August 7, 2000

Mr. S. E. Scace - Director
Nuclear Oversight and Regulatory Affairs
c/o Mr. David A. Smith
Northeast Nuclear Energy Company
P. O. Box 128
Waterford, CT 06385-0128

SUBJECT: MILLSTONE NUCLEAR POWER STATION, UNIT NO. 2 - ISSUANCE OF AMENDMENT RE: POSITIVE REACTIVITY ADDITIONS (TAC NO. MA7325)

Dear Mr. Scace:

The Commission has issued the enclosed Amendment No. 248 to Facility Operating License No. DPR-65 for the Millstone Nuclear Power Station, Unit No. 2, in response to your application dated December 7, 1999.

This amendment removes the action requirement to suspend all operations involving positive reactivity additions from Technical Specification (TS) 3.4.2.1, "Reactor Coolant System - Safety Valves", TS 3.4.2.2, "Reactor Coolant System - Safety Valves", and TS 3.7.6.1, "Plant Systems - Control Room Emergency Ventilation System". The Bases for the affected TSs have also been revised accordingly. In addition, the Bases for several TSs, where the requirement to suspend positive reactivity additions is appropriate, have also been revised.

A copy of the related Safety Evaluation is also enclosed. Notice of Issuance will be included in the Commission's biweekly Federal Register notice.

Sincerely,

/RA/

Jacob I. Zimmerman, Project Manager, Section 2
Project Directorate I
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket No. 50-336

Enclosures: 1. Amendment No. 248 to DPR-65
2. Safety Evaluation

cc w/encls: See next page

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PUBLIC	PDI-2 R/F	EAdensam	JClifford	JZimmerman
TClark	OGC	ACRS	GHill (2)	WBeckner
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* SE input provided 5/23/00, no major changes made.

DOCUMENT NAME: C:\amda7325.wpd

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Unit 2

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NORTHEAST NUCLEAR ENERGY COMPANY, ET AL.

DOCKET NO. 50-336

MILLSTONE NUCLEAR POWER STATION, UNIT NO. 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 248
License No. DPR-65

1. The Nuclear Regulatory Commission (the Commission) has found that:

   A. The application for amendment by Northeast Nuclear Energy Company, et al. (the licensee) dated December 7, 1999, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;

   B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;

   C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;

   D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and

   E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Facility Operating License No. DPR-65 is hereby amended to read as follows:

   (2) Technical Specifications

   The Technical Specifications contained in Appendix A, as revised through Amendment No. 248, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of the date of issuance, and shall be implemented within 60 days of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

James W. Clifford, Chief, Section 2
Project Directorate I
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical Specifications

Date of Issuance: August 7, 2000

ATTACHMENT TO LICENSE AMENDMENT NO. 248

FACILITY OPERATING LICENSE NO. DPR-65

DOCKET NO. 50-336

Replace the following pages of the Appendix A, Technical Specifications, with the attached revised pages. The revised pages are identified by amendment number and contain marginal lines indicating the areas of change.

Remove	Insert
3/4 4-2	3/4 4-2
B 3/4 1-3	B 3/4 1-3
B 3/4 4-1a	B 3/4 4-1a
B 3/4 7-4a	B 3/4 7-4a
B 3/4 8-1b	B 3/4 8-1b
B 3/4 8-2	B 3/4 8-2

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 248

TO FACILITY OPERATING LICENSE NO. DPR-65

NORTHEAST NUCLEAR ENERGY COMPANY, ET AL.

MILLSTONE NUCLEAR POWER STATION, UNIT NO. 2

DOCKET NO. 50-336

1.0 INTRODUCTION

By letter dated December 7, 1999, the Northeast Nuclear Energy Company, et al. (the licensee), submitted a request for changes to the Millstone Nuclear Power Station, Unit No. 2 (MNPS-2) Technical Specifications (TSs). The amendment would remove the action requirement to suspend all operations involving positive reactivity additions from TS 3.4.2.1, "Reactor Coolant System - Safety Valves," TS 3.4.2.2, "Reactor Coolant System - Safety Valves," and TS 3.7.6.1, "Plant Systems - Control Room Emergency Ventilation System." The Bases for the affected TSs would be revised accordingly. In addition, the Bases for several TSs, where the requirement to suspend positive reactivity additions is appropriate, would be revised.

2.0 BACKGROUND

As discussed in the MNPS-2 Final Safety Analysis Report (FSAR) Section 4.5.3.1 and TS Bases Section 3/4.4.1, the Reactor Coolant System (RCS) is protected against overpressure by two American Society of Mechanical Engineers (ASME) Code-approved safety valves. The safety valves operate in conjunction with the Reactor Protection System (RPS) to prevent the RCS from being pressurized above its safety limit of 2750 psia. The relief capacity of a single safety valve is adequate to relieve any overpressure condition that could occur during shutdown conditions. During operating conditions, both safety valves are required to be operable to prevent the RCS from being pressurized above its safety limit. As discussed in the Standard Review Plan (NUREG-0800), Section 5.2.2, the overpressure protection provided by the safety valves is based on meeting the requirements of General Design Criteria (GDC) 15 of Appendix A to Title 10 of the Code of Federal Regulations (10 CFR) Part 50. This GDC requires that the RCS be designed with sufficient margin to assure that the design conditions of the reactor coolant pressure boundary are not exceeded during any condition of normal operation, including anticipated operational occurrences. As discussed in MNPS-2 FSAR Section 4.5.3.2 and TS Bases Section 3/4.4.9, for plant operating conditions when the RCS cold leg temperature is at or below 275 °F, the Low Temperature Overpressure Protection

(LTOP) system, in conjunction with administrative procedures, provides RCS overpressure protection.

With a pressurizer safety valve (PSV) inoperable, the current action statements for TS 3.4.2.1 and 3.4.2.2 require the suspension of positive reactivity changes and a shutdown cooling (SDC) loop to be placed in service to provide overpressure protection. This would be very difficult to complete since this requirement becomes applicable as soon as the RCS temperature is reduced below 300 °F, but the SDC system is not normally placed into service until the RCS is below 275 °F. Cooling down to below 275 °F would result in a positive reactivity addition in violation of the action statement. The licensee also proposes to remove a similar action statement from TS 3.7.6.1 for suspension of positive reactivity changes.

3.0 EVALUATION

TSs 3.4.2.1 and 3.4.2.2 provide the operability requirements for the PSVs. The current TS 3.4.2.1 is applicable in Mode 4 when any reactor coolant system cold leg temperature is greater than 275 °F. The current TS 3.4.2.2, is applicable in Modes 1, 2, and 3. The licensee proposes to combine these two TSs into a new TS 3.4.2, which would be applicable in Modes 1, 2, 3, and 4 with all RCS cold leg temperatures greater than 275 °F. In the licensee's proposed changes for TSs 3.4.2.1 and 3.4.2.2, there is a slight reduction in applicability from "any" to "all" RCS cold leg temperatures greater than 275 °F in Mode 4. This is acceptable since the LTOP System will be in service when any RCS cold leg temperature is less than or equal to 275 °F pursuant to the requirements of TS 3.4.9.3. As noted above, for plant operating conditions when the RCS cold leg temperature is at or below 275 °F, the LTOP system, in conjunction with administrative procedures, provides RCS overpressure protection. Also, the proposed TS 3.4.2 would require all PSVs to be operable during Mode 4 when PSVs are required. This requirement is more restrictive than the current TS 3.4.2.1, which only requires one operable PSV in Mode 4 when PSVs are required.

The action requirements for inoperable PSVs will also be modified in the proposed TS 3.4.2. With a pressurizer safety valve (PSV) inoperable, the current action statements for TS 3.4.2.1 and 3.4.2.2 require the suspension of positive reactivity changes and that a shutdown cooling (SDC) loop to be placed in service to provide overpressure protection. This would be very difficult to complete since this requirement becomes applicable as soon as RCS temperature is reduced below 300 °F, but the SDC system is not normally placed into service until the RCS is below 275 °F. Cooling down to below 275 °F would result in a positive reactivity addition in violation of the action statement.

The new action statement would require that with the PSVs inoperable, the plant must be placed in Mode 4 with the RCS cold leg temperature less than 275 °F. This will require the LTOP system to be placed in service. The LTOP system will provide the overpressure protection in these cases, and in a greater magnitude than the SDC loop operation would have provided in the current TSs. These proposed modifications will not affect the current time requirement to reach Mode 4, and are consistent with the structure of TS 3.0.3. The bases of TS 3.4.2 address all the proposed changes made in TS 3.4.2. In addition, these changes are consistent with the standard TS in NUREG-1432, "Standard Technical Specifications Combustion Engineering Plants," Revision 1, April 1995. The proposed TS changes will assure that overpressure protection will be maintained for all situations. We find that these proposed changes are acceptable based on the above evaluation.

The licensee's proposed modification of TS 3.7.6.1 would remove the requirement of suspending positive reactivity additions when both control room ventilation trains are inoperable in Modes 5 and 6. The licensee has stated:

> The control room ventilation system is required to be operable in Modes 5 and 6 to protect the control room operators from an event that results in a rapid release of radioactivity, such as a fuel handling accident. In Modes 5 and 6, the positive reactivity addition methods of concern are boron dilution, RCS cooldown, and control rod withdrawal. Positive reactivity additions associated with fuel handling are already covered by the additional action requirement in this specification to suspend core alterations. Control rod withdrawal is prohibited by TS 3.1.3.7, "Reactivity Control Systems - Control Rod Drive Mechanisms," unless the RCS boron concentration is greater than or equal to the refueling boron concentration of TS 3.9.1, "Refueling Operations - Boron Concentations." If the RCS is borated to the refueling concentration, sufficient negative reactivity has been added to compensate for the positive reactivity addition associated with control rod withdrawal in Modes 5 and 6. Therefore, only boron dilution and RCS temperature changes are of concern. However, both of these methods will result in slow changes to core reactivity in Modes 5 and 6, and since adequate shutdown margin will have been established prior to entering Modes 5 and 6 (pursuant to TS 3.1.1.2, "Reactivity Control Systems - Shutdown Margin - Tavg $\leq$ 200 °F," and TS 3.9.1), neither method will result in a rapid release of radioactivity. Therefore, the requirement to suspend positive reactivity additions is not necessary. In addition, this proposed change is consistent with the requirements of the standard TS in NUREG -1432. Based on the above, the staff finds the proposed change to be acceptable.

The staff has reviewed the licensee's proposed changes discussed above. The staff finds that the proposed TSs will not affect safe operation of Millstone Unit 2 and are consistent with the requirements of the Standard TS in NUREG -1432. Therefore, we find the proposed TSs regarding pressurizer safety valves and positive reactivity additions to be acceptable.

3.10 Bases Section Changes

The proposed changes also include modifications to the bases for TSs 3.1.2.1, 3.1.2.3, 3.1.2.5, 3.1.2.7, 3.8.1.2, 3.8.2.2, and 3.8.2.4 concerning the Modes 5 and 6 requirement to suspend positive reactivity additions. The proposed changes will provide guidance that suspension of positive reactivity addition does not preclude the establishment of a safe conservative plant condition, or actions to maintain or increase RCS inventory, provided shutdown margin (SDM) is maintained. Station Procedure RAC 02, "TS Change Requests and Implementation of License Amendments, Rev 1," provides instructions for initiation, review control, approval, and disposition of proposed changes to the Bases section of the TS. RAC 02 notes that for all Bases changes a 10 CFR 50.59 safety evaluation (SE) is required. The licensee reviewed all changes against the criteria of 10 CFR 50.59. The staff considers that the Bases changes have an appropriate level of licensee review. The staff has no objections to the proposed Bases changes.

4.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Connecticut State official was notified of the proposed issuance of the amendment. The State official had no comments.

5.0 ENVIRONMENTAL CONSIDERATION

The amendment changes a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. The NRC staff has determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendment involves no significant hazards consideration, and there has been no public comment on such finding (65 FR 4285). Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b) no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendment.

6.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: C. Liang

Date: August 7, 2000