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September 17, 1994

Docket No. 50-423
B14984

Re: 10CFR50.90
10CFR50.91

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

Millstone Nuclear Power Station, Unit No. 3
Proposed Revision to Technical Specifications
Auxiliary Feedwater System, Main Steam Line Isolation Valves,
and Engineered Safety Features Actuation System Instrumentation

Introduction

Pursuant to 10CFR50.90, Northeast Nuclear Energy Company (NNECO) hereby proposes to amend its Operating License, NPF-49, by incorporating the changes identified in Attachments 1 and 2 into the Millstone Unit No. 3 Technical Specifications. Surveillance Requirements 4.7.1.2.1.b (operability testing for the turbine-driven auxiliary feedwater (AFW) pump auto start feature), 4.6.3.1 (main steam line isolation valves (MSIV) as included in Technical Specification 3.6.3, containment isolation valves) and 4.3.2.2 [engineered safety feature (ESF) actuation system instrumentation (ESF response time testing for the main steam line isolation and turbine-driven AFW pump)] are being modified to indicate that the provisions of Technical Specification 4.0.4 are not applicable for entry into Modes 3 and 4 (as appropriate). In addition, a typographical error in Section 4.7.1.2.5.2 has been corrected.

On September 8, 1994, with Millstone Unit No. 3 in Mode 1, the "C" MSIV was tested, and it was determined to have a closure time greater than permitted by Surveillance Requirement 4.7.1.5.1 of the Millstone Unit No. 3 Technical Specifications. While performing an additional monthly MSIV partial stroke test, the "C" MSIV unexpectedly went closed. When this occurred, the plant was manually tripped. The required safety systems operated as designed. However, the turbine-driven AFW pump which was started automatically on low-low steam generator water level tripped on overspeed. As a result, the turbine-driven AFW pump was determined to be inoperable. During our review of the surveillance requirements for the turbine-driven AFW pump, it was discovered that an exemption from Technical Specification 4.0.4 is required for entry into Mode 3 so that the operability of the turbine-driven

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AFW pump can be demonstrated. Operability of the turbine-driven AFW pump cannot be demonstrated in Mode 4, 5, or 6 because there is insufficient steam pressure to perform a valid test. Also, NNECO identified that a similar exemption from Technical Specification 4.0.4 is required for Surveillance Requirements 4.6.3.1 and 4.3.2.2.

In addition, NNECO is requesting that the NRC Staff process this license amendment request on an emergency basis pursuant to 10CFR50.91(a)(5), since failure to act in a timely way could prevent Millstone Unit No. 3 from resuming power operation.

Alternatively, NNECO is requesting that the NRC Staff exercise enforcement discretion associated with the Action Statements of Limiting Conditions for Operation (LCO) 3.7.1.2, 3.6.3, 3.3.2 and 3.7.1.5 to be effective until the license amendment is issued. The enforcement discretion would permit NNECO to conduct testing and operate Millstone Unit No. 3 in Mode 1, 2, 3 or 4 while the proposed license amendment is being processed.

This request involves no significant safety impact, and the operational risk associated with the request has no undue risk on public health and safety.

Background

The AFW system supplies feedwater to the steam generator to remove decay heat from the reactor coolant system (RCS) upon the loss of normal feedwater supply. Millstone Unit No. 3 has two motor-driven AFW pumps and one turbine-driven AFW pump. The turbine-driven AFW pump receives steam from three steam lines upstream of the main steam isolation valves. The turbine-driven AFW pump feeds all four steam generators.

To ensure that the turbine-driven AFW pump is capable of fulfilling its safety function, the Millstone Unit No. 3 Technical Specifications require that the operability of the pump be demonstrated. Specifically, Surveillance Requirement 4.7.1.2.1.b ensures that the turbine-driven AFW pump will start automatically in the event of an accident or transient that generates an AFW actuation signal. This surveillance is performed on an 18-month frequency. In addition, Surveillance Requirement 4.7.1.2.1.a.2 requires hydraulic testing of the turbine-driven pump on a monthly basis. Surveillance Requirement 4.7.1.2.1.a.2 includes an exemption from the provision of Technical Specification 4.0.4 for entry into Mode 3. This exemption allows proper testing conditions for the turbine-driven AFW pump. However, Surveillance Requirement 4.7.1.2.1.b does not have a similar provision. This appears to have been an administrative oversight.

On September 8, 1994, when the plant was tripped manually, the turbine-driven AFW pump started automatically as designed. However, shortly after it tripped on overspeed. Consequently, NNECO declared the turbine-driven AFW pump inoperable. Suspected cause of the turbine overspeed appears to be excess mechanical friction of the steam admission control valve mechanism. The mechanism has been inspected, lubricated, and reassembled. Further inspection will occur during surveillance testing.

To resume plant operations, Millstone Unit No. 3 must meet the operability requirements of each of the applicable technical specifications including the turbine-driven AFW pump. However, on September 16, 1994, NNECO discovered that Surveillance Requirement 4.7.1.2.1.b cannot be performed to demonstrate operability of the turbine-driven AFW pump during shutdown conditions, and since the subject surveillance requirement does not have an exemption from the provisions of Technical Specification 4.0.4 for entry into Mode 3, the plant cannot satisfy LCO 3.7.1.2.b prior to entering Mode 3. Therefore, a modification to Surveillance Requirement 4.7.1.2.1.b is required. A similar condition exists relative to Surveillance Requirement 4.3.2.2 as it relates to the turbine-driven AFW pump testing to support ESF response time testing. Therefore, a modification to Surveillance Requirement 4.3.2.2 is required also.

The MSIVs serve to isolate the non-safety-related portions of the main steam system under design basis accident conditions. The MSIVs also prevent the uncontrolled blowdown of more than one steam generator in the event of a main steam line break accident.

To ensure that the MSIVs are capable of fulfilling their safety functions, the Millstone Unit No. 3 Technical Specifications require that their operability be demonstrated. Specifically, Surveillance Requirements 4.7.1.5.1 and 4.7.1.5.2 require that each MSIV be determined operable by verifying full closure within a required time during inservice testing. Each of the surveillance requirements include an exemption from the provision of Technical Specification 4.0.4 for entry into a suitable mode to perform the required test. The MSIVs are considered and are included in Technical Specification 3.6.3 as containment isolation valves. Surveillance Requirement 4.6.3.1 requires that each valve shall be demonstrated operable prior to returning the valve to service after maintenance, repair, or replacement work. This surveillance requirement does not have an exemption from the provisions of Technical Specification 4.0.4 for entry into Mode 3 and Mode 4. As discussed above, on September 8, 1994, the "C" MSIV was tested and determined to have a closure time slightly greater than 5 seconds.

The "C" MSIV was determined to be inoperable. While performing additional monthly MSIV partial stroke testing, the "C" MSIV unexpectedly went closed. When this occurred, the plant was manually tripped. To resume plant operation, Millstone Unit No. 3 must meet the operability requirements of each of the applicable technical specifications including the MSIVs. The MSIVs are covered under LCOs 3.7.1.5, 3.6.3, and 3.3.2. As discussed above Surveillance Requirement 4.6.3.1 does not have an exemption from the provisions of Technical Specification 4.0.4.

For entry into Mode 3 to test the MSIVs, a similar situation exists relative to Surveillance Requirement 4.3.2.2 as it relates to the steam line isolation testing to support ESF response time testing. Therefore, modifications to Surveillance Requirements 4.3.2.2 and 4.6.3.1 are also required.

Additionally, a request for enforcement discretion associated with the Action Statement of LCOs 3.7.1.2.b, 3.6.3, 3.3.2, and 3.7.1.5 is being submitted which, if granted, would permit the plant to test and resume power operations while the proposed technical specification change is being reviewed and approved by the NRC Staff.

Description of Proposed Changes

NNECO is proposing to modify surveillance requirements 4.3.2.2, 4.6.3.1, and 4.7.1.2.1.b by adding an exemption from surveillance requirement 4.0.4. This will allow the plant to enter Modes 4 and 3, respectively, to perform the operability tests for the MSIVs and the turbine-driven AFW pump.

Technical Specification 4.7.1.2.1.b verifies that the turbine-driven AFW pump starts as designed automatically upon receipt of an AFW actuation test signal. The existing surveillance requirement requires this testing to be performed during shutdown (i.e., either Mode 4, 5 or 6). However, suitable plant conditions are not available for performing this test during shutdown conditions. An entry into Mode 3 is necessary so that sufficient steam pressure is available to perform the required tests. For example, if the turbine governor is reworked in Mode 5 to correct an overspeed trip problem, the pump must be retested to ensure that the turbine does not overspeed trip on autostart. However, as currently written, Surveillance Requirement 4.7.1.2.1.b does not allow an entry into Mode 3 to perform the retest. The proposed change will correct this situation. It is noted that the NRC Staff has recognized this situation and the correction to this is reflected in the new, improved standard Technical Specifications (STS) for the Westinghouse Plants (NUREG-1431).

A similar condition exists relative to Surveillance Requirement 4.3.2.2 as it relates to the turbine-driven AFW testing and the steam line isolation testing to support ESF response time testing requirement. Therefore, a note is being added to indicate that requirements of Specification 4.0.4 are not applicable for entry into Modes 3 or 4 for steam line isolation ESF response time and for entry into Mode 3 for AFW ESF response time testing. It is noted that the NRC Staff has recognized this situation and the correction to this is reflected in the new improved STS for the Westinghouse Plants (NUREG-1431).

In addition, a similar condition exists relative to Surveillance Requirement 4.6.3.1 as it relates to the MSIV operability testing prior to returning the valve to service after repair or maintenance. Therefore, a note is being added to indicate that requirements of Specification 4.0.4 are not applicable for entry into Modes 3 and 4.

Surveillance Requirement 4.7.1.5.2 is being revised to correct a typographical error that occurred during the processing of license amendment No. 46⁽¹⁾. The last sentence of Surveillance 4.7.1.5.2 currently reads as follows: "The provisions of Specification 4.0.4 are not applicable for entry into Mode 3." The last sentence of Surveillance Requirement 4.7.1.5.2 will now read as follows: "The provisions of Specification 4.0.4 are not applicable for entry into Mode 4."

The marked-up technical specification pages are provided in Attachment 1, and the retyped technical specification pages are provided in Attachment 2. These pages reflect the currently issued version of the technical specifications.

Safety Assessment

The proposed changes to Surveillance Requirements 4.3.2.2, 4.6.3.1 and 4.7.1.2.1.b will allow an exemption from the provisions of Specification 4.0.4 for entry into Mode 4 or Mode 3 (as appropriate). This will allow for appropriate test conditions for the turbine-driven AFW pump and MSIVs. Therefore, the changes improve the plant overall safety by performing tests at the correct plant conditions. These changes do not have any impact on the accidents previously evaluated. This situation is recognized in the Westinghouse STS (NUREG-1431) where a similar exemption from the requirements of Technical Specification 4.0.4 appear. The

(1) D. H. Jaffe letter to E. J. Mroczka, "Millstone Unit 3 - Issuance of Amendment (TAC No. 74110)," dated February 21, 1990.

proposed changes do not modify the surveillance acceptance criteria nor do they change the frequency of the surveillance. The proposed changes only allow the proper plant conditions for testing. The proposed changes do not have any adverse impact on the design basis accident radiation dose calculations, because the proposed testing condition or method is not an assumption in any of those dose calculations. Therefore, the proposed changes do not pose a condition adverse to safety, and there are no adverse safety consequences created by the proposed changes.

The proposed change to Surveillance Requirement 4.7.1.5.2 simply corrects a typographical error that was introduced in Amendment No. 46.

Justification for Emergency License Amendment

Pursuant to 10CFR50.91(a)(5), NNECO hereby requests NRC Staff "emergency" approval of the proposed amendment to Operating License NPF-49. Currently, Millstone Unit No. 3 is in Mode 5. The Action Statements for LCOs 3.3.2, 3.6.3 and 3.7.1.2 prevent Millstone Unit No. 3 from resuming power operations with an MSIV or the turbine-driven AFW pump inoperable. Based on the current schedule, emergency authorization is required by September 17, 1994.

A discussion of the circumstances surrounding this situation and determination of the need for prompt action is provided in the "Background" Section of this letter and below. On September 8, 1994, the plant was manually tripped after the "C" MSIV unexpectedly closed shut. To resume operation, Millstone Unit No. 3 must meet the operability requirements of each of the applicable technical specifications including those for the MSIVs and AFW pumps.

On September 16, 1994, while reviewing the surveillance requirements, it was discovered that an exemption from the provisions of Technical Specifications would be required to permit the plant to enter Modes 3 and 4, in order to perform testing of the "C" MSIV and the turbine-driven AFW pump to demonstrate the operability of these components. The NRC Staff was informed of the circumstances surrounding the situation. Based on the discussion with the NRC Staff, it was agreed that NNECO would submit an emergency license amendment request for NRC review and approval. The proposed changes to Surveillance Requirements 4.7.1.2.1.b, 4.6.3.1, and 4.3.2.2 would permit Millstone Unit No. 3 to enter Mode 3 or 4 (as appropriate) and perform the tests under the proper conditions for the MSIVs and turbine-driven AFW pump.

The requested emergency license amendment is appropriate because the proposed change does not involve an undue risk to public health

and safety and does not involve a significant hazards consideration (SHC). NNECO has determined that the proposed change is technically acceptable and does not significantly reduce any margin of safety.

Significant Hazards Consideration

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

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

NNECO is proposing to modify Surveillance Requirements 4.7.1.2.1.b, 4.6.3.1, and 4.3.2.2 by adding an exemption from the provisions of Technical Specification 4.0.4. Entry into Mode 3 or 4 (as appropriate) would allow for appropriate test conditions (e.g., adequate steam pressure available from the steam generators) to complete the operability testing of the MSIVs and the turbine-driven AFW pump. This will improve plant safety by performing tests at the proper conditions. The acceptance criteria such as response times, test frequency, or closure times are not revised. Therefore, the equipment will perform its intended function when called upon. Additionally, the proposed changes are consistent with the new, improved STS for the Westinghouse plants (NUREG-1431).

Based on the above, the proposed changes to Surveillance Requirements 4.7.1.2.1.b, 4.6.3.1, and 4.3.2.2 of the Millstone Unit No. 3 Technical Specifications do 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.

The proposed changes do not make any physical or operational changes to existing plant structures, systems, or components. The proposed changes do not introduce any new failure modes. They simply allow tests to be performed at appropriate conditions (e.g., Mode 3 rather than during shutdown).

Additionally, the proposed changes do not modify the acceptance criteria for the tests. The purpose of the tests are to ensure that the MSIVs and turbine-driven AFW pump can perform their intended function.

Thus, the proposed changes do not create the possibility of a new or different kind of accident from any previously analyzed.

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

The proposed changes do not have any adverse impact on the FSAR analyses. The applicable acceptance criteria for the MSIVs and the turbine-driven AFW pump will not be modified by these proposed changes. The proposed changes will permit the tests to be conducted under the proper conditions, so that the ability of the MSIVs and the turbine-driven AFW pump to perform their intended safety function can be confirmed.

Based on the above, there is no significant reduction in the margin of safety.

The Commission has provided guidance concerning the application of the standards of 10CFR50.92 by providing certain examples (51 FR 7751, March 6, 1986) of amendments that are not considered likely to involve a SHC. While the proposed change to Surveillance Requirements 4.3.2.2, 4.6.3.1, and 4.7.1.2.1.b are not enveloped by any of the examples, NNECO has demonstrated that the change does not involve an SHC.

Request for Enforcement Discretion

NNECO hereby requests the NRC Staff exercise discretion not to enforce compliance with the required actions for Millstone Unit No. 3 LCOs 3.7.1.2, 3.6.3, and 3.3.2 should the processing of the proposed license amendment not be completed by September 17, 1994. NNECO hereby provides justification for enforcement discretion associated with the above LCOs.

1. The Technical Specification Condition that Will Be Violated

Millstone Unit No. 3 LCOs 3.7.1.2.b, 3.6.3, and 3.3.2 require the operability of each MSIV and AFW pump. In this case, the "C" MSIV has been declared inoperable, because its closure time is greater than the acceptance criterion of Surveillance Requirement 4.7.1.5.1 (i.e., 5 seconds). Additionally, the turbine-driven AFW pump was declared inoperable because of an overspeed trip. The "C" MSIV cannot be declared operable per LCOs 3.6.3 and 3.3.2, and the turbine-driven AFW pump cannot be declared operable per LCOs 3.3.2 and 3.7.1.2.

At present, the plant is in Mode 5. Repairs have been performed on the "C" MSIV and the turbine-driven AFW pump component. However, operability of the components has not

been established because of the inability to perform the retests due to existing plant conditions. This discretion would permit NNECO to startup and operate Millstone Unit No. 3 while the proposed license amendment is being processed. The discretion is requested to be effective until the amendment is issued and implemented.

2. The Circumstances Surrounding the Situation Including the Need for Prompt Action

In the "Background" Section of this submittal, NNECO discusses the problems associated with the "C" MSIV and the turbine-driven AFW pump. The plant was manually tripped because of the closure of the "C" MSIV during a partial stroke test. During the trip, the turbine-driven AFW pump tripped on overspeed. Repairs have been performed and operability of the MSIVs must be established through retesting. Turbine-driven AFW pump operability must also be established however, this requires adequate steam pressure which can not be obtained in Mode 4.

This situation could not be avoided, because the problem was identified during routine inservice testing of the "C" MSIV. On September 8, 1994, the "C" MSIV was determined to be inoperable because its closure time was determined to be greater than 5 seconds. Also, the problem with the turbine-driven AFW pump arose during the plant response to the manual trip.

To avoid an unnecessary delay in plant startup, enforcement discretion is required by September 17, 1994. The requested enforcement discretion is appropriate because the proposed changes do not involve an SHC.

3. Safety Basis for the Request

As discussed in the "Safety Assessment" Section of this submittal, the proposed changes do not pose a condition adverse to safety, and there can be no adverse safety consequences created by the proposed changes to Technical Specifications 3.7.1.2.b, 3.6.3, and 3.3.2.

The proposed changes to Surveillance Requirements 4.3.2.2, 4.6.3.1 and 4.7.1.2.1.b will allow an exemption from the provisions of Specification 4.0.4 for entry into Mode 4 or Mode 3 (as appropriate). This will allow for appropriate test conditions for the turbine-driven AFW pump and MSIVs. Therefore, the changes improve the plant overall safety by performing tests at the correct plant conditions. These

changes do not have any impact on the accidents previously evaluated. This situation is recognized in the Westinghouse STS (NUREG-1431) where a similar exemption from the requirements of Technical Specification 4.0.4 appear. The proposed changes do not modify the surveillance acceptance criteria nor do they change the frequency of the surveillance. The proposed changes only allow the proper plant conditions for testing. The proposed changes do not have any adverse impact on the design basis accident radiation dose calculations, because the proposed testing condition or method is not an assumption in any of those dose calculations. Therefore, the proposed changes do not pose a condition adverse to safety and there are no adverse safety consequences created by the proposed changes.

The proposed change to Surveillance Requirement 4.7.1.5.2 simply corrects a typographical error that was introduced in Amendment No. 46.

Additionally, evaluations have determined that the proposed change does not affect the accidents previously analyzed in the FSAR, and does not impact the design basis accident radiological consequence calculations.

4. Compensatory Measures

No other compensatory measures are required to be taken. During the time that the enforcement discretion applies, the MSIVs and the AFW system will be capable of performing their intended function.

5. Duration of Requested Waiver

The enforcement discretion is being requested for the period of time until the license amendment is issued by the NRC. This will permit Millstone Unit No. 3 to startup and resume power operation.

6. Basis for No Significant Hazards Consideration

The basis for this enforcement discretion not involving an SHC is the same as previously discussed for the proposed license amendment.

7. Basis for No Irreversible Environmental Consequences

The requested enforcement discretion involves no irreversible environmental consequences. The proposed change does not result in a reduction in a margin of safety, does not affect

the calculated doses, and does not impact the capability of systems to perform their intended safety function to control the release of radiological effluents. Also, the proposed change does not affect the associated non-radiological effluents. Thus, the proposed change does not negatively impact the public health and safety.

8. Safety Review

The Millstone Unit No. 3 Plant Operations Review Committee (PORC) and Nuclear Review Board (NRB) have reviewed and concurred with this request for enforcement discretion.

9. Additional Information

Additional information has been supplied throughout the text of this submittal.

In summary, the proposed enforcement discretion would permit Millstone Unit No. 3 to startup and operate at 100% power until the proposed license amendment is issued. This request is safe, and does not constitute an SHC.

Environmental Considerations

NNECO has reviewed the proposed license amendment against the criteria of 10CFR51.22 for environmental considerations. The proposed changes 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

The Millstone Unit No. 3 NRB has reviewed and concurred with the above determinations.

State of Connecticut

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

Schedule Required for NRC Approval

As discussed previously, authorization of these proposed changes is necessary to permit Millstone Unit No. 3 to resume operations.

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Therefore, NNECO is requesting emergency approval. This request is needed by September 17, 1994, to avoid an unnecessary delay in plant startup.

Alternatively, NNECO is requesting that the NRC Staff exercise enforcement discretion associated with LCOs 3.7.1.2.b, 3.6.3, 3.3.2, and 3.7.1.5 to be effective until the amendment is issued. By exercising enforcement discretion, the NRC Staff would permit Millstone Unit No. 3 to resume operations while awaiting issuance of the proposed revision to the Millstone Unit No. 3 Technical Specifications.


NNECO wishes to emphasize our conclusion that this proposed license amendment does not involve any undue safety risk or irreversible environmental consequences. We are, therefore, requesting this action to allow operation of Millstone Unit No. 3. This action is in the interest of the health and safety of the public, our customers, and our shareholders.

If the NRC Staff should have any questions or comments regarding this submittal, please contact Mr. R. G. Joshi at (203) 440-2080. We will promptly provide any additional information the NRC Staff may need to respond to this request, and we appreciate your efforts in support of this request.

Very truly yours,

NORTHEAST NUCLEAR ENERGY COMPANY

FOR: J. F. Opeka
Executive Vice President

BY: 
E. A. DeBarba
Vice President

cc: See Page 13

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cc: T. T. Martin, Region I Administrator
V. L. Rooney, NRC Project Manager, Millstone Unit No. 3
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Subscribed and sworn to before me

this 17th day of September, 1994

Kathleen T. Gabes

Date Commission Expires: _____

Kathleen T. Gabes
Notary Public

My Commission Expires December 31, 1997