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November 3, 1993

Docket No. 50-423
B14668

Re: 10CFR50.90
10CFR50.91

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
Supplementary Leak Collection and Release System

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 Attachment 1 into the Technical Specifications of Millstone Unit No. 3. The purpose of this submittal is to revise the proposed license amendment submitted on October 27, 1993,[1] to reflect the revised application of the containment recirculation spray decontamination factor (DF) in the radiological dose calculations. The proposed changes are to the Millstone Unit No. 3 Technical Specifications related to the supplementary leak collection and release system (SLCRS) and auxiliary building filtration system (ABFS). NNECO proposes to revise the Millstone Unit No. 3 Technical Specifications by revising Technical Specification 4.6.6.1.d.3 to state that the SLCRS must produce a negative pressure of greater than or equal to 0.40 inches water gauge as measured at the 24'-6" elevation of the auxiliary building within 120 seconds after a start signal (this time includes the diesel generator start and load time of approximately 10 seconds), and by rewriting Bases Section 3/4.6.6.1 to expand both the basis for the SLCRS limiting condition of operation (LCO) action statement and surveillance requirements. Also, the change to Bases Section 3/4.6.6.1 clarifies the areas represented by the secondary containment boundary. Note the proposed revision to Bases Section 3/4.6.6.1 was previously submitted in the proposed license amendment dated October 27, 1993. It has been included here in its entirety to ensure continuity. The proposed license amendment dated October 27, 1993,

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(1) J. F. Opeka letter to the U.S. Nuclear Regulatory Commission, "Proposed Revision to Technical Specifications, Supplementary Leak Collection and Release System," dated October 27, 1993.

describes additional changes that are requested to be approved by the NRC Staff in conjunction with this proposed change.

On October 27, 1993, NNECO requested that a proposed license amendment be processed on an emergency basis pursuant to 10CFR50.91(a)(5). NNECO requests that this proposed license amendment be reviewed and approved in conjunction with the previous request. Justification for an emergency license amendment was provided in our October 27, 1993, submittal. By the current schedule, emergency authorization is required by November 3, 1993, to allow continuation of plant startup and operation to full power. At the present time, Millstone Unit No. 3 is holding in Mode 3 following completion of startup physics testing in Mode 2 from the current refueling outage. In parallel with this effort, the NRC Staff may wish to consider whether it is advisable to exercise enforcement discretion from Technical Specifications 3.6.6.1, 3.6.1.2.a, and 3.7.9 to be effective until the license amendment is issued. The enforcement discretion would permit NNECO to operate Millstone Unit No. 3 while the proposed license amendment is being processed. NNECO's request for enforcement discretion was submitted in the proposed license amendment dated October 27, 1993. NNECO believes that an expedited action is warranted in this case to permit operation of the plant, since the associated operational risk associated with the request has no negative impact on public health and safety.

At the October 25, 1993, meeting, the NRC Staff verbally approved NNECO's request dated October 22, 1993,[2] for enforcement discretion that would allow Millstone Unit No. 3 to be operated in Modes 3 and 4 indefinitely and in Mode 2 for a period not to exceed 7 days without having the SLCRS and ABFS operable. This was subsequently confirmed by letter dated October 27, 1993.

Background

In a letter dated October 27, 1993, NNECO proposed a license amendment to its operating license, NPF-49, by incorporating changes to the Millstone Unit No. 3 Technical Specifications. The purpose of the submittal was to consolidate the proposed license amendments dated July 29, 1993,[3] and October 22, 1993, into a single proposed license amendment to ensure continuity. The submittal also incorporated additional information requested by the NRC Staff during a conference call conducted on October 19, 1993, and during the meeting conducted on October 25, 1993. The proposed changes principally concern the Millstone Unit No. 3 Technical Specifications related

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(2) J. F. Opeka letter to the U.S. Nuclear Regulatory Commission, "Proposed Revision to Technical Specifications, Supplementary Leak Collection and Release System," dated October 22, 1993.

(3) J. F. Opeka letter to the U.S. Nuclear Regulatory Commission, "Proposed Revision to Technical Specifications, Supplementary Leak Collection and Release System," dated July 29, 1993.

to the SLCRS and ABFS. In addition, NNECO requested that the NRC Staff process the license amendment request on an emergency basis pursuant to 10CFR50.91(a)(5) in the October 27, 1993, submittal.

In a telephone conversation on October 29, 1993, the NRC Staff requested additional information concerning the assumptions used in the post-loss-of-coolant accident dose (LOCA) assessment presented in our October 27, 1993, submittal. The requested information was provided via a submittal dated October 29, 1993.[4]

On November 1, 1993, the NRC Staff questioned during a conference call NNECO's interpretation of the spray removal assumption utilized in the post-LOCA dose assessment. Specifically, it was identified that the maximum DF of 12 for iodine during the containment recirculation spray phase should be applied from the initiation of the event (time = 0), not from the time containment recirculation spray is started. Application of this interpretation results in the termination of iodine removal due to containment recirculation spray approximately one hour into the event. Using our previous assumption, containment recirculation spray was credited up to 1.5 hours into the event.

Revised calculations have been completed to determine the effects the new DF assumption would have on the docketed 1989 dose assessment,[5][6] and the proposed license submittal dated October 27, 1993. The results of the revised calculations necessitated a change in the previously proposed drawdown time from 150 seconds to 120 seconds.

Description of the Proposed Changes

NNECO proposes to revise the Millstone Unit No. 3 Technical Specifications by revising Technical Specification 4.6.6.1.d.3 to state that the SLCRS must produce a negative pressure of greater than or equal to 0.40 inches water gauge as measured at the 24'-6" elevation of the auxiliary building within 120 seconds after a start signal (this time includes the diesel generator load and run time of approximately 10 seconds), and by rewriting Bases Section 3/4.6.6.1 to expand the bases for the SLCRS LCO action statements and

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(4) J. F. Opeka letter to the U.S. Nuclear Regulatory Commission, "Proposed Revision to Technical Specifications, Supplementary Leak Collection and Release System, Request for Additional Information," dated October 29, 1993.

(5) E. J. Mroczka letter to the U.S. Nuclear Regulatory Commission, "Proposed Revision to Technical Specifications, Containment Pressure," dated February 26, 1990.

(6) D. H. Jaffe letter to E. J. Mroczka, "Issuance of Amendment No. 59 (TAC No. 76066)," dated January 25, 1991.

surveillance requirements, and to clarify the areas represented by the secondary containment boundary.

NNECO proposes to revise Technical Specification 4.6.6.1.d.3 by changing the surveillance acceptance criterion from a negative pressure greater than or equal to 0.25 inches water gauge in the annulus within 50 seconds after a start signal (this time does not include the diesel generator start and load time of approximately 10 seconds) to a negative pressure greater than or equal to 0.40 inches water gauge in the auxiliary building at the 24'-6" elevation within 120 seconds after a start signal. The proposed time requirement includes the diesel generator start and load time of approximately 10 seconds. This proposed acceptance criterion will ensure a negative pressure in all areas within the secondary containment boundary under most meteorological conditions. The acceptance criterion is more restrictive due to the consideration of temperature effects noted in Information Notice 88-76. Measuring the pressure at the 24'-6" elevation of the auxiliary building is representative of the entire secondary containment boundary due to the large cross-section of the air passage which interconnects the various buildings within the boundary.

Pages 3/4 6-38 and 3/4 6.40 of the Millstone Unit No. 3 Technical Specifications have been provided to ensure continuity; these pages reflect the changes in the October 27, 1993, submittal, and no additional changes are being requested in this submittal.

To support these changes, NNECO proposes to replace Bases Section 3/4.6.6.1 with a discussion that would be more informative. The guidance of NUREG-1431[7] was utilized to develop the proposed rewrite of Bases Section 3/4.6.6.1. Also, the proposed rewrite of Bases Section 3/4.6.6.1 will define the areas comprising the secondary containment boundary, as well as provide an expanded basis for the LCO, action statements, and surveillance requirements. These changes will add to the information available to individuals concerned with the operability of the SLCRS. Note the proposed rewrite of Bases Section 3/4.6.6.1 was previously submitted in the proposed license amendment dated October 27, 1993. It has been resubmitted in its entirety in this submittal to ensure continuity.

The proposed license amendment dated October 27, 1993, describes additional changes that are required to be approved by the NRC Staff in conjunction with this proposed change.

Safety Assessment

Extension of the time allowed to achieve drawdown of secondary containment from 60 seconds to 120 seconds (these times include the diesel generator start

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(7) NUREG-1431, "Standard Technical Specifications, Westinghouse Plants," issued by the U.S. Nuclear Regulatory Commission in September 1992.

and load time of approximately 10 seconds) will have negligible impact on heating and cooling. Plant experience has shown that heatup and cooldown of thick-walled concrete structures, such as the Millstone Unit No. 3 auxiliary building, is a relatively slow process. Also, natural convection within the auxiliary building tends to stabilize temperatures. Following an accident signal, ventilation equipment is restarted promptly. Therefore, heatup or cooldown, during short periods while ventilation fans and/or heaters are inactive, is insignificant and can be neglected.

NNECO has evaluated the proposed change to increase the time to draw a negative pressure of 0.40 inches water gauge as measured at the 24'-6" elevations of the auxiliary building in conjunction with the proposed change described in the proposed license amendment dated October 27, 1993, to reduce the containment integrated leakage rate at the design basis pressure from 0.65 wt.%/day to 0.30 wt.%/day to determine the impact they would have on off-site doses during a design basis LOCA. The overall effect of the proposed changes was to reduce the calculated doses for the exclusion area boundary (EAB) and the low population zone (LPZ) as depicted in the table below.

LOCATION/DOSE TYPE	FSAR	0.3 L_a 2 min. drawdown new DF = 12 interpretation
EAB 0-2 HR Thyroid	150 rem	141 rem
EAB 0-2 HR Whole Body	19.5 rem	9.4 rem
LPZ 30-DAY Thyroid	31.6 rem	29.8 rem
LPZ 30-DAY Whole Body	3.5 rem	1.7 rem

In addition, the evaluation concluded that the total curies of each iodine and noble gas isotope is less over each time period for this analysis than for the previous analysis. This indicates that the control room and technical support center doses will be lower. Therefore, since the proposed changes result in a reduction in the calculated doses, they do not negatively impact public health and safety.

An independent calculation of the Millstone Unit No. 3 LOCA doses was performed on November 2, 1993, by Stone & Webster Engineering Corp. They used the revised assumptions of L_a = 0.3 wt.%/day, an unfiltered bypass time of 2 minutes, and the appropriate modeling of spray removal capability. Their independent calculations confirmed the values presented above.

Significant Hazards Consideration

In accordance with 10CFR50.92, NNECO has reviewed the attached proposed changes and has concluded that they 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 evaluated.

   The ability of the SLCRS and ABVS to meet the proposed Technical Specification to draw a negative pressure of 0.40 inches water gauge as measured at the 24'-6" elevation of the auxiliary building within 120 seconds after a start signal (this includes the diesel generator start and load times of approximately 10 seconds) was established by the performance of a set of tests during this refueling outage.

   Extension of the time allowed to achieve drawdown of secondary containment from 60 seconds to 120 seconds (these times include the diesel generator start and load time of approximately 10 seconds) will have negligible impact on heating and cooling. Plant experience has shown that heatup and cooldown of thick-walled concrete structures, such as the Millstone Unit No. 3 auxiliary building, is a relatively slow process. Also, natural convection within the auxiliary building tends to stabilize temperatures. Following an accident signal, ventilation equipment is restarted promptly. Therefore, heatup or cooldown, during short periods while ventilation fans and/or heaters are inactive, is insignificant and can be neglected.

   NNECO has determined that the overall effect of increasing the time to draw a negative pressure of 0.40 inches water gauge as measured at the 24'-6" elevation of the auxiliary building from 60 seconds to 120 seconds and reducing the containment integrated leakage rates at the design basis pressure of 0.65 wt.%/day to 0.30 wt.%/day was to reduce the calculated doses. Previously, the EAB thyroid and whole body doses as documented in the Millstone Unit No. 3 FSAR were calculated to be 150 rem and 19.5 rem, respectively, while the previously docketed LPZ doses to the thyroid and whole body were calculated to be 31.6 rem and 3.5 rem, respectively. Utilizing the proposed revisions and the revised application of containment recirculation spray DF, the EAB thyroid and whole body doses were calculated to be 141 rem and 9.4 rem, respectively, and the LPZ thyroid and whole body doses were calculated to be 29.8 rem and 1.7 rem, respectively. It was also concluded that the total curies of each iodine and noble gas isotope is less over each time period for this analysis than for the current analysis of record. This indicates that the control room and technical support center doses will be lower.

These proposed changes do not involve a significant increase in the probability or consequences of an accident previously evaluated based on the discussions above.

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

The proposed changes do not compromise the ability of the SLCRS and ABFS to mitigate the consequences of an accident. As discussed in proposed license amendment dated October 27, 1993, a failure modes and effects analysis confirmed that the design changes implemented do not introduce any new single failure vulnerabilities. The proposed changes do not introduce any new or unique operational modes or accident precursors. Therefore, the proposed changes do 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.

NNECO has determined that the overall effect of increasing the time to draw a negative pressure of 0.40 inches water gauge as measured at the 24'-6" elevation of the auxiliary building from 60 seconds to 120 seconds and reducing the containment integrated leakage rates at the design basis pressure of 0.65 wt.%/day to 0.30 wt.%/day was to reduce the calculated doses. Previously the EAB thyroid and whole body doses were calculated to be 150 rem and 19.5 rem, respectively, while the previously docketed LPZ doses to the thyroid and whole body were calculated to be 31.6 rem and 3.5 rem, respectively. Utilizing the proposed revisions and the revised application of containment recirculation spray DF, the EAB thyroid and whole body doses were calculated to be 141 rem and 9.4 rem, respectively. The LPZ thyroid and whole body doses were calculated to be 29.8 rem and 1.7 rem, respectively. Therefore, the proposed changes do not involve a significant reduction in a margin of safety. On the contrary, the proposed changes would slightly increase the margin of safety as gauged by the reduction in the calculated EAB and LPZ thyroid and whole body doses and the reduction of the total curies of each iodine and noble gas isotope for the subject time frames. Further, there is no other parameter affected by this proposed amendment for which it can be concluded that the proposed changes result in a significant 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. The proposed change to revise Technical Specification 4.6.6.1.d.3 by increasing the time to draw a negative pressure of 0.40 inches water gauge within the auxiliary building at the 24'-6" elevation from 60 seconds to 120 seconds (these times include the diesel generator start and load time of approximately 10 seconds) is not enveloped by any of the examples. However, it has been demonstrated that this change

concurrent with the change to the upper bound of the overall integrated leakage rate results in a calculated reduction in the EAB and LPZ doses to the thyroid and whole body, and a reduction in the control room and technical support center doses since the total curies of each iodine and noble gas isotope is less over each time period analyzed.

Therefore, these proposed changes do not negatively impact the public health or safety, nor do they involve 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 involve an SHC, 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.

The Millstone Unit No. 3 PORC and NRB have reviewed and approved this proposed amendment and concur with the above determination.

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.

As discussed in the Introduction Section of this submittal, authorization of these proposed changes and the proposed changes submitted on October 27, 1993, is required to support entry into Mode 1 and subsequent plant operation. Therefore, NNECO requests that the NRC Staff issue the subject amendment on or before November 3, 1993, to be effective upon issuance. As an alternative for an interim period, the NRC Staff may wish to consider exercising enforcement discretion from Technical Specifications 3.6.1.2.a, 3.6.6.1, and 3.7.9 to be effective until the amendment is issued. NNECO provided justification for exercising enforcement discretion in the proposed license amendment submitted on October 27, 1993, and that justification remains valid. By exercising enforcement discretion, the staff would authorize NNECO to enter Mode 1 and operate Millstone Unit No. 3 up to full power, while awaiting issuance of the proposed revision to the Technical Specifications.

If you have any questions regarding this submittal, please contact our licensing representative directly.

Very truly yours,

NORTHEAST NUCLEAR ENERGY COMPANY

J. F. Opeka
Executive Vice President

cc: T. T. Martin, Region I Administrator
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Subscribed and sworn to before me

this 3rd day of November, 1993

Lorraine J. D'Amico

Date Commission Expires: 3/31/98