



**Northeast
Nuclear Energy**

Rope Ferry Rd. (Route 156), Waterford, CT 06385

Millstone Nuclear Power Station
Northeast Nuclear Energy Company
P.O. Box 128
Waterford, CT 06385-0128
(860) 447-1791
Fax (860) 444-4277

The Northeast Utilities System

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Docket No. 50-336
B18131

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 Specification Amendment Request
Reactor Coolant Loops and Shutdown Cooling Trains (TAC NO. MA8089)**

In a letter dated February 1, 2000,⁽¹⁾ Northeast Nuclear Energy Company (NNECO) requested a change to the Millstone Unit No. 2 Technical Specifications. The proposed changes modified the Technical Specification requirements for the Reactor Coolant System loops and Shutdown Cooling System trains during various modes of plant operation. In a conference call conducted on May 5, 2000, two aspects of the requested changes were discussed with the Nuclear Regulatory Commission (NRC). This letter documents the information provided by NNECO during this conference call. This information, which is contained in Attachment 1, will not affect the conclusions of the Safety Summary or the Significant Hazards Consideration contained in the letter dated February 1, 2000.

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, Proposed Revision to Technical Specifications, Reactor Coolant Loops and Shutdown Cooling Trains," dated February 1, 2000.

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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,

NORTHEAST NUCLEAR ENERGY COMPANY



Raymond P. Necci
Vice President - Nuclear Technical Services

Sworn to and subscribed before me

this 1 day of June, 2000


Notary Public

My Commission expires Nov 30, 2001

Attachment (1)

cc: H. J. Miller, Region I Administrator
J. I. Zimmerman, NRC Project Manager, Millstone Unit No. 2
D. P. Beaulieu, 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

Attachment 1

Millstone Nuclear Power Station, Unit No. 2

Response to a Request for Additional Information
Technical Specification Amendment Request

Reactor Coolant Loops and Shutdown Cooling Trains (TAC NO. MA8089)

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1. Is Millstone Unit No. 2 allowed to operate at power with less than all four reactor coolant pumps in operation?

Millstone Unit No. 2 is not allowed to operate at power with less than all four reactor coolant pumps in operation. This is specified in the Millstone Unit No. 2 Final Safety Analysis Report (FSAR), Section 4.2.4, "Part-Loop Operation." This section of the FSAR specifically states that reactor power operation with less than 4 reactor coolant pumps operating or natural circulation is not allowed.

2. Is 10% narrow range steam generator level sufficient for heat removal in Modes 3 and below?

The secondary water level of the Millstone Unit No. 2 steam generators is indicated by two different types of level instrumentation. Wide range level instrumentation, which was installed in 1992, indicates secondary water level in inches. The intent of the wide range level instrumentation is to provide water level indication for most of the steam generator secondary side.

Steam generator secondary side water level indication is also provided by narrow range level instrumentation. This instrumentation indicates secondary water level in percent. An approximate correlation between steam generator tube height and narrow range level indication is presented in the following table.

⁽¹⁾ R. P. Necci letter to U.S. Nuclear Regulatory Commission, "Millstone Nuclear Power Station, Unit No. 2, Proposed Revision to Technical Specifications, Reactor Coolant Loops and Shutdown Cooling Trains," dated February 1, 2000.

TABLE 1
Steam Generator Tube Height and
Narrow Range Steam Generator Level Correlation

Height Above Tube Sheet (inches)	Narrow Range (percent)
302	0
320	10
362 (top of tube bundle)	33
484	100

10% narrow range level indication corresponds to approximately 320 inches above the tube sheet. Top of the tube bundle corresponds to approximately 362 inches above the tube sheet. When narrow range steam generator level is at 10%, approximately 88.4% $[(320/362)*100]$ of the steam generator tube height is covered.

A Combustion Engineering (CE) report⁽²⁾ discussed the ability of CE designed plants to perform a natural circulation cooldown.

Natural circulation is assured even if the U-tubes are partially uncovered on the steam generator secondary side. The steam generator heat transfer area is sized for full power operation. Therefore only a portion of the tubes (approximately 1/3 of the tube height which corresponds to approximately 35-40% on the wide range steam generator level instrument) must remain covered to ensure normal NC flow.

This CE report was listed as a reference in NRC correspondence⁽³⁾ that addressed the Millstone Unit No. 2 response to NRC Generic Letter 81-21, "Natural Circulation Cooldown."

10% narrow range steam generator level is sufficient to ensure steam generator heat removal capability during natural circulation operation. Since less secondary side water inventory would be required for adequate heat removal during forced circulation operation, 10% narrow range steam generator level is sufficient for heat removal in Modes 3 and below.

⁽²⁾ CE-NPSD-154, "Natural Circulation Cooldown Task 430 Final Report," Combustion Engineering Nuclear Power System Division, October 1981.

⁽³⁾ J. R. Miller (NRC) letter to Northeast Nuclear Energy Company, "Natural Circulation Cooldown," dated October 20, 1983.