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

Dominion

NOV 16 2001

Docket No. 50-336
B18513

RE: 10 CFR 50.90

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

Millstone Nuclear Power Station, Unit No. 2
Response to a Request for Additional Information
Technical Specifications Change Request 2-3-01
Core Alteration and Refueling Operations

In a letter dated April 11, 2001,[1] Dominion Nuclear Connecticut, Inc. (DNC) submitted a license amendment request for the Millstone Unit No. 2 Technical Specifications relating to core alterations and refueling operations. On October 22, 2001,[2] a Request for Additional Information (RAI) was received via fax from the NRC which contains four (4) questions relating to the aforementioned license amendment request.

Attachment 1 provides the DNC response to the October 22, 2001, RAI. The additional information provided in this letter will not affect the conclusions of the Safety Summary and Significant Hazards Consideration discussions provided in the DNC April 11, 2001, submittal.

There are no regulatory commitments contained within this letter.

(1) R. P. Necci letter to U.S. Nuclear Regulatory Commission, "Millstone Nuclear Power Station, Unit No. 2, Technical Specifications Change Request 2-3-01, Core Alteration and Refueling Operations," dated April 11, 2001.

(2) John Harrison to Ravi Joshi, "Refueling Operations - Uniform Boron Concentration, Proposed Request for Additional Information, TAC MB1779," dated October 22, 2001.

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If you should have any questions on the above, please contact Mr. Ravi Joshi at (860) 440-2080.

Very truly yours,

DOMINION NUCLEAR CONNECTICUT, INC.

Raymond P. Necci, Vice President
Nuclear Operations - Millstone

Sworn to and subscribed before me
this 16th day of November, 2001

Notary Public

My Commission expires SANDRA J. ANTON
NOTARY PUBLIC
COMMISSION EXPIRES
MAY 31, 2005

Attachment (1)

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

Director
Bureau of Air Management
Monitoring and Radiation Division
Department of Environmental Protection
79 Elm Street
Hartford, CT 06106-5127

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Attachment 1

Millstone Nuclear Power Station, Unit No. 2

Response to a Request for Additional Information
Technical Specifications Change Request 2-3-01
Core Alteration and Refueling Operations

Technical Specifications Change Request 2-3-01
Core Alteration and Refueling Operations
Response to Request for Additional Information

Question 1: *Please describe the sampling techniques used to meet LCO 3.9.1 prior to the one-time TS change that allowed a temporary non-uniform boron concentration to support site activities.*

Response: Prior to the issuance of License Amendment No. 201, Limiting Condition for Operation (LCO) 3.9.1 required that "With the reactor vessel head unbolted or removed, the boron concentration of all filled portions of the Reactor Coolant System and the refueling canal shall be maintained uniform and sufficient to ensure that the more restrictive of following reactivity conditions is met:

a. Either a K_{eff} of 0.95 or less, or

b. A boron concentration of greater than or equal to 1720 ppm."

Millstone Power Station Surveillance Procedure (SP) 2838, Rev. 4 (effective date November 17, 1994), "Sampling Filled Portions of the Reactor Coolant System and Refueling Canal for Boron," was being used at that time to satisfy the requirements of Surveillance Requirement 4.9.1.

This SP directed sampling of the following:

- Shutdown Cooling System - sampling of the circulating portion of the RCS by collecting a sample from the discharge of the operating Low Pressure Safety Injection (LPSI) pump(s), the Chemical and Volume Control System heat exchanger outlet, or a LPSI suction line;
- Spent Fuel Pool - sampling to be performed if the fuel transfer tube isolation valve is open, or as requested by Operations. Spent fuel pool sampling is performed by collecting a sample from the normal Spent Fuel Pool Cooling System (SFPC) sample point, the SFPC pump discharge, or by sampling from the suction of the refueling purification pump; and
- Refueling Cavity - sampling to be performed if the refueling cavity is filled greater than the reactor vessel flange, or as requested by Operations. Sampling is performed by collecting a sample from the suction of an operating refueling purification pump, or by a dip sample of the refueling cavity water.

The results from each sample point were then compared to the acceptance criteria. A note in SP 2838, Rev. 4 stated: "The acceptance criterion for a uniform boron concentration between various sample points is that any water volume with direct access to the reactor vessel shall satisfy the refueling boron concentration specified by Reactor Engineering."

Question 2: Please describe the sampling techniques currently used to meet LCO 3.9.1.

Response: The sampling procedure currently used to satisfy LCO 3.9.1 is Chemistry Department SP 2838, Rev. 5, Change 1 (effective date May 13, 1998), "Sampling Filled Portions of the Reactor Coolant System and Refueling Canal for Boron."

This procedure directs sampling of the following:

- Shutdown Cooling System - sampling of the circulating portion of the RCS by collecting a sample from the discharge of the operating LPSI pump(s), from the Chemical and Volume Control System (CVCS) heat exchanger outlet, or from a LPSI suction line;
- Spent Fuel Pool - sampling to be performed if the fuel transfer tube isolation valve is open, or as requested by Operations. Spent fuel pool sampling is performed by collecting a sample from the normal SFPC System sample point (SFPC pump discharge), or from the suction of the refueling purification pump, or a dip sample from specific regions of the Spent Fuel Pool; and
- Refueling Cavity - sampling to be performed if the refueling cavity is filled greater than the reactor vessel flange, or as requested by Operations, by collecting a sample from the suction of an operating refueling purification pump, or by a dip sample of the cavity water.

The results for each sample point are then compared to the acceptance criteria. A note in the procedure states: "The acceptance criterion for boron concentrations between various sample points is that any water volume with direct access to the reactor vessel shall satisfy the refueling boron concentration specified by Reactor Engineering."

The sampling methods and acceptance criteria currently used to satisfy the surveillance requirements of Specification 3.9.1 are essentially equivalent to those used prior to the issuance of License Amendment No. 201 (one additional sample point in the spent fuel pool and minor wording difference in the acceptance criteria to remove the word "uniform").

Question 3: *Please describe the equipment that was required to be in service to ensure boron mixing prior to the one-time TS change that allowed a temporary non-uniform boron concentration.*

Response: Prior to the issuance of License Amendment No 201, boron mixing of the RCS was usually accomplished by borating the RCS to greater than the refueling boron concentration during RCS cooldown (Procedure OP 2207, "Plant Cooldown"). This methodology allowed mixing of the boric acid in the RCS water by the operation of the reactor coolant pumps, natural circulation and the Shutdown Cooling System.

OP 2209A, "Refueling Operations," specified that the following equipment was required to be in service:

- SFPC System - to ensure cooling of the stored fuel assemblies and mixing of the spent fuel pool boron; and
- Shutdown Cooling System - to cool the reactor core and ensure mixing of RCS boron. TS LCO 3.1.1.3 requires that a minimum RCS flow rate of 1000 gpm be established during all RCS boron concentration reductions.

Additionally, the following equipment was used to fill the refueling cavity from the refueling water storage tank (and incidentally mix the boron in the refueling cavity):

- Refueling purification system (to fill the refueling cavity saddles)
- High Pressure Safety Injection (HPSI), LPSI or Containment Spray.

Question 4: *Please describe the equipment that is currently required to be in service to ensure boron mixing.*

Response: The same equipment described in the response to question 3 is currently required to be in service to ensure boron mixing. Thus, the same methods are currently used to ensure boron mixing as were used prior to the issuance of License Amendment No. 201.