

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



Dominion™

DEC 10 2002

Docket No. 50-336
B18810

RE: 10 CFR 50.55a

U.S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, DC 20555-0001

Millstone Power Station, Unit No. 2
10 CFR 50.55a Requests for the Third Ten Year
Interval of the In-Service Testing Program
Revised V-6 10 CFR 50.55a Request

Pursuant to 10 CFR 50.55a(a)(3)(i), Dominion Nuclear Connecticut, Inc (DNC) hereby requests NRC approval of the following request for the third 10-year interval of the In-Service Testing (IST) Program at Millstone Unit No. 2, which began on April 1, 1999. Based on discussions with the NRC staff, DNC is submitting revised 10 CFR 50.55a Request V-6. This letter supercedes in full 10 CFR 50.55a Request V-6 submitted on October 7, 2002.⁽¹⁾ No changes are proposed for 10 CFR 50.55a Request V-7.

10 CFR 50.55a Request V-6 will provide an extension of the surveillance interval for seat-leakage testing of Category A valves located in the High Pressure Safety Injection System, Containment Spray System, and Refueling Water Storage Tank System using a performance-based leakage testing methodology.

Revised 10 CFR 50.55a Request V-6 is provided as Attachment 1 of this letter. To assist in the timely review and approval of these requests, this submittal has been formatted consistent with the Nuclear Energy Institute (NEI) white paper for 10 CFR 50.55a requests.⁽²⁾

DNC requests NRC approval and issuance of this 10 CFR 50.55a request by August 31, 2003 to support use of the new requirements during Refueling Outage 15, currently scheduled in October 2003.

⁽¹⁾ J. Alan Price to U.S. NRC, "Millstone Power Station, Unit No. 2, 10 CFR 50.55a Requests for the Third Ten Year Interval of the In-Service Testing Program," dated October 7, 2002.

⁽²⁾ NEI White Paper, "Standard Format for Requests From Commercial Reactor Licensees Pursuant to 10 CFR 50.55a," dated September 30, 2002.

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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.



J. Alan Price
Site Vice President - Millstone

Attachment (1): 10 CFR 50.55a Request V-6

cc: H. J. Miller, Region I Administrator
R. B. Ennis, NRC Senior Project Manager, Millstone Unit No. 2
Millstone Senior Resident Inspector

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Attachment 1

Millstone Power Station, Unit No. 2

Revised V-6 10 CFR 50.55a Request

10 CFR 50.55a Request V-6

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

1. ASME Code Component(s) Affected

Code Class 2, Category A valves located in the High Pressure Safety Injection System, Containment Spray System, and Refueling Water Storage Tank (RWST) System. Affected components include the following valves:

- 2-CS-14A/B,
- 2-SI-459 (or 2-CS-050 and 2-CS-051, as an alternative barrier in this leakage path),
- 2-SI-460,
- 2-SI-659, and
- 2-SI-660.

These valves must close or remain closed to prevent back-leakage to the RWST during the recirculation phase of a Loss-of-Coolant Accident (LOCA).

2. Applicable Code Edition and Addenda

The Millstone Unit No. 2 In-Service Testing (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.

3. Applicable Code Requirement

OM-1987 Part 10, paragraph 4.2.2.3 requires that Category A valves, which perform a function other than containment isolation, be seat leakage tested to verify their leak-tight integrity. Tests shall be conducted at least once every two (2) years.

4. Reason for Request

Testing of each of the valves proposed for relief involves the draining and processing of significant quantities of contaminated water (radwaste) and radiological exposure (approximately 50 millirem per person) to test personnel.

Performance of these leak tests each refueling outage also has a noticeable impact on outage schedule and resources.

For testing of 2-SI-460, plant design limitations require a freeze seal be established on a six (6) inch pipe, a time consuming process which requires significant coordination to ensure safe work conditions are maintained.

For the train specific valves, 2-CS-14A and B, testing each outage involves significant tagging and unavailability of both trains of RWST supply. Millstone Unit No. 2 refueling outages are scheduled to focus work on one train, while protecting the other train. The proposed relief for 2-CS-14A and B would result in testing being performed only on the unprotected train, minimizing work on the credited train.

5. Proposed Alternative and Basis for Use

The identified valves function during the sump recirculation phase of a loss of coolant accident to limit the release of radioactivity from the containment environment to a tank which is vented to the outside atmosphere. The total allowed leakage limit for this combination of valves, considered as a system, is based on the calculated site boundary dose limits and control room habitability limits. Individual leak rates of the valves can vary, as long as the total leakage is within limits.

Use of a performance-based leakage testing philosophy, similar to that allowed for CIVs by Appendix J, Option B is proposed. The train specific valves, 2-CS-14A and 2-CS-14B, will be tested once every other refueling outage. One of the two valves will be tested at each refueling outage, supporting the "train specific refueling" philosophy utilized at Millstone Unit No. 2. Test frequency will be increased to once each refueling outage if the administrative leakage limit for any individual valve is exceeded, and will be maintained until two (2) successive passing tests are recorded.

For the remaining valves which are not train specific, 2-SI-459 (or 2-CS-050 and 2-CS-051 as an alternative), 2-SI-460, 2-SI-659 and 2-SI-660, the test frequency of each valve will be extended from once every refueling outage to at least once every 60 months, similar to Appendix J, Option B requirements. This proposed timeframe will allow each valve to be tested once every third refueling outage. Testing frequency will be reduced to once every 30 months upon failure of administrative leakage limits for any individual valve, and will be maintained until two (2) successive passing tests are recorded.

An administrative leakage limit has been calculated for each valve. This calculation concludes that 2-CS-14A and B could leak at the rate of their administrative limits for the short period they are required following an accident,

without contamination ever reaching the RWST. The remaining valves could also leak at their administrative limits for 30 days post accident without exceeding 10 CFR 100 or GDC 19 limits. The administrative limits and actual leakage test results for the past three (3) tests are provided:

Valve	Admin Limit	1998 Leakage	2000 Leakage	2002 Leakage
2-CS-14A	7 gpm	.714 gpm	6 gpm	8 gpm
2-CS-14B	7 gpm	0	0	.1 gpm
2-CS-050	.01 gpm	.00007 gpm	.00005 gpm	*
2-CS-051	.01 gpm	.0001 gpm	.00012 gpm	*
2-SI-459	.02 gpm	*	*	.0017 gpm
2-SI-460	.05 gpm	0	.0008	0
2-SI-659	.12 gpm	.0016 gpm	.007 gpm	.024 gpm
2-SI-660	.12 gpm	.0035 gpm	.016 gpm	.027 gpm

*Note: 2-CS-050/051 are two parallel valves in series with 2-SI-459. Both valves were historically tested in lieu of testing of 2-SI-459. In the future, 2-SI-459 will be the normally tested valve in this path, with the ability to test 2-CS-050 and 2-CS-051 maintained as an alternative.

2-CS-14A/B are 18-inch swing check valves in the outlets of the RWST. They are disassembled and inspected for IST exercising on a sampling frequency of one valve each refueling outage. No discrepancies have ever been noted in these inspections, dating back to 1992. These valves are relied upon to prevent backleakage to the RWST for the short period of time during the sump recirculation phase of an accident when containment pressure could exceed the head of the RWST. Procedurally, the RWST outlet line motor-operated valves are manually closed after the sump suction valves open on a sump recirculation actuation signal, thereby minimizing the potential for leakage past 2-CS-14A/B. 2-CS-050, 2-CS-051, 2-SI-459, and 2-SI-460 are manual valves which are locked closed during plant operation, and are not subject to mechanisms which cause increased leakage. 2-SI-659 and 2-SI-660 are air-operated globe valves installed in series but tested individually. Historical leak-test results for each of these valves supports the proposed increase in test frequency. In conclusion, granting the proposed alternative would continue to provide an acceptable level of quality and safety, and would not adversely impact the health and safety of the public.

6. Duration of Proposed Alternative

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