inspection personnel.

Group 8: Auxiliary Pressurizer Spray:

The component Group 8 piping segment (41) is described in Table 7 and additional details are in Attachment 1, Table 8.

Table 8: Affected Piping Segment of Group 8

Seg.	Description	Segment Boundary (1)	Dia. (inches)	Length (Ft)
M3-41	Auxilary Pressurizer Spray	3RCS*V174 (AV8145) to 3RCS*V175	2	230

NOTE: 1. Segment boundary is described in terms of valve-to-valve.

Segment 41 is part of the Millstone Unit 3 auxiliary pressurizer spray line, which is not normally pressurized. In order to pressurize this segment to meet the ASME Code test requirements to perform the system hydrostatic test it would be necessary to open the normally closed upstream isolation valve 3RCS*MV8145. Water in this line is supplied from the charging system with an operating pressure greater than the RCS normal operating pressure. Opening this valve would allow water in the auxiliary pressurizer spray line, which is at containment ambient temperature, to pass through a check valve into the main spray header and through the spray nozzle into the pressurizer. With the RCS at normal operating temperature, this test would create a thermal shock transient to the spray nozzle, which has been evaluated to be in excess of 320 degrees F. The pressurizer stress report for Millstone Unit 3 has evaluated spray nozzle shock as a design basis transient, but based on the temperature severity, this test would result in the most severe case of which only 10 cycles were considered in the stress analysis.

5.0 PROPOSED ALTERNATIVES AND BASIS FOR USE

The alternatives and basis for the MPS2 and MPS3 requests RR-89-56 and IR-2-45 are organized by component group discussions in the balance of this section. The provisions of 10 CFR 50.55a(a)(3)(i) permit requests for alternatives in some of these component groups because the request provides for an acceptable level of quality and safety. For other component groups, the provisions of 10 CFR 50.55a(a)(3)(ii) permit alternative requests when the specified requirements result in a hardship without a compensating increase in the level of quality and safety. The following list summarizes application of these provisions in the MPS2&3 requests, RR-89-56 and IR-2-45. Refer to Tables 1 through 8 of both Section 4.0 of Enclosure 1 and Attachment 1 for additional details regarding piping segment component groups and requested alternatives.

RR-89-56 Groups	IR-2-45 Groups	10 CFR 50.55a Provision	Section
1	4	(a)(3)(ii)	5.1
2	5	(a)(3)(i)	5.2
3	-	(a)(3)(ii)	5.3
	6	(a)(3)(ii)	5.4
	7	(a)(3)(ii)	5.5
	8	(a)(3)(ii)	5.6

5.1 Alternative and Basis for Component Groups 1 and 4

Millstone Unit 2 Group 1 segments (1-26, 28, 30, 32, 34 and 36) and Millstone Unit 3 Group 4 segments 1-29 are VTDB lines and connections that are equipped with manual valves, which provide double isolation of the RCPB.

As an alternative to the ASME Code system hydrostatic test requirements for these RCPB pipe segments, this request proposes to perform an ASME Code Section XI, Table IWB-2500-1 and IWB-5221 system leakage test with the isolation valves in the normally closed position. This examination will be performed at the nominal operating pressure associated with 100% reactor power after satisfying the ASME Code required hold time.

Basis for approval of this alternative includes the following information:

a. The ASME Code requirements for ISI system hydrostatic tests have been removed from Section XI, Table IWB-2500-1, Examination Category B-P, in the 1998 Edition, and this Edition of the Code has been endorsed for use in 10 CFR 50.55a for several years.

b. The non-isolable portion of the RCPB VTDB lines and connections will be pressurized and will be visually examined as required. Only the isolable

portion of these small diameter VTDB lines and connections will not be pressurized, but a VT-2 examination will still be performed in these cases.

c. A typical VTDB line and connection includes two manual valves or one manual valve, separated by a short piece of pipe or a pipe nipple, which is connected to the RCPB via another short pipe nipple. These connections are typically socket welded and the welds receive a surface examination after installation. The piping and valves are normally heavy walled. The VTDB lines and connections are not subject to high or cyclic loads and design ratings are greater than RCPB operating pressure.

d. MPS2&3 use the ASME Code Section XI, 1998 Edition with no Addenda (Reference 2) for its Section XI Repair/Replacement program activities, but the requirements of this 1998 Edition under IWA-4540 are very similar to the requirements of the 1989 Edition under IWA-4700. Both IWA-4540 and IWA-4700 provide the requirements for hydrostatic pressure testing of piping and components after repairs by welding to the pressure boundary. IWA-4540(b)(5) of the 1998 Edition and IWA-4700(b)(5) are identical and exclude component connections, piping, and associated valves 1" NPS and smaller from the hydrostatic pressure test requirement after welded repairs. Therefore, requiring a hydrostatic test and visual examination of the 1" NPS and smaller of Group 1 and Group 4 Class 1 RCPB VTDB lines and connections once each 10-year interval is unwarranted, considering that hydrostatic pressure testing a repair weld on the same connections is not required by the ASME Code, Section XI.

Considering this information and the implications for personnel safety and radiation exposure that would occur as a result of meeting the ASME Code Section XI, 1989 Edition, (Reference 1) hydrostatic test requirements, DNC has determined that compliance with the hydrostatic test requirements for Groups 1 and 4 RCPB VTDB lines and connections results in an unnecessary hardship without a sufficient compensating increase in the level of quality and safety. Therefore, DNC requests approval of this alternative pursuant to 10 CFR 50.55a(a)(3)(ii).

5.2 Alternative and Basis for Component Groups 2 and 5

Millstone Unit 2 Group 2 piping segments (27, 29, 31 and 33) and Millstone Unit 3 Group 5 segments (30 through 33) are part of the LPSI system and are continuously pressurized and monitored for loss of pressure because they are in the open injection flow path from the safety injection tanks. As an alternative to the hydrostatic test requirements for these RCPB pipe segments DNC proposes to use a reduced pressure test that will meet ASME Code Case N-731, "Alternative Class 1 System Leakage Test Pressure Requirements Section XI, Division 1, " (Refer to Attachment 2).

The basis for approval of this alternative includes the following information.

The ASME approved Code Case N-731 on February 22, 2005, because it believed that detection of leakage from a through-weld or through-wall flaw is affected by pressure, temperature, and time, with time being the controlling factor. Since the requirements of Code Case N-731 limit its application to safety injection systems that must be under pressure for an entire operating cycle there appears to be no reason to have the pressure elevated to full RCPB pressure to prove leakage integrity for this piping.

Because this alternative for Groups 2 and 5 is specific to the LPSI piping at MPS2&3 that is continuously under pressure for the entire operating cycle, continually monitored for loss of pressure, and is included in the scope of the ASME approved Code Case N-731, DNC has determined that use of this alternative provides an acceptable level of quality and safety. Therefore, DNC requests approval to use of Code Case N-71 pursuant to 10 CFR 50.55a(a)(3)(i).

5.3 Alternative and Basis for Component Group 3

The Millstone Unit 2 Class 1 RCPB pipe segment 35 in Group 3 is part of the shutdown cooling (SDC) system and is prevented from exceeding 280 psig by a pressure interlock on valve 2-SI-652. Additional protection is provided by a relief valve with a set point of 300 psig within the piping segment. The alternative to the IWB-5222 pressure is to examine this pipe segment at its normal operating pressure.

The basis for approval of this alternative is included in the following information.

The pressure interlock on valve 2-SI-652 and relief valve located within this pipe segment protect the SDC system from being over-pressurized by the RCS. To attempt to pressurize this segment to RCS pressure would require defeating the SDC system over-pressure protection, potentially endangering the plant.

Considering this information, the hydrostatic test requirements for Group 3 piping segment 35 results in an unnecessary hardship without a sufficient compensating increase in the level of quality and safety. Therefore, DNC requests approval of this alternative pursuant to 10 CFR 50.55a(a)(3)(ii).

5.4 Alternative and Basis for Component Group 6

The Group 6 piping segments 34-38 of Millstone Unit 3 are part of the safety injection system that are located between check valves that isolate these segments from RCS pressure. As an alternative to the hydrostatic test pressure requirements of IWB-5222 for these RCPB pipe segments, DNC proposes to perform this test using a reduced test pressure during the full flow check valve tests of these segments, during the refuel outage with the RCS depressurized.

The basis for approval of this alternative is included in the following information.

In order to pressurize these segments to meet the ASME Code hydrostatic test requirements it would be necessary to connect jumpers circumventing the inboard check valve boundaries from the RCS. This is a significant personnel safety hazard and will result in unnecessary personnel radiation exposure.

DNC has determined that compliance with these requirements for Group 6 RCPB pipe segments results in unnecessary hardship without sufficient compensating increase in the level of quality and safety. Therefore, DNC requests approval of this alternative pursuant to 10 CFR 50.55a(a)(3)(ii).

5.5 Alternative and Basis for Component Group 7

The Group 7 piping segments 39 and 40 for Millstone Unit 3 are in the RHS system and are not pressurized during normal plant operation. As an alternative to the hydrostatic test requirements for these RCPB pipe segments DNC proposes to perform this test using a reduced test pressure prior to the valves being closed, isolating these segments in the normal preparation for mode change during startup.

The basis for approval of this alternative is included in the following information.

a. In order to pressurize this segment to meet the ASME Code requirements to perform the system hydrostatic test it would be necessary to open the isolation valves 3RHS*8701C ("A" train) and 3RHS*8702C ("B" train). These isolation valves are required to be closed when the plant is in Modes 1, 2, and 3 as described in the Millstone Unit 3 UFSAR Section 5.4.7.1 and plant operational procedures.

b. Alternatively, to install temporary high pressure hoses with a hydrostatic pump to pressurize these segments during the refuel outage would add additional personnel exposure and introduce a significant personnel safety hazard if the connection or hose fails in the presence of inspection personnel.

Considering this information, DNC has determined that compliance with the hydrostatic test requirements for Group 7 RCPB pipe segments results in unnecessary hardship without sufficient compensating increase in the level of quality and safety. Therefore, DNC requests approval of this alternative pursuant to 10 CFR 50.55a(a)(3)(ii).

5.6 Alternative and Basis for Component Group 8

The RCPB pipe segment 41 at Millstone Unit 3 is part of the auxiliary pressurizer spray line, which is not normally pressurized. This request proposes to perform an ASME Code Section XI, Table IWB-2500-1 and IWB-5221 system leakage test with the isolation valve 3RCS*MV8145 in the normally closed position as an alternative to the hydrostatic test requirements for this piping segment. This examination will be performed at nominal operating pressure associated with 100% reactor power after satisfying the ASME Code required hold time.

The basis for approval of this alternative is included in the following information.

In order to pressurize this segment to meet the ASME Code requirements to perform the system hydrostatic test it would be necessary to open the normally closed upstream isolation valve 3RCS*MV8145. Opening this valve would allow water in the auxiliary pressurizer spray line, which is at containment ambient temperature, to pass through a check valve into the main spray header and through the spray nozzle into the pressurizer. With the RCS at normal operating temperature this would create a thermal shock transient to the spray nozzle.

DNC has determined that compliance with the hydrostatic test requirements for the Group 8 piping segment for Millstone Unit 3 results in an unnecessary hardship and adverse impact to plant equipment without a sufficient compensating increase in the level of quality and safety. Therefore, DNC requests approval of this alternative pursuant to the provisions of 10 CFR 50.55a(a)(3)(ii).

6.0 DURATION OF PROPOSED ALTERNATIVES

Alternatives for the Millstone Unit 2 piping segments in request RR-89-56 are intended for the remainder of the current third 10-year ISI interval that started on April 1, 1999 and is scheduled to end on March 31, 2009.

Alternatives for the Millstone Unit 3 piping segments in request IR-2-45 are intended for the remainder of the current second 10-year ISI interval that started on April 23, 1999 and is scheduled to end on October 23, 2008.

7.0 PRECEDENTS

With the exception of the use of ASME Code Case N-731, similar alternatives to the hydrostatic test requirements of the ASME Code Section XI, 1989 Edition, IWB-5222 have been approved for Indian Point Units 2 and 3 and for the 1998 Edition with the 2000 Addenda for the 10-year ISI interval leakage test pressure per IWB-5220 for Surry Units 1 and 2. The differences in the Code requirements taken to establish the basis for the approval of these requests result in the same approved objective of not having to pressure test portions of the Class 1 RCPB to

full RCS pressure and reduced pressures for other piping segments. Both of the safety evaluations for these precedent requests are cited below from ADAMS.

1. Indian Point Nuclear Generating Units 2 and 3, dated December 7, 2005, (ADAMS Accession No. ML053110525).

2. Surry Units 1 and 2, Relief, dated November 1, 2005, (ADAMS Accession No. ML052930032).

8.0 REFERENCES

1. 1989 Edition, American Society of Mechanical Engineers Boiler and Pressure Vessel Code (ASME Code), Section XI, no Addenda.

2 1998 Edition, ASME Code, Section XI, no Addenda.

3. ASME Code Case N-731, Alternative Class 1 System Leakage Test Pressure Requirements Section XI, Division 1.

ATTACHMENTS:

1. Pipe Segment Details of Component Groups 1 Through 8

2. ASME Code Case N-731, Alternative Class 1 System Leakage Test Pressure Requirements, Section XI, Division 1

3. Millstone Units 2 and 3 Piping & Instrumentation Diagrams

[Contents of Attachment 3 are also provided to the NRC Project Manager on Computer Disk in text searchable formats via an Enclosure 2 to letter 06-305.]

ATTACHMENT 1

USE OF ALTERNATIVE CLASS 1 PRESSURE TEST REQUIREMENTS ALTERNATIVE REQUESTS RR-89-56 AND IR-2-45,

PIPE SEGMENT DETAILS OF COMPONENT GROUPS 1 THROUGH 8

DOMINION NUCLEAR CONNECTICUT, INC.
MILLSTONE POWER STATION UNITS 2 AND 3

PIPE SEGMENT DETAILS OF COMPONENT GROUPS 1 THROUGH 8

CONTENTS

Millstone Unit 2 (Request RR-89-56)

Millstone Unit 3 (Request IR-2-45)

TABLE 1 – COMPONENT GROUP 1 PIPING SEGMENT DETAILS

Seg [1] No.	Drawing	Line Number [2]	Other ISI examinations	Request [3]	Dose [4] Savings Estimate MR
M2-1	26014 sh. 1	3/4"-CCA-11	None	Relief is from using valve 2-RC-036A to pressurize downstream pipe and outboard valve	50
M2-2	26014 sh. 1	3/4"-CCA-11	None	Relief is from using valve 2-RC-036B to pressurize downstream pipe and outboard valve	50
M2-3	26014 sh. 1	3/4"-CCA-18	None	Relief is from using valve 2-RC-039 to pressurize downstream pipe and outboard valve	8
M2-4	26014 sh. 1	3/4"-CCA-14	None	Relief is from using valve 2-RC-214 to pressurize downstream pipe and outboard valve	33
M2-5	26014 sh. 1	2"-CCA-14	None	Relief is from using valve 2-RC-215 to pressurize downstream pipe and outboard valve	25
M2-6	26014 sh. 1	2"-CCA-14	None	Relief is from using valve 2-RC-232 to pressurize downstream pipe and outboard valve	5
M2-7	26014 sh. 1	2"-CCA-14	None	Relief is from using valve 2-RC-233 to pressurize downstream pipe and outboard valve	17
M2-8	26014 sh. 1	2"-CCA-14	None	Relief is from using valve 2-RC-234 to pressurize downstream pipe and outboard valve	7
M2-9	26014 sh. 1	2"-CCA-14	None	Relief is from using valve 2-RC-235 to pressurize downstream pipe and outboard valve	5
M2-10	26014 sh. 1	1"-CCA-18	None	Relief is from using valve 2-RC-414 to pressurize downstream pipe and outboard valve	10

TABLE 1 – COMPONENT GROUP 1 PIPING SEGMENT DETAILS

Seg [1] No.	Drawing	Line Number [2]	Other ISI examinations	Request [3]	Dose [4] Savings Estimate MR
M2-11	26014 sh. 1	1"-CCA-18	None	Relief is from using valve 2-RC-416 to pressurize downstream pipe and outboard valve	0
M2-12	26014 sh. 1	3/4"-CCA-18	None	Relief is from using valve 2-RC-426 to pressurize downstream pipe and outboard valve	10
M2-13	26014 sh. 1	3/4"-CCA-11	None	Relief is from using valve 2-RC-015 to pressurize downstream pipe and outboard valve	10
M2-14	26014 sh. 2	3/4"-BCA-3	None	Relief is from using valve 2-RC-021 to pressurize downstream pipe and outboard valve	2
M2-15	26014 sh. 2	1"-CCA-19	None	Relief is from using valve 2-RC-422 to pressurize downstream pipe and outboard valve	0
M2-16	26014 sh. 2	1"-CCA-19	None	Relief is from using valve 2-RC-424 to pressurize downstream pipe and outboard valve	2
M2-17	26014 sh. 2	3/4"-CCA-11	None	Relief is from using valve 2-RC-428 to pressurize downstream pipe and outboard valve	2
M2-18	26017 sh. 1	3/4"-CCA-13	None	Relief is from using valve 2-CH-680 to pressurize downstream pipe and outboard valve	33
M2-19	26017 sh. 1	1"-CCA-13	None	Relief is from using valve 2-CH-681 to pressurize downstream pipe and outboard valve	3
M2-20	26017 sh. 1	3/4"-CCA-13	None	Relief is from using valve 2-CH-684 to pressurize downstream pipe and outboard valve	42

TABLE 1 – COMPONENT GROUP 1 PIPING SEGMENT DETAILS

Seg [1] No.	Drawing	Line Number [2]	Other ISI examinations	Request [3]	Dose [4] Savings Estimate MR
M2-21	26017 sh. 1	1"-CCA-13	None	Relief is from using valve 2-CH-685 to pressurize downstream pipe and outboard valve	3
M2-22	26017 sh. 1	3/4"-CCA-12	None	Relief is from using valve 2-CH-699 to pressurize downstream pipe and outboard valve	17
M2-23	26017 sh. 1	2"-CCA-12 1"-CCA-12	None	Relief is from using valve 2-CH-517 to pressurize downstream pipe and valve.	0
M2-24	26017 sh. 2	1"-CCA-16	None	Relief is from using valve 2-CH-656 to pressurize downstream pipe and outboard valve	17
M2-25	26017 sh. 2	1"-CCA-16	None	Relief is from using valve 2-CH-652 to pressurize downstream pipe and outboard valve	20
M2-26	26017 sh. 2	1"-CCA-16	None	Relief is from using valve 2-CH-654 to pressurize downstream pipe and outboard valve	3
M2-28	26015 sh. 3	1"-CCA-6	None	Relief is from using valve 2-SI-024A to pressurize downstream pipe and outboard valve	10
M2-30	26015 sh. 3	1"-CCA-6	None	Relief is from using valve 2-SI-013B to pressurize downstream pipe and outboard valve	8
M2-32	26015 sh. 3	1"-CCA-6	None	Relief is from using valve 2-SI-713B to pressurize downstream pipe and outboard valve	5
M2-34	26015 sh. 3	1"-CCA-6	None	Relief is from using valve 2-SI-712B to pressurize downstream pipe and outboard valve	2

TABLE 1 – COMPONENT GROUP 1 PIPING SEGMENT DETAILS

Seg [1] No.	Drawing	Line Number [2]	Other ISI examinations	Request [3]	Dose [4] Savings Estimate MR
M2-36	26015 sh. 3	1"-CCA-10	None	Relief is from using valve 2-SI-100A to pressurize downstream pipe and outboard valve	5

NOTES:

1. Schedule 160 is used for piping segments in Group 1. Material of piping segments is Austenitic stainless steel, ASTM A-376, Type 316.
2. Design Pressure is 2485 psig; design temperature varies between 600F to 700F;
   Normal Operating Pressure: None, and remains normally isolated.
3. Proposed Test Pressure: None
4. The estimated accumulated dose savings for the use of alternative requirements in each component group from Request RR-89-56 is a total of 404 man-mRem at Millstone Unit 2.

TABLE 2 – COMPONENT GROUP 2 PIPING SEGMENT DETAILS

Seg No.	Drawing	Line Number [1], [2]	Other ISI examinations	Request [3]	Dose [4] Savings Estimate MR
M2-27	26015 sh. 3	12"-CCA-5, 12"-CCB-11 [5] 6"-CCA-6 [6] 1"-CCA-5 1"-CCA-6	Welds BSI-C-1013, 1019, 1025, 1027, 1029 None None None	Request IAW with Code Case N-731	-
M2-29	26015 sh. 3	12"-CCA-5, 12"-CCB-11 [5] 6"-CCA-6 [6] 1"-CCA-5 1"-CCA-6	Welds BSI-C-3012, 3016 None None None	Request IAW with Code Case N-731	-
M2-31	26015 sh. 3	12"-CCA-5, 12"-CCB-11 [5] 6"-CCA-6 [6] 1"-CCA-5 1"-CCA-6	Weld BSI-C-2011 Welds BSI-C-2031, 2033, 2037, 2039 None None	Request IAW with Code Case N-731	-
M2-33	26015 sh. 3	12"-CCA-5, 12"-CCB-11 [5] 6"-CCA-6 [6] 1"-CCA-5 1"-CCA-6	Weld BSI-C-4012 Welds BSI-C-4042, 4044 None None	Request IAW with Code Case N-731	-

NOTES:

1. Schedule 160 is used for piping segments in Group 2, unless annotated otherwise by Note 5 (Schedule 140 piping), and Note 6 (Schedule 120 piping). Material of piping segments is Austenitic stainless steel, ASTM A-376, Type 316.
2. Design Pressure is 2485 psig; design temperature is 600F; Normal Operating Pressure is 225 psig.
3. Proposed Test Pressure: 225 psig (approximated)
4. The estimated accumulated dose savings for the use of alternative requirements in the component groups from Request RR-89-56 is a total of 404 man-mRem at Millstone Unit 2.
5. 12" - Schedule 140 piping is used for these lines in Group 2.
6. 6" - Schedule 120 piping is used for these lines in Group 2.

TABLE 3 – COMPONENT GROUP 3 PIPING SEGMENT DETAILS

Seg No.	Drawing	Line Number [1], [2]	Other ISI examinations	Request [3]	Dose [4] Savings Estimate MR
M2-35	26015 sh. 3	12"-CCA-10 [5] 3/4"-CCA-10 1"-CCA-10	None	Request to test at lower pressure	-

NOTES:

1. Schedule 160 piping is used, unless annotated otherwise by Note 5. Material of piping segments is Austenitic stainless steel, ASTM A-376, Type 316.
2. Design Pressure is 2485 psig; design temperature is 650F; Normal Operating Pressure is 190 psig.
3. Proposed Test Pressure: 190 psig (approximated)
4. The estimated accumulated dose savings for the use of alternative requirements in the component groups from Request RR-89-56 is a total of 404 man-mRem at Millstone Unit 2.
5. 12" - Schedule 140 piping is used for this line in Group 3.

TABLE 4 – COMPONENT GROUP 4 PIPING SEGMENT DETAILS

Seg [1] No.	Drawing	Line Number [2]	Other ISI examinations	Request [3]	Dose [4] Savings Estimate MR
M3-1	26902 Sh. 1	3-RCS-002-128-1	None	Relief is from using valve 3RCS*V024 to pressurize downstream pipe and valve.	5
M3-2	26902 Sh. 2	3-RCS-002-136-1	None	Relief is from using valve 3RCS*V099 to pressurize downstream pipe and valve.	10
M3-3	26902 Sh. 4	3-RCS-002-131-1	None	Relief is from using valve 3RCS*V068 to pressurize downstream pipe and valve.	10
M3-4	26902 Sh. 5	3-RCS-002-14	None	Relief is from using valve 3RCS*V140 to pressurize downstream pipe and valve.	10
M3-5	26902 Sh. 6	3-RCS-002-172-1 3-RCS-002-173-1	None	Relief is from using valve 3RCS*V203 to pressurize downstream pipe and valve.	15
M3-6	26902 Sh. 6	3-RCS-002-172-1 3-RCS-002-173-1	None	Relief is from using valve 3RCS*V206 to pressurize downstream pipe and valve.	15
M3-7	26902 Sh. 6	3-RCS-002-172-1 3-RCS-002-173-1	Examinations of welds RCS-176-FW-31, FW-32, FW-33, FW-34 and FW-38	Relief is from using valve 3RCS*V209 to pressurize downstream pipe and valve.	15
M3-8	26902 Sh. 6	3-RCS-002-172-1 3-RCS-002-173-1	Examinations of welds RCS-178-FW-9, FW-10, FW-11, FW-12 and 407302-FW-5	Relief is from using valve 3RCS*V212 to pressurize downstream pipe and valve.	15
M3-9	26902 Sh. 6	3-RCS-002-148-1 3-RCS-001-113-1 3-RCS-001-245-1	None	Relief is from using any of the loop drain isolation valves to pressurize downstream pipe and valves.	15
M3-10	26902 Sh. 6	3-RCS-001-246-1 3-RCS-001-247-1 3-RCS-750-214-1	None	Relief is from using valve 3RCS*V898 to pressurize downstream pipe and valves.	15

TABLE 4 – COMPONENT GROUP 4 PIPING SEGMENT DETAILS

Seg [1] No.	Drawing	Line Number [2]	Other ISI examinations	Request [3]	Dose [4] Savings Estimate MR
M3-11	26902 Sh. 1	3RCS*MV8002A [5]	None	Relief is from using valve 3RCS*V989 to pressurize downstream pipe and flange.	100
M3-12	26902 Sh. 1	3RCS*MV8002A [5]	None	Relief is from using valve 3RCS*V990 to pressurize downstream pipe and flange.	100
M3-13	26902 Sh. 1	3RCS*MV8001A [5]	None	Relief is from using valve 3RCS*V991 to pressurize downstream pipe and flange.	100
M3-14	26902 Sh. 1	3RCS*MV8001A [5]	None	Relief is from using valve 3RCS*V992 to pressurize downstream pipe and flange.	100
M3-15	26902 Sh. 2	3RCS*MV8002C [5]	None	Relief is from using valve 3RCS*V979 to pressurize downstream pipe and flange.	100
M3-16	26902 Sh. 2	3RCS*MV8002C [5]	None	Relief is from using valve 3RCS*V980 to pressurize downstream pipe and flange.	100
M3-17	26902 Sh. 2	3RCS*MV8001C [5]	None	Relief is from using valve 3RCS*V981 to pressurize downstream pipe and flange.	100
M3-18	26902 Sh. 2	3RCS*MV8001C [5]	None	Relief is from using valve 3RCS*V982 to pressurize downstream pipe and flange.	100
M3-19	26902 Sh. 4	3RCS*MV8002B [5]	None	Relief is from using valve 3RCS*V984 to pressurize downstream pipe and flange.	100
M3-20	26902 Sh. 4	3RCS*MV8002B [5]	None	Relief is from using valve 3RCS*V985 to pressurize downstream pipe and flange.	100

TABLE 4 – COMPONENT GROUP 4 PIPING SEGMENT DETAILS

Seg [1] No.	Drawing	Line Number [2]	Other ISI examinations	Request [3]	Dose [4] Savings Estimate MR
M3-21	26902 Sh. 4	3RCS*MV8001B [5]	None	Relief is from using valve 3RCS*V986 to pressurize downstream pipe and flange.	100
M3-22	26902 Sh. 4	3RCS*MV8001B [5]	None	Relief is from using valve 3RCS*V987 to pressurize downstream pipe and flange.	100
M3-23	26902 Sh. 5	3RCS*MV8002D [5]	None	Relief is from using valve 3RCS*V974 to pressurize downstream pipe and flange.	100
M3-24	26902 Sh. 5	3RCS*MV8002D [5]	None	Relief is from using valve 3RCS*V975 to pressurize downstream pipe and flange.	100
M3-25	26902 Sh. 5	3RCS*MV8001D [5]	None	Relief is from using valve 3RCS*V976 to pressurize downstream pipe and flange.	100
M3-26	26902 Sh. 5	3RCS*MV8001D [5]	None	Relief is from using valve 3RCS*V977 to pressurize downstream pipe and flange.	100
M3-27	26902 Sh. 6	3-RCS-001-226-1	None	Relief is from using valve 3RCS*V958 to pressurize downstream pipe and flange.	100
M3-28	26902 Sh. 1	3-RCS-001-225-1	None	Relief is from using valve 3RCS*V956 to pressurize downstream pipe and flange.	2
M3-29	26902 Sh. 1	3-RCS-002-23-1 3-RCS-750-116-02	None	Relief is from using valve 3RCS*V33 to pressurize downstream pipe and flange.	50

NOTES:

1. Schedule 160 piping is used for all segments of Group 4, unless annotated otherwise by Note 5. Material of piping segments is Austenitic stainless steel, SA376, Type 316.

2. Design Pressure is 2485 psig; Normal Operating Pressure: None, and remains normally isolated.
3. Proposed Test Pressure: None
4. The estimated accumulated dose savings for the use of alternative requirements in the component groups from Request IR-2-45 is a total of 2.5 man-Rem at Millstone Unit 3.
5. Affected segment material is SA312, F304. This is a part of valve assembly.

TABLE 5 – COMPONENT GROUP 5 PIPING SEGMENT DETAILS

Seg No.	Drawing	Line Number [1], [2]	Other ISI examinations	Request [3]	Dose [4] Savings Estimate MR
M3-30	26902 Sh. 1 26912 Sh. 2	3-SIL-006-139-1 3-SIL-010-45-1 [5]	None	Request IAW with Code Case N-731	50
M3-31	26902 Sh. 2 26912 Sh. 2	3-SIL-006-145-1 3-SIL-010-49-1 [5]	Weld examinations of welds SIL-6-5-SW-E, SIL-6-6-SW-B, SIL-6-FW-8 and SIL-6-FW-9,	Request IAW with Code Case N-731	50
M3-32	26902 Sh. 4 26912 Sh. 2	3-SIL-006-140-1 3-SIL-010-47-1 [5]	None	Request IAW with Code Case N-731	50
M3-33	26902 Sh. 5 26912 Sh. 2	3-SIL-006-146-1 3-SIL-010-51-1 [5]	Weld examinations of welds SIL-7-5-SW-B, SW-E, SW-F, SW-G, SIL-7-FW-7 and FW-8,	Request IAW with Code Case N-731	50

NOTES:

1. 6" - Schedule 160 piping is used for segments of Group 5, unless annotated otherwise by Note 5 (10"- Schedule 140). Material of piping segments is Austenitic stainless steel, SA376, Type 316.
2. Design Pressure is 2485 psig; Normal Operating Pressure is 650 psig.
3. Proposed Test Pressure: 650 psig (approximated)
4. The estimated accumulated dose savings for the use of alternative requirements in the component groups from Request IR-2-45 is a total of 2.5 man-Rem at Millstone Unit 3.

5 10" – Schedule 140 piping.

TABLE 6 – COMPONENT GROUP 6 PIPING SEGMENT DETAILS

Seg No.	Drawing	Line Number [1], [2]	Other ISI examinations	Request [3]	Dose [4] Savings Estimate MR
M3-34	26902 Sh. 1 26913 Sh. 2	3-SIH-002-145-1 3-SIH-006-59-1	Welds 407254-FW-49, FW-50, FW-63-1, and FW-85	between check valves - relief from installing and removing temporary jumper hoses from downstream of check valve 3RCS*V26 to pressurize upstream piping	75
M3-35	26902 Sh. 2 26913 Sh. 2	3-SIH-002-146-1 3-SIH-006-62-1	None	between check valves - relief from installing and removing temporary jumper hoses from downstream of check valve 3RCS*V102 to pressurize upstream piping	75
M3-36	26902 Sh. 4 26912 Sh. 1	3-SIL-002-20-1 3-SIL-006-21-1 3-SIL-006-161-1 3-SIL-008-155-1	None	between check valves - relief from installing and removing temporary jumper hoses from downstream of check valve 3RCS*V69 to pressurize upstream piping	75
M3-37	26902 Sh. 5 26912 Sh. 1	3-SIL-002-24-1 3-SIL-006-25-1 3-SIL-006-162-1 3-SIL-008-156-1	None	between check valves - relief from installing and removing temporary jumper hoses from downstream of check valve 3RCS*V142 to pressurize upstream piping	75
M3-38	26902 Sh. 1 26902 Sh. 2 26902 Sh. 4 26902 Sh. 5 26913 Sh. 1	3-SIH-150-141-1 3-SIH-150-142-1 3-SIH-150-143-1 3-SIH-150-144-1 3-SIH-150-29-1 3-SIH-150-30-1 3-SIH-150-31-1 3-SIH-003-26-1 3-SIH-003-114-1 3-SIH-150-28-1	Welds 407023-FW-2, FW-3, FW-4, 408046-FW-3 and FW-4	between check valves - relief from installing and removing temporary jumper hoses from downstream of check valve 3RCS*V029, V106, V70 or V145 to pressurize the upstream piping	75

NOTES:

1. Schedule 160 piping is used for segments of Group 6. Material of piping segments is Austenitic stainless steel, SA376, Type 316.

	Segment:	34 / 35	36 / 37	38
2.	Design Pressure:	2485 psig	2485 psig	2735 psig
	Normal Operating:	2235 psig	1747 psig	2725 psig

3. Proposed Test Pressure will be associated with full flow check valve test with the RCS depressurized.
4. The estimated accumulated dose savings for the use of alternative requirements in the component groups from Request IR-2-45 is a total of 2.5 man-Rem at Millstone Unit 3.

TABLE 7 – COMPONENT GROUP 7 PIPING SEGMENT DETAILS

Seg No.	Drawing	Line Number [1], [2]	Other ISI examinations	Request [3]	Dose Savings Estimate MR
M3-39	26912 Sh. 1	3-RHS-012-33-1	Welds RHS-501-3-SW-5, RHS-501-FW-3 and FW-5	Relief is from using valve 3RHS*V999 to pressurize downstream pipe and valve.	None
M3-40	26912 Sh. 1	3-RHS-012-35-1	None	Relief is from using valve 3RHS*V998 to pressurize downstream pipe and valve.	None

NOTES:
1. 12" - Schedule 160 piping is used for segments of Group 7. Material is Austenitic stainless steel, SA376, Type 316.
2. Design Pressure is 2485 psig; Normal Operating Pressure is 441psig.
3. Proposed Test Pressure: 300 psig (approximated)

TABLE 8 – COMPONENT GROUP 8 PIPING SEGMENT DETAILS

Seg No.	Drawing	Line Number [1], [2]	Other ISI examinations	Request [3]	Dose [4] Savings Estimate MR
M3-41	26902 Sh. 1 26902 Sh. 3	3-RCS-002-150-1	None	Relief is from using valve 3RCS*V174 (AV8145) to pressurize upstream piping and valve.	None

NOTES:
1. 2" - Schedule 160 piping is used for segment of Group 8. Material of piping is Austenitic Stainless, SA376, Type 316.
2. Design Pressure is 2485 psig; Normal Operating Pressure is 325psig.
3. Proposed Test Pressure: None
4. The estimated accumulated dose savings for the use of alternative requirements in the component groups from Request IR-2-45 is a total of 2.5 man-Rem at Millstone Unit 3.

ATTACHMENT 2

USE OF ALTERNATIVE CLASS 1 PRESSURE TEST REQUIREMENTS REQUESTS RR-89-56 AND IR-2-45

ASME CODE CASE N-731*, ALTERNATIVE CLASS 1 SYSTEM LEAKAGE TEST PRESSURE REQUIREMENTS SECTION XI, DIVISION 1*

(1 PAGE)

DOMINION NUCLEAR CONNECTICUT, INC.
MILLSTONE POWER STATION UNITS 2 AND 3

CASE N-731

Approval Date: February 22, 2005

The ASME Boiler and Pressure Vessel Standards Committee took action to eliminate Code Case expiration dates effective March 11, 2005. This means that all Code Cases listed in this Supplement and beyond will remain available for use until annulled by the ASME Boiler and Pressure Vessel Standards Committee.

Case N-731
Alternative Class 1 System Leakage Test Pressure Requirements
Section XI, Division 1

Inquiry: What alternative Class 1 system leakage test pressure requirements may be used for portions of Class 1 systems that are continuously pressurized during an operating cycle by a statically-pressurized passive safety injection system of a pressurized water reactor, in lieu of the requirements of IWB-5221(a)?

Reply: It is the opinion of the Committee that, for portions of Class 1 safety injection systems that are continuously pressurized during an operating cycle, the pressure associated with a statically-pressurized passive safety injection system of a pressurized water reactor may be used.

ATTACHMENT 3

USE OF ALTERNATIVE CLASS 1 PRESSURE TEST REQUIREMENTS REQUESTS RR-89-56 AND IR-2-45

PIPING AND INSTRUMENTATION DIAGRAMS

[Contents of Attachment 3 are also provided to the NRC Project Manager on Computer Disk in text searchable formats.]

DOMINION NUCLEAR CONNECTICUT, INC.
MILLSTONE POWER STATION UNIT 3

ENCLOSURE 2

USE OF ALTERNATIVE CLASS 1 PRESSURE TEST REQUIREMENTS REQUESTS RR-89-56 AND IR-2-45

Enclosure 2 is the computer disk containing the drawing files of Millstone Units 2 and 3 Piping and Instrumentation Drawings that are referenced by the Requests RR-89-56 and IR-2-45.

This Enclosure 2 has been provided to the NRC Project Manager on Computer Disk in text searchable formats.

DOMINION NUCLEAR CONNECTICUT, INC.
MILLSTONE POWER STATION UNITS 2 AND 3