

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



Dominion

NOV 2 2001

Docket No. 50-423
B18499

RE: 10CFR 50.55a(f)(5)(iii)

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

Millstone Power Station, Unit No. 3
Relief Request for the Second Ten Year Interval
of Inservice Testing Program

Pursuant to 10 CFR 50.55a(f)(5)(iii) this letter submits proposed Relief Request R-7 for the second 10-year interval of the Inservice Testing (IST) Program at Millstone Unit No. 3, which began on February 7, 1998. 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 frequency of the Containment Recirculation Spray System (RSS) pumps IST testing from quarterly to once every year. The proposed alternative includes performing substantial flow testing of each RSS pump each refueling.

It is requested that the Nuclear Regulatory Commission approval be provided by October 31, 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.



J. Alan Price, Vice President
Nuclear Technical Services - Millstone

Attachment: Relief Request R-7 for RSS Pumps Test Frequency

cc: See next page

A047.

cc: H. J. Miller, Region I Administrator
V. Nerses, NRC Senior Project Manager, Millstone Unit No. 3
NRC Senior Resident Inspector, Millstone Unit No. 3

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Attachment 1

Millstone Power Station, Unit No. 3

Relief Request R-7 for RSS Pumps Test Frequency

Relief Request R-7 for RSS Pumps Test Frequency

I. IDENTIFICATION OF COMPONENTS

This relief request pertains to the 4 Containment Recirculation Spray System (RSS) pumps in the IST Program at Millstone Unit No. 3, 3RSS*P1A/1B/1C/1D.

Function:

Provide flow to the Spray Headers, the charging pumps, and the high pressure safety injection pumps in the event of an accident. Function is verified by insuring the pumps develop a differential pressure greater than or equal to the ten percent flow degradation curve used in the safety analysis.

II. CODE REQUIREMENTS FROM WHICH RELIEF IS REQUESTED

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.

Test Requirement:

OM-1987, OMa-1988 Addenda part 6, paragraph 5.1 "An inservice test shall be run on each pump, nominally every 3 months, except as provided in paragraphs 5.3, 5.4, and 5.5."

III. ALTERNATIVE REQUESTED

Perform recirculation flow test in accordance with 1987 OM-6 on one of the four RSS pumps nominally every 3 months, except as provided in paragraphs 5.3, 5.4, and 5.5. Perform substantial flow test on each pump in accordance with 1987 OM-6 code each refueling.

IV. BASIS FOR RELIEF

The Containment Recirculation Pumps (RSS pumps) are Bingham-Willamette Model VCR, vertical, deep well, five stage, centrifugal ASME III class 2 pumps. They are rated at 3950 gpm @ 342 ft (148 psid) and are considered standby pumps that are operated during the cycle for testing purposes only. The minimum flow required for pump protection is defined by the manufacturer as 1000 gpm. The suction of the pumps are normally lined up to the containment sump therefore, lack normal fluid inventory (i.e. dry sump). The system piping is normally drained to prevent piping corrosion and the pump casing is kept full with RWST water to prevent containment sump water from entering the pump. The RSS system has been designed with a line from the Refueling Water Storage Tank (RWST) to the suction of the pumps that is used for testing purposes only. Each pump is surveillance tested quarterly utilizing the recirculation line. Each pump is tested as a

fixed resistance system at minimum recirculation flows of approximately 1000 gpm for 3RSS*P1A/B and 2400 gpm for 3RSS*P1C/D. The minimum differential pressure (DP) acceptance criteria is set at a maximum of 10% below manufacturers curve which has been determined acceptable in the RSS safety analysis calculations.

Performance of the quarterly pump test on recirculation flow during reactor operation or cold shut down is considered a significant hardship and the risks associated with performing the test is not commensurate with the benefit achieved. Preparation and restoration activities exceed eight hours for each of the four pumps which include valve lineups, system RWST test line and RSS filling, draining and flushing. The test lineup renders the RSS pump unavailable for the 8 hours and would be a significant burden to restore the system in an emergency. In addition, the boundary for the test introduces a LLRT failure mechanism for the containment isolation check valves to the spray header (3RSS*V003/006/009/012). This occurs if the RSS pump is running in recirculation mode and the isolated upstream MOV (3RSS*MOV20A/B/C/D) leaks by, contaminating the check valve seating area with Boron deposits.

Another reason for reducing the recirculation pump testing frequency is the fact that it is not the best method to detect pump degradation. Testing at substantial flow conditions is considered a more appropriate test to detect degradation.

Results of past quarterly tests on each RSS pump show no adverse trends. The performance has remained optimal and consistent when compared to the original manufacturer's shop test.

The proposed alternate testing methods will avoid the unnecessary and more frequent testing of pumps which will reduce overall pump degradation in the long run and increase safety system availability. The proposed substantial flow test performed each refueling on each pump will provide a better performance and trend assessment of the pump to meet its safety requirement than testing quarterly at recirculation conditions.

A PRA review of the proposed relief request determined that there will be no adverse impact on pump reliability or plant safety, therefore, the proposed change does not compromise public health and safety.

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 second 10-year interval for Millstone Unit No. 3, which began on February 7, 1998.