



May 6, 1994

Docket No. 50-336  
B14835

Re: 10CFR50.90

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

Millstone Nuclear Power Station, Unit No. 2  
Proposed Revision to Technical Specifications  
Feedwater Isolation

Introduction

Pursuant to 10CFR50.90, Northeast Nuclear Energy Company (NNECO) hereby proposes to amend Operating License No. DPR-65 by incorporating the attached proposed changes into the Technical Specifications of Millstone Unit No. 2. NNECO is proposing to incorporate additional requirements into the Millstone Unit No. 2 Technical Specifications regarding non-Quality Assurance equipment utilized to achieve feedwater isolation in response to a Main Steam Line Break (MSLB) inside containment. They include Limiting Conditions for Operation (LCO), Applicability Statements, Action Statements, and Surveillance Requirements. Additionally, NNECO is proposing to modify the Bases and the Index to reflect the additional requirements. These proposed changes are being submitted for NRC review and approval to comply with commitments made in Licensee Event Report (LER) 94-003-00<sup>(1)</sup> and the inspection report for Millstone Combined Inspection 50-245/94-01, 50-336/94-01, and 50-423/94-01.<sup>(2)</sup>

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- (1) D. B. Miller, Jr. letter to the U.S. Nuclear Regulatory Commission, "Facility Operating License No. DPR-65, Docket No. 50-336, Licensee Event Report 94-003-00," dated March 18, 1994.
  - (2) W. D. Lanning letter to J. F. Opeka, "Millstone Combined Inspection 50-245/94-01; 50-336/94-01; 50-423/94-01," dated April 22, 1994

ADD 1

A detailed discussion of these proposed changes is provided below. Attachments 1 and 2 present the marked-up and retyped technical specification pages, respectively.

### Background

In the event of an MSLB inside containment, feedwater to the faulted steam generator must be isolated to ensure containment pressure and temperature remain within design values. Feedwater isolation is provided by the feedwater regulating valves (FRV), feedwater pump discharge isolation valves, feedwater block valves, and feedwater regulating bypass valves, all of which close on a main steam isolation (MSI) signal. On February 18, 1994, a condition that could have resulted in the inability to automatically isolate feedwater to a faulted steam generator was discovered at Millstone Unit No. 2. This condition was promptly reported to the NRC Staff in accordance with 10CFR50.72, and an LER was submitted on March 18, 1994, in accordance with 10CFR50.73.

The sequence of events for the postulated scenario was an MSLB inside containment involving steam generator no. 1 (SG1) coincident with a loss of the Division 1 DC bus and the failure of the power source for the control circuit of SG1's FRV (vital 120 VAC instrument bus VA-10) to automatically transfer to its alternate power supply. This postulated scenario would result in the inability to automatically isolate feedwater to SG1, thereby, challenging containment integrity.

For SG1, feedwater isolation is provided by closure of valves 2-FW-51A (SG1 FRV), 2-FW-42A (SG1 feedwater block valve), 2-FW-41A (SG1 feedwater regulating bypass valve), 2-FW-38A (steam generator feedwater pump 1A discharge isolation valve), and 2-FW-38B (steam generator feedwater pump 1B discharge isolation valve) on an MSI signal. In the event of an MSLB involving SG1 and a loss of the Division 1 DC bus, isolation of feedwater to SG1 is provided by 2-FW-51A. Alternate means of isolating feedwater flow to the faulted steam generator would be lost as a consequence of the lack of transfer capability from the normal station service transformer to the reserve station service transformer due to the loss of the Division 1 DC bus. In this event, the power supply for the control circuit of 2-FW-51A (bus VA-10) would have to transfer from its primary power supply (Vital 120 VAC Inverter - 1 (INV-1)) to its alternate power supply (non-vital 120 VAC Inverter - 5 (INV-5)), because INV-1 is supplied by the Division 1 DC bus. If the transfer of bus VA-10 from INV-1 to INV-5 does not occur, feedwater isolation of SG1 cannot be achieved automatically. This potential scenario was created by a degradation of the synchronizing capability between

INV-1 and INV-5 discovered on February 18, 1994. This degradation created the potential to inhibit the transfer of the static switch powering bus VA-10 from INV-1 to INV-5.

In response to the discovery of this condition, a dedicated operator was stationed to manually transfer bus VA-10's power supply, if necessary. A reactor downpower of Millstone Unit No. 2 commenced to provide time for an orderly shutdown should the degradation remain unresolved and to allow isolation of feedwater. Subsequently, the cause of the intermittent Sync Failure alarms, which inhibit transfer capability of the static switch to INV-5, was determined to be setpoint drift of the alternate source underfrequency limiter circuit. An adjustment to the limiter circuit was made, the synchronizing circuit was declared operational after a one-hour period free of Sync Failure alarms had elapsed, and the reactor downpower was halted.

Additional corrective actions in response to this condition were noted in the LER. They included the implementation of a night order which directs the control room operators to use the requirements of Millstone Unit No. 2 Technical Specifications 3.3.2.1 and 3.0.3 for any subsequent problems with feedwater isolation valves or the power supplies for bus VA-10 until more appropriate system requirements are developed and approved. Additionally, NNECO committed to submit proposed changes to the Millstone Unit No. 2 Technical Specifications to the NRC Staff for review and approval. On March 7, 1994, NNECO stated that the proposed changes to the technical specifications would be submitted within 60 days. This commitment was noted in the inspection report for NRC Combined Inspection 50-245/94-01, 50-336/94-01, and 50-423/94-01.

#### Description of Proposed Changes

Currently, Table 3.3.5 of the Millstone Unit No. 2 Technical Specifications contains response time requirements for feedwater isolation to ensure rapid isolation of feedwater to the steam generators in order to maintain the maximum internal containment pressure below the containment design pressure of 54 psig. Although discussed in the Bases, clear LCOs and Action Statements specifying operability requirements for the non-Quality Assurance (QA) equipment associated with feedwater isolation are not included within the Millstone Unit No. 2 Technical Specifications. NNECO is proposing to incorporate additional requirements into the Millstone Unit No. 2 Technical Specifications regarding non-QA equipment utilized to achieve feedwater isolation in response to an MSLB inside containment. They include LCOs, Applicability Statements, Action Statements, and Surveillance Requirements. Additionally, NNECO is proposing

to modify the Index and the Bases to reflect the additional requirements.

NNECO proposes to incorporate an additional section numbered 3/4.7.1.6 and titled "Plant Systems - Main Feedwater Isolation Components (MFICs)" into the Millstone Unit No. 2 Technical Specifications. It contains the requirements regarding the mechanical and instrumentation and control (I&C) components that are credited for isolating feedwater in response to an MSLB inside containment (i.e. the feedwater pump discharge isolation valves, the feedwater block valves, the feedwater regulating bypass valves, the FRVs, and the feedwater pump trip circuitry). The section includes LCOs, Applicability Statements, Action Statements, and Surveillance Requirements. Also, NNECO is proposing to modify the Index to reflect the additional section and to add Bases Section 3/4.7.1.6 to provide personnel with information concerning the new technical specification.

NNECO proposes to incorporate an additional section numbered 3/4.8.2.1A and titled "Onsite Power Distribution Systems - A.C. Distribution - Operating" into the Millstone Unit No. 2 Technical Specifications. It contains the requirements regarding INV-5 and INV-6. These inverters provide an alternate source of 120 VAC power for the control circuits of the FRVs which are credited for the mitigation of an MSLB inside containment. The primary sources of 120 VAC power for the control circuit of the FRVs are INV-1 and vital 120 VAC inverter - 2 (INV-2). The section includes LCOs, Applicability Statements, Action Statements, and Surveillance Requirements. Also, NNECO is proposing to add information to Bases Section 3/4.8 to provide personnel with information concerning Technical Specification 3/4.8.2.1A.

NNECO proposes to incorporate an additional section numbered 3/4.8.2.5 and titled "Onsite Power Distribution Systems - D.C. Distribution - Operating" into the Millstone Unit No. 2 Technical Specifications. It contains the requirements regarding the non-QA turbine battery. The turbine battery provides power to the main turbine generator auxiliaries (e.g., lube oil pumps, etc.). The turbine battery also provides an alternate source of 120 VAC power for the control circuits of the FRVs via INV-5 and INV-6. This non-safety grade alternate power source for the control circuits of the FRVs is credited for the mitigation of an MSLB inside containment. The section includes LCOs, Applicability Statements, Action Statements, and Surveillance Requirements. Also, NNECO is proposing to modify the Index to reflect the new section and to add information to Bases Section 3/4.8 to provide personnel with information concerning Technical Specification 3/4.8.2.5.

NNECO proposes to modify the Bases for Technical Specification Sections 3/4.3.1 and 3/4.3.2 by denoting that the feedwater pumps are assumed to trip immediately upon receipt of an MSI signal. The intent of this proposed change is to provide personnel with additional information.

Currently, there is an "X" in the bottom right-hand corner of page B 3/4 7-3. This "X" is errant, and NNECO proposes that it be removed. Additionally, NNECO proposes to place a crossed-out reference to Amendment No. 32<sup>(3)</sup> in the right-hand corner. Amendment No. 32 is the only amendment to date that has affected this page of the technical specifications.

### Safety Assessment

NNECO's proposal to add sections 3/4.7.1.6, 3/4.8.2.1A, and 3/4.8.2.5 into the Millstone Unit No. 2 Technical Specifications will incorporate additional requirements regarding components that are credited to provide feedwater isolation in the event of an MSLB inside containment. These proposed changes will impose additional limitations, restrictions, and controls not currently in place in the Millstone Unit No. 2 Technical Specifications. Incorporation of requirements regarding feedwater isolation is consistent with Section 3.7.3 of NUREG-1432, "Standard Technical Specifications, Combustion Engineering Plants."

Proposed Action Statement 3.7.1.6.a permits one feedwater isolation component per feedwater flow path to be inoperable for a period of up to 72 hours, before being either restored, closed or isolated, or secured. If none of these can be accomplished, the Action Statement requires the unit to be placed in hot shutdown within the next 12 hours. In order for containment integrity to be challenged, redundant equipment would have to fail and an MSLB inside containment would have to occur within the same 72-hour period. The likelihood of this scenario is considered negligible, and the Action Statement times are considered acceptable.

Proposed Action Statement 3.7.1.6.b permits two or more of the feedwater isolation components in the same flow path to be inoperable for a period of up to eight hours, before being restored, closed or isolated, or secured. If the number of inoperable feedwater components is reduced to one per feedwater flow path within the eight-hour period, the Action Statement

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(3) G. Lear letter to D. C. Switzer, transmitting Amendment No. 32 to Facility Operating License No. DPR-65 for the Millstone Nuclear Power Station, Unit No. 2, dated October 27, 1977.



directs that the requirements of Action Statement 3.7.1.6.a be followed. If the number of inoperable feedwater isolation components per feedwater flow path cannot be reduced to one within the eight-hour period, the Action Statement requires the unit to be placed in hot shutdown within the next 12 hours. In this case, containment integrity could be challenged if an MSLB inside containment occurred within the same eight-hour period. The probability of this occurring is approximately  $5.0E-7$ . This probability does not consider the fact that containment integrity is expected to be maintained well beyond the design pressure. Therefore, the likelihood of this scenario is considered negligible, and the Action Statement times are considered acceptable.

The proposed Action Statements for Technical Specifications 3/4.8.2.1A and 3/4.8.2.5 permit INV-5, INV-6, and the turbine battery to be inoperable for a period of up to seven days, before being restored. If any of these cannot be accomplished, the Action Statements require the unit to be placed in hot shutdown within the next 12 hours. INV-5, INV-6, and the turbine battery act as backup components in powering 120 VAC buses VA-10 and VA-20. The likelihood of a primary 120 VAC power source failing coincident with an MSLB inside containment while Millstone Unit No. 2 is operating in the Action Statement period of seven days is considered negligible. Thus, the Action Statement times are considered acceptable.

While the additional Surveillance Requirements do impact the assumed availability of the subject components, the time frames assumed do not significantly impact the overall probability of containment failure.

Additionally, NNECO's proposals to modify the Bases and the Index of the Millstone Unit No. 2 Technical Specifications will: 1) provide personnel with information concerning the additional requirements, and 2) correct an editorial error. These proposed changes to the Bases and the Index do not alter the manner in which equipment is operated, nor do they affect equipment availability.

Overall, the proposed changes are acceptable and will have a negligible impact on the health and safety of the public. In fact, these changes increase the margin of safety because they provide concise LCOs, Applicability Statements, Action Statements, and Surveillance Requirements for the non-QA equipment credited for mitigation of an MSLB. Additionally, the equipment allowed outage times have been determined to be appropriate and safe, and the imposition of additional

Surveillance Requirements do not significantly impact the overall probability of containment failure.

Significant Hazards Consideration

NNECO has reviewed the proposed changes in accordance with 10CFR50.90 and has concluded that the changes do not involve a significant hazards consideration (SHC). The basis for this conclusion is that the three criteria of 10CFR50.92(c) are not compromised. The proposed changes do not involve an SHC because the changes would not:

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

Currently, the Millstone Unit No. 2 Technical Specifications contain response time requirements for the feedwater isolation valves to ensure rapid isolation of feedwater to the steam generators and to maintain the peak containment pressure below the containment design pressure of 54 psig. However, clear Action Statements specifying operability requirements for the non-QA equipment associated with feedwater isolation are not included within the Millstone Unit No. 2 Technical Specifications. NNECO's proposal to add sections 3/4.7.1.6, 3/4.8.2.1A, and 3/4.8.2.5 into the Millstone Unit No. 2 Technical Specifications will incorporate additional requirements regarding components that are credited to provide feedwater isolation in the event of an MSLB inside containment. These proposed changes will impose additional limitations, restrictions, and controls not currently in place in the Millstone Unit No. 2 Technical Specifications.

Additionally, NNECO's proposals to modify the Bases and the Index of the Millstone Unit No. 2 Technical Specifications will: 1) provide personnel with information concerning the additional requirements, and 2) correct an editorial error. These proposed changes to the Bases and the Index do not alter the manner in which equipment is operated, nor do they affect equipment availability.

Based on the above, the proposed license amendment does not involve a significant increase in the probability or consequences of an accident previously analyzed.

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

NNECO's proposal to add sections 3/4.7.1.6, 3/4.8.2.1A, and 3/4.8.2.5 into the Millstone Unit No. 2 Technical Specifications will incorporate additional requirements regarding components that are credited to provide feedwater isolation in the event of an MSLB inside containment. These proposed changes will impose additional limitations, restrictions, and controls not currently in place in the Millstone Unit No. 2 Technical Specifications.

Additionally, NNECO's proposals to modify the Bases and the Index of the Millstone Unit No. 2 Technical Specifications will: 1) provide personnel with information concerning the additional requirements, and 2) correct an editorial error. These proposed changes to the Bases and the Index do not alter the manner in which equipment is operated, nor do they affect equipment availability.

Based on the above, the proposed license amendment cannot create the possibility of a new or different kind of accident from any previously analyzed.

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

NNECO's proposal to add sections 3/4.7.1.6, 3/4.8.2.1A, and 3/4.8.2.5 into the Millstone Unit No. 2 Technical Specifications will incorporate additional requirements regarding components that are credited to provide feedwater isolation in the event of an MSLB inside containment. These proposed changes will impose additional limitations, restrictions, and controls not currently in place in the Millstone Unit No. 2 Technical Specifications.

Additionally, NNECO's proposals to modify the Bases and the Index of the Millstone Unit No. 2 Technical Specifications will: 1) provide personnel with information concerning the additional requirements, and 2) correct an editorial error. These proposed changes to the Bases and the Index do not alter the manner in which equipment is operated, nor do they affect equipment availability.

Therefore, this proposed license amendment does not involve a significant reduction in a margin of safety. In fact, the margin of safety will be increased due to the imposition of restrictions on the non-QA equipment credited for feedwater isolation in the event of an MSLB inside containment.



The Commission has provided guidance concerning the application of standards in 10CFR50.92 by providing certain examples (March 6, 1986, 51 FR 7751) of amendments that are considered not likely to involve an SHC. The proposed changes to add sections 3/4.7.1.6, 3/4.8.2.1A, and 3/4.8.2.5 into the Millstone Unit No. 2 Technical Specifications will incorporate additional requirements regarding components that provide feedwater isolation in the event of an MSLB inside containment. These proposed changes are enveloped by example (ii), "A change that constitutes an additional limitation, restriction, or control not presently included in the technical specifications, e.g., a more stringent surveillance requirement." The proposed changes to update the Index and to reference Amendment No. 32 on page B 3/4 7-3 are enveloped by example (i), "a purely administrative change to technical specifications: for example, a change to achieve consistency throughout the technical specifications, correction of an error, or a change in nomenclature." The proposed changes to the Bases of the Technical Specifications have been made to provide personnel with information concerning the additional technical specification requirements.

#### Environmental Consideration

NNECO has reviewed the proposed license amendment against the criteria of 10CFR51.22 for environmental considerations. The proposed changes do not involve a significant hazards consideration, do not increase the types 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 changes meet the criteria delineated in 10CFR51.22(c)(9) for a categorical exclusion from the requirements for an environmental impact statement.

#### Nuclear Review Board Review

The Millstone Unit No. 2 Nuclear Review Board has reviewed the proposed amendment and has concurred with the above determination.

#### Proposed Schedule for License Amendment Issuance

This request is not necessary for continued plant operation and as such no specific schedule for approval and issuance is requested. However, we request that the changes be effective upon issuance, with implementation within 30 days.

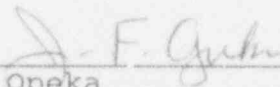
In accordance with 10CFR50.91(b), we are providing the State of Connecticut with a copy of this proposed amendment.

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Should the NRC Staff have any questions regarding this submittal,  
please contact Mr. R. H. Young, Jr. at (203) 665-3717.

Very truly yours,

NORTHEAST NUCLEAR ENERGY COMPANY

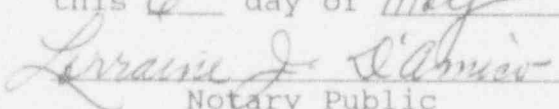
  
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J. F. Opeka  
Executive Vice President

cc: T. T. Martin, Region I Administrator  
G. S. Vissing, NRC Project Manager, Millstone Unit No. 2  
P. D. Swetland, Senior Resident Inspector, Millstone Unit  
Nos. 1, 2, and 3

Mr. Kevin T.A. McCarthy, Director  
Monitoring and Radiation Division  
Department of Environmental Protection  
79 Elm Street  
P.O. Box 5066  
Hartford, Connecticut 06102-5066

Subscribed and sworn to before me

this 6 day of May, 1994

  
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Notary Public

Date Commission Expires: 3/31/98