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

Dominion

November 20, 2003

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

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Rev 0
Docket No.: 50-336
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DOMINION NUCLEAR CONNECTICUT, INC. (DNC)
MILLSTONE POWER STATION UNIT 2
RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION ON RR-89-48 FOR THE NOZZLE INSPECTION ULTRASONIC TEST COVERAGE REQUIREMENTS IN ORDER EA-03-009

On February 11, 2003, the U.S. Nuclear Regulatory Commission (NRC) issued Order EA-03-009 for interim inspection requirements for reactor pressure vessel (RPV) heads at pressurized water reactor facilities. The Order requires specific inspection of the RPV head and associated penetration nozzles. On October 3, 2003, pursuant to the procedure specified in Section IV.F of the Order, Dominion Nuclear Connecticut, Inc. (DNC) requested relaxation from requirements of the Order regarding the ultrasonic test examination (UT) coverage for the control element drive mechanism (CEDM) penetration nozzles (Request Number RR-89-48).

On October 10, 2003, DNC provided the non-proprietary and proprietary versions of a supporting structural integrity evaluation report for the DNC request RR-89-48. On November 5, 2003, DNC provided additional information related to the structural integrity evaluation report. Two additional NRC questions were received on November 18, 2003. Attachment 1 of this letter responds to these two questions, which supplements the information previously provided on November 5, 2003.

There are no regulatory commitments contained within this letter.

If you should have any questions regarding this submittal, please contact Mr. David W. Dodson at (860) 447-1791, extension 2346.

Very truly yours,

Leslie N. Hartz
Vice President – Nuclear Engineering

A101

Attachment (1)

cc: U. S. Nuclear Regulatory Commission
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Mr. S. M. Schneider
NRC Senior Resident Inspector
Millstone Power Station

The Director, Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

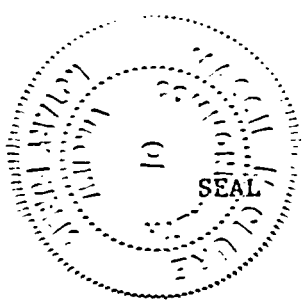
COMMONWEALTH OF VIRGINIA)
)
COUNTY OF HENRICO)

The foregoing document was acknowledged before me, in and for the County and Commonwealth aforesaid, today by Leslie N. Hartz who is Vice President – Nuclear Engineering of Dominion Nuclear Connecticut, Inc. She has affirmed before me that she is duly authorized to execute and file the foregoing document in behalf of that Company, and that the statements in the document are true to the best of her knowledge and belief.

Acknowledged before me this 20th day of November, 2003.

My Commission Expires: 3/31/04.

Notary Public Maggie McClure



Attachment 1

Millstone Power Station Unit 2

Response to Request for Additional Information on RR-89-48 for the
Nozzle Inspection Ultrasonic Test Coverage Requirements in Order EA-03-009

Response to Request for Additional Information on RR-89-48 for the
Nozzle Inspection Ultrasonic Test Coverage Requirements in Order EA-03-009

On October 10, 2003, Dominion Nuclear Connecticut, Inc. (DNC) provided the non-proprietary and proprietary versions of a supporting structural integrity evaluation report for the DNC request RR-89-48. On November 5, 2003, DNC provided additional information related to the structural integrity evaluation report. Two additional NRC questions were received on November 18, 2003. The balance of Attachment 1 responds to these two questions, which supplements the information previously provided on November 5, 2003.

1. *Initial Flaw Size:*

Response:

The flaw postulated to exist below the weld is conservatively assumed to be a through-wall axial flaw with its upper extremity located at 0.5 inches below the weld. The initial flaw lengths shown in Table 1 for the four CEDM cases were selected to ensure that the resulting stress intensity factor is 15 MPa$\sqrt{m}$, which exceeded the crack tip stress intensity factor threshold of 9 MPa$\sqrt{m}$.

This assumed flaw size represents the size for a through-wall flaw that has already been initiated below the weld and propagated to a size that is susceptible to Primary Water Stress Corrosion Cracking (PWSCC). It should be noted that the hoop stress increases rapidly towards the bottom of the weld and that the crack growth for this flaw was conservatively calculated by assuming that the entire through-wall flaw length is subjected to the same high stress as at its upper extremity.

Table 1

Nozzle Angle (Degrees)	Initial Thru-Wall Flaw Length (in)
0	0.085
29.1	0.117
37.1	0.406
42.5	0.160

The formula used to calculate the initial length was in Equation 6-3 from the structural integrity evaluation and was based on average hoop stress across the wall thickness.

2. *Confirm that the crack growth rate used in calculating the growth of the upper extremity of the assumed through-wall crack is exactly that in MRP-55 Rev.1. In other words, you did not use a threshold stress intensity factor of 15 MPa.square root of meter in evaluating the crack growth.*

   Response:

   The crack growth rate used in calculating the growth of the upper extremity of the assumed through-wall flaw is exactly the same as recommended in MRP-55 Rev.1. The threshold stress intensity factor of 15 MPa$\sqrt{m}$ is used only to establish the initial flaw size.