

# NORTHEAST UTILITIES



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February 21, 1990

Docket No. 50-423  
B13435

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

Gentlemen:

Millstone Nuclear Power Station, Unit No. 3  
Proposed Revision to Technical Specifications  
Removal of Cycle Specific Parameter  
Limits from Technical Specifications

Pursuant to 10CFR50.90, Northeast Nuclear Energy Company (NNECO) hereby proposes to amend operating license NPF-49 by incorporating the changes identified in Attachment 2 into the Technical Specifications of Millstone Unit No. 3.

### Background

Generic Letter 88-16, dated October 4, 1988, was issued to encourage licensees to prepare changes to Technical Specifications related to cycle-specific parameters. These Technical Specification changes will relocate cycle-specific parameter limits from Technical Specifications to the Core Operating Limits Report (COLR). Presently the parameter limits in the Millstone Unit No. 3 Technical Specifications are calculated using NRC-approved methodologies. These limits are evaluated for every reload cycle and may be revised periodically as appropriate to reflect changes to cycle-specific variables. This is an administrative burden on both the NRC and NNECO.

The generic letter provided guidance to allow relocation of certain cycle dependent core operating limits from the Millstone Unit No. 3 Technical Specifications. This would allow changes to the values of core operating limits without prior approval (i.e., license amendment) by the NRC, provided an NRC-approved methodology for the parameter limit calculation is followed. Thus, future core reloads and other revisions will require a safety review in accordance with the requirements of 10CFR50.59 instead of a prior submittal to the NRC.

Currently, each parameter limit proposed in the COLR utilizes the approved methodologies identified in the revised Administrative Controls section of this license amendment request. Millstone Unit No. 3 will use these methodologies when performing core reload designs and when any other revisions are made.

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### Description of the Proposed Changes

The proposed Technical Specification changes concern the relocation of several cycle-specific core operating limits for Millstone Unit No. 3 from the Technical Specifications to the COLR. A new definition of the COLR is being added to the Technical Specifications. Additionally, certain individual Technical Specifications will be modified to note the cycle-specific parameter limits are contained in the COLR. A COLR paragraph is being added to the Administrative Controls Section which will replace the Radial Peaking Factor Limit Report.

The cycle-specific parameter limits proposed for relocation to the COLR as part of this license amendment request include:

- 3/4.1.1.3 Moderator Temperature Coefficient
- 3/4.1.3.5 Shutdown Rod Insertion Limit
- 3/4.1.3.6 Control Rod Insertion Limits  
(Four Loop and Three Loop)
- 3/4.2.1.1 Axial Flux Difference - Four Loop
- 3/4.2.1.2 Axial Flux Difference - Three Loop
- 3/4.2.2.1 Heat Flux Hot Channel Factor - Four Loop
- 3/4.2.2.2 Heat Flux Hot Channel Factor - Three Loop
- 3/4.2.3.1 RCS Flow Rate and Nuclear Enthalpy Rise Hot Channel Factor  
- Four loop
- 3/4.2.3.2 RCS Flow Rate and Nuclear Enthalpy Rise Hot Channel Factor  
- Three Loop

Attachment 1 provides a description of the proposed changes and Attachment 3 is a sample COLR based on data for the current fuel cycle.

### Safety Assessment

The current Technical Specification method of controlling reactor physics parameters to assure performance to 10 CFR 50.36 (which requires the lowest functional performance levels acceptable for continued safe operation) is to specify the values determined to be within the acceptance criteria using an NRC-approved calculation methodology. As previously discussed, the methodologies for calculating these parameter limits have been reviewed and approved by the NRC and are consistent with the applicable limits in the Final Safety Analysis Report (FSAR).

The removal of cycle-dependent variables from the Technical Specifications has no impact upon plant operation or safety. No safety-related equipment, safety function, or plant operations will be altered as a result of these proposed changes. Since the applicable FSAR limits will be maintained and the Technical Specifications will continue to require operation within the core operational limits calculated by these NRC-approved methodologies, the proposed changes are administrative in nature. Appropriate actions to be taken if limits are violated will also remain in the Technical Specifications.

These proposed changes will control the cycle-specific parameters within the acceptance criteria and assure conformance to 10 CFR 50.36 by using the approved methodology instead of specifying Technical Specification values. The COLR will document the specific parameter limits resulting from Millstone Unit No. 3 calculations, including mid-cycle or other revisions to parameter values. Therefore, the proposed change is in conformance with the requirements of 10 CFR 50.36.

Any changes to the COLR will be made in accordance with the provisions of 10 CFR 50.59. From cycle to cycle, the COLR will be revised such that the appropriate core operating limits for the applicable cycle will apply. Technical Specifications will not be changed.

#### Significant Hazards Consideration

NNECO has reviewed the proposed changes in accordance with 10CFR50.92 and has concluded that the changes do not involve a significant hazards consideration. The basis for this conclusion is that the three criteria of 10CFR50.92(c) are not compromised. The proposed changes would not involve a significant hazards consideration because the changes would not:

1. Involve a significant increase in the probability or consequences of an accident previously analyzed.

The removal of cycle-specific core operating limits from Technical Specifications has no influence or impact on the probability or consequences of a Design Basis Accident. The cycle-specific core operating limits, although not in Technical Specifications, will be followed in the operation of Millstone Unit No. 3. The proposed amendment still requires exactly the same actions to be taken when or if limits are exceeded as is required by current Technical Specifications.

Each accident analysis addressed in the FSAR will be examined with respect to changes in cycle-dependent parameters, which are obtained from application of the NRC-approved reload design methodologies, to ensure that the transient evaluation of new reloads are bounded by previously accepted analyses. This examination, which will be performed per requirements of 10 CFR 50.59, ensures that future reloads will not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. Create the possibility of a new or different kind of accident from that previously analyzed.

As stated earlier, the removal of the cycle-specific variables has no influence or impact, nor does it contribute in any way to the probability or consequences of an accident. No safety-related equipment, safety function, or plant operations will be altered as a result of this proposed change. The cycle-specific variables are calculated using the

NRC-approved methods and submitted to the NRC to allow the Staff to continue to trend the values of these limits. The Technical Specifications will continue to require operation within the required core operating limits and appropriate actions will be taken when or if limits are exceeded.

Therefore the proposed amendment does not in any way create the possibility of a new or different kind of accident from any accident previously evaluated.

3. Involve a significant reduction in a margin of safety.

The margin of safety is not affected by the removal of cycle-specific core operating limits from the Technical Specifications. The margin of safety presently provided by current Technical Specifications remains unchanged. Appropriate measures exist to control the values of these cycle-specific limits. The proposed amendment continues to require operation within the core limits as obtained from the NRC-approved reload design methodologies and appropriate actions to be taken when or if limits are violated remain unchanged.

The development of the limits for future reloads will continue to conform to those methods described in NRC-approved documentation. In addition, each future reload will involve a 10 CFR 50.59 safety review to assure that operation of the unit within the cycle specific limits will not involve a significant reduction in a margin of safety.

Therefore, the proposed changes are administrative in nature and do not impact the operation of Millstone Unit No. 3 in a manner that involves a reduction in the margin of safety.

Moreover, the Commission has provided guidance concerning the application of standards in 10CFR50.92 by providing certain examples (March 6, 1986, 51FR7751) of amendments that are considered not likely to involve a significant hazards consideration. Although the proposed changes are not enveloped by a specific example, the proposed changes would not involve a significant increase in the probability or consequences of an accident previously analyzed. The removal of cycle dependent variables from the Technical Specifications has no impact upon plant operation or safety. Since the applicable FSAR limits will be maintained and the Technical Specifications will continue to require operation with the core operating limits calculated by the NRC-approved methodology, the changes do not reduce the effectiveness of Technical Specification requirements. In addition, the action statements and surveillance requirements will remain in the Technical Specifications. Any changes to the COLR will be made in accordance with the provisions of 10CFR50.59.

Based upon the information contained in this submittal and the environmental assessment for Millstone Unit No. 3, there are no radiological or



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Attachment

Millstone Unit No. 1

Description of the Proposed Technical Specification  
Changes - Cycle-Specific Parameter Limits

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Millstone Unit No. 3  
 Description of the Proposed Technical Specification  
Changes - Cycle-Specific Parameter Limits

<u>Page</u>	<u>Technical Specification</u>	<u>Change Description</u>
1-7	1.42 Definitions	Adds definition of COLR
3/4 1-4	3.1.1.3 Moderator Temperature Coefficient	Relocates MTC Limits to the COLR
3/4 1-5	4.1.1.3 MTC Surveillance Requirement	
B3/4 1-2	3/4.1.1.3 Moderator Temperature Coefficient Bases	
3/4 1-14 and 3/4 1-15	3.1.3.1 Moveable Control Assemblies	Replaces reference to Figures 3.1-1 and 3.1-2 (which are relocated to the COLR) with Specification 3.1.3.6
3/4 1-20	3.1.3.5 Shutdown Rod Insertion Limit 4.1.3.5 Surveillance Requirement	Replaces the fully withdrawn limit with more general insertion limits which are to be provided in the COLR. This is done to allow RCCA repositioning to minimize wear.
3/4 1-21	3.1.3.6 Control Rod Insertion Limits	Relocates the control bank rod insertion limits to the COLR.
3/4 1-22	Figure 3.1-1 Rod Bank Insertion Limits vs. Thermal Power, Four Loop Operation	Relocate the figures to the COLR
3/4 1-23	Figure 3.1-2 Rod Bank Insertion Limits vs. Thermal Power, Three Loop Operation	
3/4 2-1 3/4 2-2	3.2.1.1 Axial Flux Difference (Four Loops Operating)	Relocates the AFD Limits to the COLR.
3/4 2-3	Fig. 3.2-1a Axial Flux Difference Limits As a function of Rated Thermal Power (Four Loops Operating)	
3/4 2-4 3/4 2-5	3.2.1.2 Axial Flux Difference (Three Loops Operating)	

<u>Page</u>	<u>Technical Specification</u>	<u>Change Description</u>
3/4 2-6	Fig. 3.2-1b Axial Flux Difference Limits As a Function of Rated Thermal Power (Three Loops Operating)	
B 3/4 2-1 and B 3/4 2-2	3/4.2.1 Axial Flux Difference	
3/4 2-7	3.2.2.1 Heat Flux Hot Channel Factor (Four Loops Operating)	Relocates the FQ, K(z) functions to the COLR. The numerical FQ limit is replaced with a function of $F_{Q}^{RTP}$ which is to be specified in the COLR.
3/4 2-8 and 3/4 2-9	4.2.2.1.2.c, e, Heat flux Hot Channel Factor Surveillance Requirements.	
3/4 2-10	Fig. 3.2-2a K(z) - Normalized $F_Q(z)$ (for Four Loop Operation)	
3/4 2-11	3.2.2.2 Heat Flux Hot Channel Factor (Three Loops Operating)	
3/4 2-13	4.2.2.2.3, Heat Flux Hot Channel Factor Surveillance Requirements	
3/4 2-14	Fig. 3.2-2b K(z) - Normalized $F_Q(z)$ as a function of core height. (For Three Loop Operation).	
B 3/4 2-6	3/4 2.3 Heat Flux Hot Channel Factor	
3/4 2-15	3/4.2.3 RCS Flow Rate and Nuclear Enthalpy Rise Hot Channel Factor - Four loops Operating	Relocate the F-delta H limits to the COLR. The numerical value for the F-delta H is replaced with parameter $F_{AH}^{RTP}$ and $PF_{AH}^{RTP}$ which are defined in the COLR.
3/4 2-18	3/4.2.3.1 RCS Flow Rate and Nuclear Enthalpy Rise Hot Channel Factor - Three Loops Operating.	
6-21	6.9.1.6 Radial Peaking Factor Limit Report	The Radial Peaking Factor Limit Report is replaced with the description of the COLR. The COLR will be provided, upon issuance of each reload cycle, to the NRC Document Control Desk with copies to the Regional Administrative and Resident Inspector.

In addition, the Technical Specification index has been revised to reflect the above changes.