



**Northeast
Nuclear Energy**

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The Northeast Utilities System

FEB - 3 2000

Docket No. 50-423
B17815

Re: 10CFR50.90
10CFR50.59 (a)(2)

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

**Millstone Nuclear Power Station, Unit No. 3
Proposed License Amendment Request
ASME Section III Code Requirement for Charging System Relief Valve
(PLAR 3-99-2)**

Pursuant to 10CFR50.59 and 10CFR50.90, Northeast Nuclear Energy Company (NNECO) hereby proposes to amend Operating License NPF-49 by incorporating the attached proposed revision into Chapters 3 of the Millstone Unit No. 3 Final Safety Analysis Report (FSAR).

The proposed revision to the Millstone Unit 3 licensing basis addresses the existing configuration of 3CHS*V61 and 3CHS*V62 which does not conform to the requirements of the American Society of Mechanical Engineers (ASME), Section III code requirements for class 2 components.

Description of Proposed Revision

The FSAR changes in Attachment 2 are corrective actions in response to Nuclear Safety Advisory Letter NSAL-94-009, which identified that the 3CHS*V61/V62 valve configuration at Millstone Unit 3 is not in compliance with ASME Section III code. Valve 3CHS*V62 is used as a thermal relief device when charging line valves 3CHS*AV8146 and 3CHS*AV8147 are inadvertently closed and letdown continues. 3CHS*V61 is used to facilitate hydrostatic testing of the charging system.

This FSAR change adds a note to FSAR Section 3.2 to accurately define the current plant design. This note states that this valve configuration is taking exception to the ASME Section III code requirements. The change being made does not affect existing plant design but rather modifies licensing basis information to accurately reflect plant design. Ensuring valve 3CHS*V61 is Locked Open will allow valve 3CHS*V62 to perform its thermal relieving protection function.

The NRC has previously granted relief from ASME Section III code for this valve configuration, which is part of Westinghouse's standard design, stating that the configuration provides an acceptable level of quality and safety. Specifically, Diablo Canyons 1 & 2 utilize this valve configuration in their plants and have received relief¹ from the ASME Code for this configuration. This relief was approved based on the premise that complying with the code requirements would result in hardship or unusual difficulty without a compensating increase in the level of quality or safety and that it would not result in unacceptable consequences or impair the ability to shut down during normal operation or accident conditions.

Since valve 3CHS*V62 can perform its thermal relieving protection function, and this valve configuration is a portion of the Westinghouse standard design and has been previously accepted as a safe configuration in several plants, the configuration is safe.

Markup of Proposed Revision

A copy of the marked up FSAR pages is contained in Attachment 2. The markup is based upon the currently issued version of the FSAR.

Background, Safety Assessment, Significant Hazards Consideration and Environmental Considerations

The Background, Safety Assessment, Significant Hazards Consideration and Environmental Considerations that support this proposed revision are contained in Attachments 3 and 4.

Plant Operations Review Committee and Nuclear Safety Assessment Board Review

The Plant Operations Review Committee and the Nuclear Safety Assessment Board have reviewed this proposed amendment request and concur with the determinations contained in Attachment 4.

State Notification

In accordance with 10CFR50.91(b), we are providing the State of Connecticut with a copy of this proposed amendment to ensure their awareness of this request.

¹ T. R. Quay to G. M. Rueger, "Diablo Canyon Nuclear Power Plant, Units Nos. 1 and 2 - ASME Code Section III Relief Request (TAC Nos. M88648 and M88649)

Schedule Request for NRC Approval

NNECO requests NRC review and approval of this proposed revision and that the license amendment be effective upon issuance with implementation within sixty (60) days.

There are no regulatory commitments contained within this letter.

If the NRC Staff should have any questions or comments regarding this submittal, please contact Mr. D. W. Dodson at (860) 447-1791, extension 2346.

Very truly yours,

NORTHEAST NUCLEAR ENERGY COMPANY



Raymond P. Necci
Vice President - Nuclear Technical Services



Subscribed and sworn to before me

this 10th day of February, 2000

Lynn Williams
Notary Public

Date Commission Expires: Nov 30, 2001

Attachments (5)

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

Director
Bureau of Air Management
Monitoring and Radiation Division
Department of Environmental Protection
79 Elm Street
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Attachment 1

Millstone Nuclear Power Station, Unit No. 3

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(PLAR 3-99-6)
Marked Up Pages**

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MARKUP OF PROPOSED REVISION

Refer to the attached markup of the proposed revision to the Final Safety Analysis Report (FSAR). The attached markup reflects the currently issued version of the FSAR.

The following FSAR changes are included in the attached markup.

Chapter 3 - List of Tables - Updated

Table 3.2-1, Page 3 of 31 - Deleted and replaced with Attachment 2A

Table 3.2-1, Page 31 of 31 - Deleted and replaced with Attachment 2B

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Attachment 2

Millstone Nuclear Power Station, Unit No. 3

**Proposed License Amendment Request
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(PLAR 3-99-2)**

FSAR Table 3.2-1, Page 3 of 31 Rewrite

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TABLE 3.2-1

LIST OF QA CATEGORY I AND SEISMIC CATEGORY I STRUCTURES, SYSTEMS, AND COMPONENTS

	ANS Safety Class	Code (1)	Code Class	Location	Tornado Criterion	Notes
Inadequate Core Cooling Instrumentation	N/A	IEEE-323-74 IEEE-344-75	N/A	CS/CR	P	
Subcooled/Superheat Margin Monitor Heated Junction Thermocouple Core Exit Thermocouple						
Pressure Boundary/Reactor Internal Modifications for Inadequate Core Coding Instrumentation	1	ASME III	1	CS	P	
Supports for QA Category I Components*		Same as component being supported.				
<u>Chemical and Volume Control System</u>						
Regenerative Heat Exchanger**						
Tube Side	2	ASME III	2	CS	P	SEE NOTE #5 ADD
Shell Side	2	ASME III	2	CS	P	
Letdown Heat Exchanger**						
Tube Side	2	ASME III	2	AB	P	
Shell Side	3	ASME III	3	AB	P	
Mixed Bed Demineralizer***	3	ASME III	3	AB	P	
Cation Bed Demineralizer**	3	ASME III	3	AB	P	
Reactor Coolant Filter**	2	ASME III	2	AB	P	
Volume Control Tank**	2	ASME III	2	AB	P	
Centrifugal Charging Pump**	2	ASME III	2	AB	P	

SEE NOTE #5 | ADD

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Attachment 3

Millstone Nuclear Power Station, Unit No. 3

**Proposed License Amendment Request
ASME Section III Code Requirement for Charging System Relief Valve
(PLAR 3-99-2)
FSAR Table 3.2-1, Page 31 of 31 Rewrite**

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MNPS-3 FSAR

TABLE 3.2-1

LIST OF QA CATEGORY I AND SEISMIC CATEGORY I STRUCTURES, SYSTEMS, AND COMPONENTS

LEGEND

Location Symbols

- OY - Outside, yard
- SB - Service building
- TB - Turbine building
- WDB - Waste disposal building

NOTES:

1. The mechanical system components satisfy the codes and addenda (ASME Section III, Division 1) in effect at the time of component order.
2. There was no applicable code for the design of concrete containment structure liners at the construction of the Millstone 3 liner. However, ASME Sections III and VIII, 1971 Edition, were used as guides. See Section 3.8.1.2.3. ^(210.7)
3. This FSAR table identifies safety-related pumps for a given system. Unless otherwise indicated, motors for these safety-related pumps are also safety-related and included under the same safety class.

W.S. A Locked Open Manual Isolation valve 3CHS*V61 is located in series upstream of a Spring Loaded Check valve 3CHS*V62. ^{END} ~~Valve 3CHS*V61~~ must be taken off its backseat & turn prior to being Locked Open. Locking Open valve 3CHS*V61 ensures that valve 3CHS*V62 can safely perform its thermal relieving function as required per Millstone Unit 3 Design Basis Information making this valve configuration an acceptable exception from ASME Section III Code Requirements. ADD

NOTE 4 PENDING IN 99-MP3-3.

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Attachment 4

Millstone Nuclear Power Station, Unit No. 3

**Proposed License Amendment Request
ASME Section III Code Requirement for Charging System Relief Valve
(PLAR 3-99-2)**

Description of the Change, Background and Safety Summary

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Background

The changes result from Nuclear Safety Advisory Letter NSAL-94-009 which identified that a manual isolation valve 3CHS*V61 located in series upstream of check valve 3CHS*V62 is not in compliance with ASME Code Section III. Valve 3CHS*V62 is used as a thermal relief device when charging line valves 3CHS*AV8146 and 3CHS*AV8147 are inadvertently closed and letdown continues. The code states that a pressure relief device can not be isolated by a stop valve unless such stop valves are constructed and installed with positive controls and interlocks so that the relieving capacity requirements are met under all conditions of the system and the stop valves.

This FSAR change revises FSAR Section 3.2-1 to accurately define the current plant design. A note will be added to the FSAR Section 3.2 stating that this valve configuration is taking exception to the ASME Section III code requirements.

The change being made does not change existing plant design but rather modifies the design information to accurately reflect the configuration that currently exists. Ensuring valve 3CHS*V61 is Locked Open will allow valve 3CHS*V62 to perform its thermal relieving protection function. Since valve 3CHS*V62 can perform its thermal relieving protection function and this valve configuration is a Westinghouse standard design and has been previously accepted as a safe configuration in several plants the configuration is safe. Therefore, this configuration is a safe and acceptable exception to ASME Section III code requirements pursuant to the provisions of 10 CFR 50.59 without compromising the safe operation of the plant.

Description of the Change

Unit No. 3 FSAR Table 3.2-1 is being revised to update the FSAR to reflect that the valve configuration for 3CHS*V61 and 3CHS*V62 is an exception to the ASME Section III code requirements.

SAFETY SUMMARY

The proposed change to the FSAR (addition of a note to FSAR Section 3.2 to accurately define the current plant design) constitutes an Unreviewed Safety Question because:

The existing 3CHS*V61/*V62 valve configuration does not meet the section of the ASME Code intended to provide adequate over pressure protection, and as a consequence there is an increase in the probability of an

occurrence of a malfunction of equipment important to safety (over pressurization of the regenerative heat exchanger).

It is concluded that the proposed changes are safe and result in an Unreviewed Safety Question.

Changes to the Design Basis Information (FSAR) recognize that the 3CHS*V61/*V62 valve configuration is not in compliance with ASME Section III Code but is safe. The valve configuration is considered safe because the 3CHS*V61/*V62 flow path is only used when the charging side of the regenerative heat exchanger is isolated while the hot letdown flow continues at its maximum rate, which is not a normal configuration. The majority of the time the flow passes through the main leg of the letdown path containing valve 3CHS*AV8146 or valve 3CHS*AV8147, which is open during normal operation and fails in the open position. Also, valve 3CHS*V61 is Locked Open ensuring that the flow path to check valve 3CHS*V62 remains open allowing it to perform its thermal protection function without disturbing any of the systems safety functions. Valve 3CHS*V61 is also located inside containment, in a high radiation area, which is inaccessible during normal plant operation.

The change does not introduce the possibility of a new or different kind of accident nor does it increase the probability or consequences of any accident previously evaluated. Because the existing 3CHS*V61/*V62 valve configuration does not meet ASME Code requirements to provide adequate over pressure protection, there is an increase in the probability of an occurrence of a malfunction of equipment important to safety (over pressurization of the regenerative heat exchanger) resulting in a USQ.

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Attachment 5

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**Proposed License Amendment Request
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(PLAR 3-99-2)
Significant Hazards Consideration and Environmental Considerations**

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Significant Hazards Consideration

NNECO has reviewed the proposed revision in accordance with 10 CFR 50.92 and has concluded that the revision does not involve a significant hazards consideration (SHC). The basis for this conclusion is that the three criteria of 10 CFR 50.92(c) are not satisfied. The proposed revision does not involve an SHC because the revision would not:

1. Involve a significant increase in the probability or consequence of an accident previously evaluated.

The changes to the CVCS system will not affect the ability of the CVCS system to provide the minimum required flow to meet the requirements of the accident analysis and will ensure that the Regenerative Heat Exchanger will have the pressure relief protection assumed in the accident analysis. The change does not result in an increase in temperature or pressure conditions in the CVCS system. Therefore, since the changes to the CVCS system do not affect the flow operating conditions and the pressure relief protection of the Regenerative Heat Exchanger assumed in the accident analysis, the CVCS changes are bounded by the previous accident analysis.

The probability of an accident resulting from increased temperature or pressure will not occur because the operating conditions assumed in the Accident Analysis are unaffected and piping meets the requirements of SP-ME-572 ("Specification for: Piping Classes For Millstone Nuclear Power Station Unit 3, Northeast Nuclear Energy Company, Waterford, Connecticut") and is installed consistent with the technical and QA requirements for the fabrication and erection of piping and supports specified in SP-ME-570 ("Field Fabrication and Erection of Piping and Supports"). The change does not alter any operational procedures or accident mitigating procedures. Therefore, since no operating conditions or operating procedures have been modified from what was previously evaluated in the Accident Analysis, there is no increase in the probability of occurrence of accidents.

Therefore, the proposed revision does not involve a significant increase in the probability or consequence of an accident previously evaluated.

2. Create the possibility of a new or different kind of accident from any accident previously evaluated.

Since no components, component operation, or system operation are changed, the change to the CVCS system does not create the possibility of an accident of a different type. In addition, no physical or operational procedures are being changed. As a result, the CVCS system is bounded by the assumptions in the existing Accident Analysis. Accordingly, the occurrence of accidents of a different type is not a possibility.

Therefore, the proposed revision does not 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 resulting change does not affect the ability of the Chemical Volume and Control System (CVCS) to perform its safety function as assumed in the accident analysis. Furthermore, the CVCS system remains capable of providing the minimum boric acid flow required to meet the Technical Specification requirements. In addition, there are no surveillance requirements affected by this change.

The relief valve (3CHS*V62) and the isolation valve (3CHS*V61) meet all of the ASME III, Class 2 code requirements for a Safety Class 2 system and meet the requirements of associated piping specification Pipe Class 1502⁽²⁾ for stainless steel piping. Although the change will take exception to the ASME III code requirements for relief protection of the Regenerative Heat Exchanger, the system will still meet the ASME III, Class 2 code requirements for a Safety Class 2 system as well as the requirements of piping specification Pipe Class 1502. The current valve configuration has not been altered from the original configuration nor are any new components being added to the system that could modify the systems operation or flow characteristics. The ASME III code requirement that there are no isolation valves inline with a relief valve will not be met by the present configuration. The present configuration, however, will safely provide relief protection for the Regenerative Heat Exchanger by ensuring that the isolation valve is in an open position. This is accomplished by ensuring that the valve will be administratively locked open and not be operated during normal plant power operation as well as the location of the valve in a High Radiation Area which will prevent inadvertent operation of the valve.

Therefore, the proposed revision does not involve a significant reduction in a margin of safety.

In conclusion, based on the information provided, it is determined that the proposed revision does not involve an SHC.

⁽²⁾ Piping Class 1502 is identified in SP-ME-572, "Specification for: Piping Classes For Millstone Nuclear Power Station Unit No. 3, Northeast Nuclear Energy Company, Waterford, Connecticut". This class of piping is comprised of the 3 lines between valves *V61/*V62 and heat exchanger 3CHS*E1. Line 3-CHS-750-74-2 is the 3/4" diameter line just upstream of these valves. This line branches off line 3-CHS-002-73-2, which in turn branches off line 3-CHS-003-76-2, which connects to the heat exchanger.

Environmental Considerations

NNECO has reviewed the proposed license amendment against the criteria of 10 CFR 51.22 for environmental considerations. The proposed revision does not involve an SHC, does not significantly increase the type and amounts of effluents that may be released offsite, nor significantly increase individual or cumulative occupational radiation exposures. Based on the foregoing, NNECO concludes that the proposed revision meets the criteria delineated in 10 CFR 51.22(c)(9) for categorical exclusion from the requirements for environmental review.