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January 18, 1995

Docket No. 50-423
B15086

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
Minimum Boron Concentration in the Boric Acid Tanks

Pursuant to 10CFR50.90, Northeast Nuclear Energy Company (NNECO) hereby proposes to amend its Operating License, NPF-49, by incorporating the changes into the Technical Specifications of Millstone Unit No. 3. The proposed changes to the technical specifications will increase the minimum required boron concentration in the boric acid tank (BAT) from 6300 ppm to 6600 ppm.

Discussion

The current Cycle 5 technical specification value for the minimum boron concentration in the BAT is 6300 ppm. This value was determined to be acceptable based on the BORDER evaluation performed by Westinghouse prior to Cycle 5 operation. The BORDER evaluation determines the ability to maintain shutdown margin when the plant is taken from an initial operating condition of Mode 1 or 2 to a final condition of Mode 5 or 6 using an assumed minimum BAT concentration.

The Millstone Unit No. 3 Cycle 6 loading plan design has been evaluated for adequate boration capability from the BAT. For Cycle 6, the BORDER evaluation has included conservatism which will ensure the future cycle variations in boron concentration, burnup window variations and other possible redesign effects are bounded. The specific conservatisms in the Cycle 6 BORDER evaluation are:

- The best-estimate critical boron concentration for the Mode 1/2 initial condition was decreased by 50 ppm, and

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- The best-estimate maximum required Mode 5/6 boron concentration was increased by 50 ppm.

Based on the results of the evaluation, it was determined that the minimum BAT boron concentration needed to meet shutdown margin (SDM) requirements is 6600 ppm. Also, increasing the minimum BAT concentration to this value at this time should ensure that the SDM will be maintained for subsequent cycles and additional increases will be avoided if future operations and core loading are similar to that for Cycle 6. As such, NNECO is proposing to increase the current BAT minimum concentration value of 6300 ppm, defined in the Millstone Unit No. 3 Technical Specifications to a value of 6600 ppm.

Description of the Proposed Technical Specification Changes

NNECO proposes to increase the boron concentration value in the following Technical Specification Sections:

- Section 3.1.1.1.1 Shutdown Margin - Modes 1 and 2
- Section 3.1.1.1.2 Shutdown Margin - Modes 3, 4, and 5 -
Loops Filled
- Section 3.1.1.2 Shutdown Margin - Cold Shutdown -
Loops not Filled
- Section 3.1.2.5 Borated Water Source - Shutdown
- Section 3.1.2.6 Borated Water Sources - Operating
- Section 3.9.1.1 Boron Concentration
- Section 3.10.1 Shutdown Margin
- Bases Section 3/4 1.2 Boration Systems

The change will increase the minimum required boron concentration in the BAT from 6300 ppm to 6600 ppm. Attachment 1 and Attachment 2 include the marked up technical specification pages and retyped technical specification pages, respectively.

Safety Assessment

The change to the technical specification sections noted above will increase the minimum required boron concentration in the BAT from 6300 ppm to 6600 ppm.

The current Cycle 5 Technical Specification value for the minimum boron concentration in the BAT is 6300 ppm. This value was determined to be acceptable based on the BORDER evaluation performed by Westinghouse prior to Cycle 5 operation. The BORDER evaluation determines the ability to maintain shutdown margin when

the plant is taken from an initial operating condition of Mode 1 or 2 to a final condition of Mode 5 or 6 using an assumed minimum BAT concentration.

For Cycle 6 the BORDER evaluation has included conservatisms which will ensure that future cycle variations and other core redesign effects are bounded. The specific conservatisms in the Cycle 6 BORDER evaluation are:

- The best-estimate critical boron concentration for the Mode 1/2 initial condition was decreased by 50 ppm, and
- The best-estimate maximum required Mode 5/6 boron concentration was increased by 50 ppm.

The results of the Cycle 6 BORDER evaluation led to a recommendation by Westinghouse that the minimum BAT concentration be increased to 6600 ppm in order to conservatively meet the shutdown margin requirements. Also, increasing the minimum BAT concentration to this value at this time should ensure that shutdown margin will be maintained for subsequent cycles, and additional increases will be avoided if future operations and core loadings are similar to that for Cycle 6.

In summary, the proposed increase in the minimum boron concentration in the BAT provides conservatism in the calculated shutdown margin for Millstone Unit No. 3, and it is concluded that this change is safe. The change does not adversely affect any equipment credited in the safety analysis. Also, the change does not increase the calculated peak clad temperature (PCT) or the offsite doses. Therefore, there is no impact on the margin of safety as specified in the Technical Specifications.

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 Consequences of an Accident Previously Evaluated.

The change affects the minimum required boron concentration in the BAT. Changes in the tank's boron concentration will not affect the probability of any plant accident.

An increase in the minimum BAT concentration of 6600 ppm was recommended by Westinghouse based on their Cycle 6 BORDER evaluation. The BORDER evaluation conservatively determines the ability to maintain shutdown margin when the plant is taken from an initial operating condition of Mode 1 or 2 to a final condition of Mode 5 or 6 using an assumed minimum BAT concentration. Therefore, the ability to maintain shutdown margin is assured and the change will not adversely affect the consequences of any plant accident.

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

The change conservatively increases the minimum required boron concentration in the BAT from 6300 ppm to 6600 ppm. There is no impact on the operability of plant systems or equipment. Therefore, the change does not create a malfunction that is different from those previously evaluated.

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

The proposed increase in the minimum boron concentration in the BAT provides conservatism in the calculated shutdown margin for Millstone Unit No. 3. The change does not adversely affect any equipment credited in the safety analysis. Also, the change does not adversely affect the probability or consequences of any plant accident, including the calculated PCT or offsite doses. Therefore, there is no impact on 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, 51 FR 7751) of amendments that are considered not likely to involve an SHC. The proposed changes to the Millstone Unit No. 3 Technical Specifications are not enveloped by a specific example. However, it has been demonstrated that the proposed changes do not involve a significant increase in the consequences of an accident previously evaluated.

Environmental Considerations

NNECO has reviewed the proposed license amendment request against the criteria of 10CFR51.22 for environmental considerations. The proposed changes do not involve an SHC, do not significantly increase the types and amounts of effluents that may be released off site, 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 of an environmental impact statement.

Nuclear Review Board Review

Millstone Unit No. 3 Nuclear Review Board has reviewed this proposed amendment and concurs with the above determination.

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.

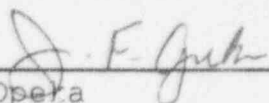
Schedule Required for NRC Approval

Currently, the next refueling outage is scheduled to begin in April 1995, with startup scheduled for June 1995. NNECO requests that this proposed license amendment be reviewed and approved prior to the start of the next cycle operation. NNECO requests that the License Amendment be effective upon issuance, with implementation within 60 days.

If the NRC Staff should have any questions or comments regarding this submittal, please contact Mr. R. G. Joshi at (203) 440-2080.

Very truly yours,

NORTHEAST NUCLEAR ENERGY COMPANY



J. F. Opera
Executive Vice President

cc: See Page 6

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cc: T. T. Martin, Region I Administrator
V. L. Rooney, NRC Project Manager, Millstone Unit No. 3
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
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P.O. Box 5066
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Subscribed and sworn to before me

this 18th day of January, 1995

Loraine J. L'Amico

Date Commission Expires: 3/31/98

Attachment 1

Millstone Nuclear Power Station, Unit No. 3

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Marked Up Pages

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