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January 24, 1995

Docket No. 50-423
B15094

RE: 10CFR50.90

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

Millstone Nuclear Power Station, Unit No. 3
Proposed Revision to Technical Specifications
Reactor Coolant System Flow Rate

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 Technical Specifications of Millstone Unit No. 3. The proposed changes to Millstone Unit No. 3 Technical Specification Section 3.2.3.1.a and Table 2.2-1 will decrease the acceptance criterion for measured reactor coolant system (RCS) flow rate for four-loop operation. These changes are discussed in detail in the remaining sections of this submittal. The marked up technical specification pages are provided in Attachment 1, and the retyped technical specification pages are provided in Attachment 2.

Background

In support of NNECO's previous amendment request dated November 24, 1993,[1] (and supplemented by letter dated January 10, 1994,[2]) an evaluation was included which addressed the impact of a 4% reduction in the RCS flow rate limit on the Final Safety Analysis

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(1) J. F. Opeka letter to the U.S. Nuclear Regulatory Commission, "Proposed Revision to Technical Specifications, Reactor Coolant System Flow Rate," dated November 24, 1993.

(2) J. F. Opeka letter to the U.S. Nuclear Regulatory Commission, "Proposed Revision to Technical Specifications, Reactor Coolant System Flow Rate - Additional Information," dated January 10, 1994.

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Report (FSAR) safety analysis. This evaluation concluded that a reduction in minimum measured flow and thermal design flow (TDF) by 4% is acceptable. Specifically, it was concluded that there is sufficient margin to the system pressure, peak cladding temperature (PCT) and departure from nucleate boiling (DNB) limits to offset the negative effects of the change.

In a letter dated August 1, 1994,[3] NNECO withdrew the license amendment request dated November 24, 1993, due to a significant loss in the available DNB margin with the existing Millstone Unit No. 3 plant configuration. Subsequently, the DNB margin has been recovered by taking credit for thimble plug reinsertion and $F_{\Delta H}$ reduction. This allows NNECO to resubmit the previous proposed license amendment to the NRC for review and approval.

Description of the Proposed Changes

The results of the recent RCS flow rate measurements have indicated that little margin is available regarding the current acceptance criterion (387,480 gpm) for the RCS total flow rate for four-loop operation stated in Technical Specification 3.2.3.1.a. Therefore, NNECO proposes to revise Millstone Unit No. 3 Technical Specification 3.2.3.1.a by decreasing the measured RCS flow rate acceptance criterion for four-loop operation from 387,480 gpm to 371,920 gpm. This proposed change will increase Millstone Unit No. 3's operating margin for the RCS flow rate.

Millstone Unit No. 3 Technical Specification Table 2.2-1 contains a footnote which identifies the minimum acceptable measured RCS flow rate per loop. The flow rate value presented in this footnote (96,870 gpm) is simply the flow rate value of Technical Specification 3.2.3.1.a divided by four. Therefore, revising the flow rate value of Technical Specification 3.2.3.1.a will require that the footnote of Technical Specification Table 2.2-1 be revised. NNECO proposes to delete the specific values for the minimum required flow rate per loop for four- and three-loop operation. Instead, Table 2.2-1 will refer to the RCS flow rates in Section 3.2.3.1 and 3.2.3.2 and note that the required flow rates per loop are 1/4 and 1/3 of the respective values.

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(3) J. F. Opeka letter to the U.S. Nuclear Regulatory Commission, "Requested Withdrawal of Proposed Revision to Technical Specifications - Reactor Coolant Flow Rate," dated August 1, 1994.

Safety Assessment

The reinstallation of the thimble plugs and the $F_{\Delta H}$ reduction have resulted in sufficient DNB margin. This reduction enables NNECO to conclude that a reduction in minimum measured flow and the TDF by 4% is acceptable and safe for four-loop operation. The information concerning the available DNB margin before and after the TDF reduction, the overpressure consideration, and dose consideration will be submitted in the near future under a separate cover because the information is proprietary to Westinghouse Electric Corporation. The information provided in Attachment 3 summarizes the evaluation. It is noted that the evaluation addresses four-loop operation only.

Significant Hazards Consideration Determination

In accordance with 10CFR50.92, NNECO has reviewed the 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 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 Consequence of an Accident Previously Evaluated.

   An evaluation of the 4% decrease in the RCS total flow rate limit has shown that the change does not significantly impact the design basis analyses. Therefore, the change will not increase the consequences of an accident previously evaluated.

   There are no actual plant changes that will result from this technical specification change. Instead, the technical specification requirement for minimum total RCS flow rate is being changed to provide operational benefit without compromising safety. Since there are no plant changes, there is no effect on the probability of occurrence of previously evaluated accidents.

   The change will have a negligible impact on the small break loss of coolant accident (LOCA) and large break LOCA analyses. The PCT acceptance criteria will continue to be met with the assumption of a 4% reduction in RCS flow rate.

   For the steam generator tube rupture event, both the FSAR offsite dose analysis and the margin of steam generator (SG) overfill were evaluated. It was determined that the 4%

reduction in RCS flow rate will not adversely affect the offsite doses or the margin to SG overfill and, therefore, the FSAR conclusions remain unchanged.

In the evaluation of non-LOCA transients, the DNB is the most affected parameter due to a change in flow rate. It was concluded that the 4% reduction in RCS flow was acceptable and there was margin to the DNB limit.

It is concluded that there is sufficient margin to the system pressure, PCT and DNB limits to offset the effect of the 4% flow rate decrease and the calculated radiological releases associated with the analysis are not affected. Therefore, there is no effect on the consequences of previously evaluated accidents.

2. Create the Possibility of a New or Different Kind of Accident from any Previously Analyzed.

The low loop flow trip setpoint specified in Technical Specification Table 2.2-1 is set as a fraction of total flow. The flow fraction is not being changed and no hardware changes are required due to the reduction in minimum flow. Also, the reduction in minimum flow will not change the operation of any plant equipment and it does not modify plant operation.

Therefore, the reduction in minimum flow does not introduce any new failure modes or malfunctions and it does not create the potential for a new unanalyzed accident.

3. Involve a Significant Reduction in the Margin of Safety.

The proposed 4% decrease in the technical specification limit for total RCS flow rate will not adversely affect the results of the FSAR accident analysis, and it is concluded that this change is safe. The change does not adversely affect any equipment credited in the safety analysis, and it does not affect the probability of occurrence of any plant accident. Also, the change has a negligible impact on the PCT, and it does not increase the offsite doses or decrease the DNB below its acceptance limit.

Therefore, the change does not have any significant impact on the protective boundaries, and there is no reduction in the margin of safety as specified in the technical specifications.

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 an SHC. The proposed changes to decrease Millstone Unit No. 3 Technical Specification 3.2.3.1.a's acceptance criterion for the measured RCS flow rate four loop operation from 387,480 gpm to 371,920 gpm, and the resultant modifications to Millstone Unit No 3 Technical Specification Table 2.2-1 are not enveloped by any of the examples. However, NNECO has concluded that the proposed changes do not have any significant impact on the protective boundaries. Also, the limits of the FSAR accident analyses will still be met with the lower RCS flow rate acceptance criterion.

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 Nuclear Review Board has reviewed and approved this proposed amendment and concurs 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 of this writing, NNECO anticipates that operation of Millstone Unit No. 3 at 100% power during the remainder of Cycle 5 and during Cycle 6 can be maintained, although the margin between actual RCS flow and the technical specification minimum is undesirably small. Hence, we request that the Staff's review of this proposed license amendment on an accelerated basis and Staff approval prior to the start of Cycle 6 operation presently scheduled in early June 1995. NNECO requests that the license amendment be effective upon issuance, with implementation within 60 days. We will also keep

you informed, in a timely fashion, of any expeditious developments relevant to this submittal.

If you should have any questions, please contact Mr. R. G. Joshi at (203) 440-2080.

Very truly yours,

NORTHEAST NUCLEAR ENERGY COMPANY

J. F. Opeka
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Subscribed and sworn to before me

this 24th day of January, 1995

Lorraine J. Davies

Date Commission Expires: 3/31/98