

January 20, 1999

Mr. Martin L. Bowling, Jr.  
Recovery Officer - Technical Services  
Northeast Nuclear Energy Company  
c/o Ms. Patricia A. Loftus  
Director - Regulatory Affairs  
P. O. Box 128  
Waterford, Connecticut 06385

SUBJECT: ISSUANCE OF AMENDMENT - MILLSTONE NUCLEAR POWER STATION,  
UNIT NO. 2 (TAC NO. MA3671)


Dear Mr. Bowling:

The Commission has issued the enclosed Amendment No. 224 to Facility Operating License No. DPR-65 for the Millstone Nuclear Power Station, Unit No. 2, in response to your application dated September 28, 1998.

The amendment approves the previously implemented revision to the Final Safety Analysis Report (FSAR) Section 8.7.3.1 that changed certain electrical separation requirements from 12 inches to 6 inches. The FSAR change was previously implemented following an erroneous 10 CFR 50.59 evaluation.

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,

  
Stephen Dembek, Project Manager  
Project Directorate I-2  
Division of Reactor Projects - I/II  
Office of Nuclear Reactor Regulation

Docket No. 50-336

Enclosures: 1. Amendment No. 224 to DPR-65  
2. Safety Evaluation  
cc w/encls: See next page

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UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

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Northeast Nuclear Energy Company  
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Sincerely,

A handwritten signature in black ink, reading "Stephen Dembek", is positioned above the typed name.

Stephen Dembek, Project Manager  
Project Directorate I-2  
Division of Reactor Projects - I/II  
Office of Nuclear Reactor Regulation

Docket No. 50-336

Enclosures: 1. Amendment No. 224 to DPR-65  
2. Safety Evaluation

cc w/encls: See next page

Millstone Nuclear Power Station  
Unit 2

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**Millstone Nuclear Power Station  
Unit 2**

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UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

NORTHEAST NUCLEAR ENERGY COMPANY  
THE CONNECTICUT LIGHT AND POWER COMPANY  
THE WESTERN MASSACHUSETTS ELECTRIC COMPANY  
DOCKET NO. 50-336  
MILLSTONE NUCLEAR POWER STATION, UNIT NO. 2  
AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 224  
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 September 28, 1998, 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.

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2. Accordingly, by Amendment No.224 , the license is amended to authorize the previously implemented revision of the Final Safety Analysis Report as set forth in the application for amendment dated September 28, 1998.
3. This license amendment is effective as of the date of issuance, to be implemented within 60 days of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

A handwritten signature in black ink, appearing to read 'William M. Dean', with a long horizontal flourish extending to the right.

William M. Dean, Director  
Project Directorate I-2  
Division of Reactor Projects - I/II  
Office of Nuclear Reactor Regulation

Date of Issuance: January 20, 1999



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 224

TO FACILITY OPERATING LICENSE NO. DPR-65

NORTHEAST NUCLEAR ENERGY COMPANY

THE CONNECTICUT LIGHT AND POWER COMPANY

THE WESTERN MASSACHUSETTS ELECTRIC COMPANY

MILLSTONE NUCLEAR POWER STATION, UNIT NO. 2

DOCKET NO. 50-336

**1.0 INTRODUCTION**

By letter dated September 28, 1998, the Northeast Nuclear Energy Company, et al. (the licensee), submitted a request for changes to the Millstone Nuclear Power Station, Unit No. 2 Final Safety Analysis Report (FSAR). In 1997, the licensee issued a Design Change Record (DCR) to revise Sections 2.4.2 and 2.4.6 of Specification SP-M2-EE-0016, "Electrical Separation Specification - Millstone Unit 2," Rev. 0. Specification SP-M2-EE-0016, Rev. 0, requires 12 inches of separation between redundant wires/devices located in control panels, and does not address current industry standard regarding separation inside control panels. The licensee issued the DCR to change the minimum separation between redundant wires/devices located in control panels to 6 inches. The licensee based the 6-inch separation, in part, on IEEE Standard 384-1981. The licensee's DCR concluded that these changes did not involve an unreviewed safety question. The staff performed a safety system functional inspection (SSFI) and issued a violation citing that 12 inches, and not 6 inches, is the approved electrical cable separation criteria in the panels for Millstone Unit 2. Therefore, by letter dated September 28, 1998, the licensee requested a license amendment to receive approval of the above mentioned changes to the FSAR because the licensee determined that the changes do involve an unreviewed safety question.

**2.0 EVALUATION**

Prior to September of 1997, the FSAR stated, in Section 8.7.3.1, that redundant vital cables terminate on terminal blocks at least 12 inches apart; and, internal wiring of redundant vital circuits, and any associated devices, is separated by 12 inches. Where the minimum spatial separation of 12-inches is not feasible, noncombustible barriers or conduits are used to provide separation. Also, the barriers are properly supported for structural strength, and extended from top to bottom and front to back to a depth that provides a minimum of a 12-inch separation

between channels. This formed the licensing basis for Millstone Unit 2, for the separation requirement inside control boards and panels for redundant vital circuits and associated devices.

The licensee reduced the minimum separation distance between redundant vital wires/devices inside control panels from 12 inches to 6 inches in accordance with IEEE Standard 384-1981, Sections 6.6.2 and 6.6.5. Section 6.6.2 of IEEE Standard 384-1981 states that where the control switchboard materials are flame retardant and an analysis is not performed, the minimum separation distance shall be 6 inches. In the event the above separation distances are not maintained, barriers shall be installed between redundant Class 1E equipment and wiring. Regarding the flame requirements, the licensee states that wires used inside control panels meet the IEEE Standard 383 flame test requirements as a minimum and circuits are protected by circuit breakers, fuses, or other limiting devices; thus, the probability of a fire due to wiring overcurrent or short circuit is negligible. Wiring inside control panels is used for control and indication, and carries currents that do not generate appreciable heat. Control panels are located in environments that maintain acceptable temperatures within the control panels. Thus, damage to wires/devices due to fires or overheating is negligible. The revised FSAR Section 8.7.3.1 states:

Redundant vital cables terminate on terminal blocks at least six inches apart. Internal wiring of redundant vital circuits, and any associated devices, is separated by a minimum of six inches. Where the minimum separation of six inches is not feasible, noncombustible barriers or conduits are used to provide separation.

The barriers are properly supported for structural strength, and extended from top to bottom and front to back to a depth which provides a minimum of six inches separation between channels.

The staff has evaluated the licensee's submittal and determined that the changes of the cable separation from 12 inches to 6 inches are in accordance with Regulatory Guide (RG) 1.75-1978, Rev. 2. RG 1.75, Rev. 2 endorses IEEE Standard 384-1974. IEEE Standard 384-1974 provides guidance for 6 inches of minimum separation between redundant Class 1E equipment and circuits internal to the control boards. This is the same guidance contained in IEEE Standard 384-1981 for wiring internal to the control boards.

Based on the preceding evaluation, the staff concludes that the changes of cable separation requirements internal to the control boards are safe because they are in accordance with current regulatory guidance contained in RG 1.75-1978. Therefore, the licensee's previously implemented FSAR changes are acceptable.

### 3.0 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.



#### 4.0 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 (63 FR 59593, November 4, 1998). 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.

#### 5.0 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: N. Trehan

Date: January 20, 1999