

August 22, 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. 3 - ISSUANCE OF  
AMENDMENT RE: CABLE SPREADING ROOM PRESSURIZATION TESTING  
(TAC NO. MA8108)

Dear Mr. Scace:

The Commission has issued the enclosed Amendment No. 181 to Facility Operating License No. NPF-49 for the Millstone Nuclear Power Station, Unit No. 3 in response to your application dated February 1, 2000, as supplemented by letter dated April 13, 2000.

In the application, you request changes to temporarily suspend the technical specification requirements for Technical Specifications 3.7.7, "Plant Systems - Control Room Emergency Ventilation System," and 3.7.8, "Plant Systems - Control Room Envelope Pressurization System." You also stated that the proposed changes are necessary in order to conduct testing of the cable spreading room that will pressurize the area to a pressure that exceeds the pressure of the adjacent control room envelope area. The staff completed its review of your application, and a copy of the related Safety Evaluation is enclosed. Notice of Issuance will be included in the Commission's biweekly Federal Register notice.

Sincerely,

***/RA/***

Victor Nerses, Sr. Project Manager, Section 2  
Project Directorate I  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

Docket No. 50-423

Enclosures: 1. Amendment No. 181 to NPF-49  
2. Safety Evaluation

cc w/encls: See next page

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Accession No.: ML003732264

\*SE Input provided on 7/7/00, no major changes made.

\*\* see previous concurrence

OFFICE	PDI-2:PM	PDI-2:LA	SPSB:SC**	SPLB:SC*	PDI-2:SC	OGC**
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NORTHEAST NUCLEAR ENERGY COMPANY, ET AL.

DOCKET NO. 50-423

MILLSTONE NUCLEAR POWER STATION, UNIT NO. 3

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 181  
License No. NPF-49

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 February 1, 2000, as supplemented by letter dated April 13, 2000, 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. NPF-49 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 181, and the Environmental Protection Plan contained in Appendix B, both of which are attached hereto are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. This license amendment is effective as of the date of issuance, and shall be implemented within 30 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 22, 2000

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Unit 3

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Millstone Nuclear Power Station  
Unit 3

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ATTACHMENT TO LICENSE AMENDMENT NO. 181

FACILITY OPERATING LICENSE NO. NPF-49

DOCKET NO. 50-423

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

3/4 7-15  
3/4 7-16  
3/4 7-18  
B 3/4 7-13  
- -  
B 3/4 7-15  
B 3/4 7-20  
- -

Insert

3/4 7-15  
3/4 7-16  
3/4 7-18  
B 3/4 7-13  
B 3/4 7-13a  
B 3/4 7/15  
B 3/4 7-20  
B 3/4 7-20a

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 181

TO FACILITY OPERATING LICENSE NO. NPF-49

NORTHEAST NUCLEAR ENERGY COMPANY, ET AL.

MILLSTONE NUCLEAR POWER STATION, UNIT NO. 3

DOCKET NO. 50-423

1.0 INTRODUCTION

By letter dated February 1, 2000, as supplemented by letter dated April 13, 2000, the licensee (Northeast Nuclear Energy Company) of Millstone Nuclear Power Station, Unit No. 3 (MNPS-3) requested an amendment to Facility Operating License No. NPF-49. The amendment proposed changes to the Technical Specifications (TSs) to temporarily suspend the technical specification requirements for Technical Specifications 3.7.7, "Plant Systems - Control Room Emergency Ventilation System," and 3.7.8, "Plant Systems - Control Room Envelope Pressurization System." In the request, the licensee stated that the proposed changes are necessary in order to conduct testing of the cable spreading room (CSR) that will pressurize the area to a pressure that exceeds the pressure of the adjacent control room envelope area. The letter dated April 13, 2000, provided clarifying information and did not change the staff's initial proposed no significant hazards consideration determination or expand the scope of the application as published in the *Federal Register*.

2.0 BACKGROUND

Licensee event report (LER) 99-002-00 "Inadvertent Carbon Dioxide Fire Suppression System Actuation In The Cable Spreading Room," dated February 16, 1999, describes the following event that occurred at MNPS-3. On January 15, 1999, with MNPS-3 operating at 100 percent power, an inadvertent discharge of the carbon dioxide (CO<sub>2</sub>) fire suppression system occurred in the CSR. Purging operations occurred over the next several hours during which higher than expected concentrations of CO<sub>2</sub> were found in areas outside the CSR, including the east and west switchgear rooms and some areas within the control room envelope.

One of the postulated contributors to the higher than expected CO<sub>2</sub> concentrations found in the east and west switchgear rooms and areas within the control room envelope was leakage from the CSR. In addition to repairs and tests already completed, the licensee stated in the February 1, 2000, submittal that in order to further evaluate leakage pathways, identify any additional CSR leakage pathways, perform any required repairs, and reinstate the CO<sub>2</sub> suppression system, it would be necessary to perform additional pressurization testing and ultimately, confirmatory tracer gas testing of the CSR.



The licensee plans to perform the testing and repairs upon issuance of the amendment and stated that the pressurization test is expected to be performed only once but additional testing may be necessary to verify the adequacy of the repairs performed to reduce leakage. To provide sufficient time for performing the pressurization testing, repairs and any additional testing necessary for the licensee to complete their plans, the requested exception to TSs 3.7.7 and 3.7.8 is proposed to remain in effect until the first entry into Mode 4 following the completion of refueling operations associated with the next refueling outage in February 2001.

### 3.0 EVALUATION

The CSR is designed for pressures up to 14.4 inches Water Gauge (wg) and is located in the Control Building directly below the Control Room complex. The Control Room complex includes the Control Room, Instrument Rack Room, Computer Room, Mechanical Equipment Space and the stairwell. These areas make up the Control Room Envelope, which is designed to be pressurized above adjacent areas to maintain habitability following a design basis accident (DBA). Directly below the CSR are the East and West Switchgear Rooms.

The licensee stated that during the postulated testing, the CSR will be pressurized by a fan connected to temporary ducting run to a test connection installed in a CSR door frame. The temporary fan, which will be powered from a local non-safety-related welding receptacle, will be located outside the Control Building. This temporary fan will be controlled by a dedicated individual in constant communication with the MNPS-3 Control Room. A maximum pressure of 10 inches wg will be maintained by personnel at the temporary fan using an installed gauge, and by a limit on the maximum pressure that the portable fan can generate. In addition, the fan discharge bypass damper will be blocked from completely closing, if necessary, to ensure the 10-inch wg CSR pressure limit is not exceeded. If a radiological event occurs, the fan will be secured and this action will depressurize the CSR. The licensee stated that sensing devices such as smoke pencils or tracer gas will be used to identify leakage through penetrations from the CSR.

The requested changes will affect surveillance requirements (SRs) 4.7.7.e.2, 4.7.8.c.2 and 4.7.8.c.3 as follows:

#### Current 4.7.7.e.2

Verifying that the system maintains the control room at a positive pressure of greater than or equal to 1/8 inch Water Gauge at less than or equal to a pressurization flow of 230 cfm relative to adjacent areas during system operation; and

#### Proposed 4.7.7.e.2

Verifying that the system maintains the control room at a positive pressure of greater than or equal to 1/8 inch Water Gauge at less than or equal to a pressurization flow of 230 cfm relative to adjacent areas during positive pressure system operation; and

This change adds the words "positive pressure" to SR 4.7.7.e.2 and the associated Bases. This is a permanent administrative change that will clarify that the requirement to maintain the control room envelope at a positive pressure of at least 1/8 inch wg is applicable only when the

control room emergency air filtration system is operating in the filtered pressurization mode. This change will not result in any change in system operation, or any technical change to this SR. The staff reviewed this change and agrees with the licensee. Therefore, the staff finds this change to be acceptable. In addition, the licensee is proposing to add the following footnote with an asterisk (\*) to the bottom of page 3/4 7-15 of the MNPS-3 TSs.

Footnote

“The requirements of Surveillance Requirement 4.7.7.e.2 do not apply during pressure testing of the Cable Spreading Room. This exception is valid until the first entry into MODE 4 following the completion of refueling operations associated with the seventh Refueling Outage.”

The footnote with asterisk will apply to LIMITING CONDITION FOR OPERATION (LCO) 3.7.7.

Current LCO 3.7.7

Two independent Control Room Emergency Air Filtration Systems shall be OPERABLE.

Proposed LCO 3.7.7

Two independent Control Room Emergency Air Filtration Systems shall be OPERABLE.\*

The staff finds these changes to be acceptable because they are consistent with the temporary changes that are necessary in order for the licensee to pressurize the CSR to identify leakage paths.

The following footnote with an asterisk (\*) will be added to the bottom of page 3/4 7-18 and will apply to LCO 3.7.8.

Footnote

“The requirements of Surveillance Requirements 4.7.8.c.2 and 4.7.8.c.3 do not apply during pressure testing of the Cable Spreading Room. This exception is valid until the first entry into MODE 4 following the completion of refueling operations associated with the seventh Refueling Outage.

Current LCO 3.7.8

Two independent Control Room Envelope Pressurization Systems shall be OPERABLE.

Proposed LCO 3.7.8

Two independent Control Room Envelope Pressurization Systems shall be OPERABLE.\*

Surveillance Requirements 4.7.8.c.2 and 2.7.8.c.3

2. Verifying that after a 60-second time delay following a Control Building Isolation test signal, the control room envelope pressurizes to greater than or equal to 1/8 inch wg relative to the outside atmosphere, and
3. Verifying that the positive pressure of Specification 4.7.8.c.2 is maintained for greater than or equal to 60 seconds.

The staff also finds these changes acceptable because they are consistent with the temporary changes that are necessary in order for the licensee to pressurize the CSR to identify leakage paths.

As indicated, the proposed changes will add exceptions to the LCOs for TSs 3.7.7 and 3.7.8. These exceptions, which will only apply when performing CSR pressurization testing, are necessary since the CSR pressurization tests will cause the CSR pressure to be approximately 10 inches wg above the pressure in the Control Room envelope. As a result, the Control Room Emergency Air Filtration and Control Room Envelope Pressurization Systems would not be able to maintain the Control Room envelope at a positive pressure of at least 1/8 inch water gauge with respect to adjacent areas or outside atmosphere. This requirement is specified in SRs 4.7.7.e.2, 4.7.8.c.2, and 4.7.8.c.3.

The proposed exceptions will allow for pressurization testing of the CSR such that leakage paths can be identified and repaired. The pressurization testing can be performed with the plant in any mode. However, the exceptions will only remain valid until MNPS-3 enters Mode 4 following the completion of refueling operations associated with the next refueling outage in February 2001.

A discussion of the proposed exceptions will be added to the Bases of TSs 3.7.7 and 3.7.8.

An additional change to the Bases of SR 4.7.7.e.2 will be made by adding the words "positive pressure." As stated above this change will clarify that the requirement to maintain the Control Room envelope at a positive pressure of at least 1/8 inch wg is applicable only when the Control Room Emergency Air Filtration System is operating in the filtered pressurization mode. This is an administrative change that will not result in any change in system operation, or any technical change to this SR.

It is the NRC staff's understanding that the capability of maintaining a positive Control Room envelope pressure equal to or greater than 1/8 inch wg relative to the outside atmosphere as required by Technical Specification Surveillance Requirements 4.7.8.c.2 and 4.7.8.c.3 will be suspended during pressure testing of the Cable Spreading Room (CSR). The CSR test is being performed in support of the corrective actions identified in the MNPS-3 Licensee Event Report (LER) 99-002-00, "Inadvertent Carbon Dioxide Fire Suppression System Actuation In The Cable Spreading Room," dated February 16, 1999. The purpose of the CSR pressure test is to identify leakage pathways from the CSR to adjacent areas. Once identified, these leakage pathways will be repaired and tested in order to ensure that in the event of a fire in the CSR requiring actuation of the CO<sub>2</sub> Suppression System, CO<sub>2</sub> concentrations outside the CSR will not preclude the Unit from being safely shut down from the Remote Shutdown Panel if an

evacuation of the Control Room is required. This exception to the TSs will allow pressure testing of the CSR to be performed in any MODE of operation. The exception will expire upon the first entry into MODE 4 following the completion of refueling operations associated with the seventh refueling outage in February 2001.

The staff also understands that as a compensatory measure, a dedicated operator will be stationed in the Control Room, in constant communication with a dedicated operator at the temporary fan during pressure testing of the CSR. This will allow rapid depressurization of the CSR in the event a Control Building Isolation signal is received. In addition, in the letter dated April 13, 2000, the licensee stated that:

- a. Radiation monitors are installed to detect radiation levels in the control building ventilation inlet. These monitors, which provide indication in the control room, will initiate a main control board alarm and automatic isolation of the control building if a preset radiation level is exceeded.
- b. Self contained breathing apparatus (SCBAs) are stored in the MNPS-3 control room envelope. The control room operators are qualified to use the SCBAs.
- c. Potassium iodide tablets are stored in the MNPS-3 control room in the shift manager's office.

The NRC staff considers that the proposed changes to the TSs will not adversely affect the operation of the equipment necessary to mitigate design basis accidents and that the administrative controls and compensatory measures that will be implemented during CSR pressurization testing will provide reasonable assurance that the integrity of the control room envelope will be maintained. Therefore, the changes outlined above are acceptable. The licensee is also revising the associated Bases to reflect these changes. The staff does not object to the Bases revisions.

#### 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 and changes surveillance requirements. 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 34748). 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: H. Walker

Date: August 22, 2000