

February 2, 1990

Docket No. 50-423

Mr. Edward J. Mroczka
Senior Vice President
Nuclear Engineering and Operations
Connecticut Yankee Atomic Power Company
Northeast Nuclear Energy Company
Post Office Box 270
Hartford, Connecticut 06141-0270

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Dear Mr. Mroczka:

SUBJECT: ISSUANCE OF AMENDMENT (TAC NOS. 75195 AND 75196)

The Commission has issued the enclosed Amendment No. 45 to Facility Operating License No. NPF-49 for Millstone Nuclear Power Station, Unit No. 3, in response to your applications dated October 17 and October 19, 1989.

The amendment modifies the Technical Specifications (TS) as follows: (1) TS 4.3.1.2, "Reactor Trip System Instrumentation" and TS 4.3.2.2, "Engineered Safety Features Actuation System Instrumentation" are changed to require testing of input relays as part of the response time testing program, and (2) TS Table 4.3-2, "Engineered Safety Features Actuation System Instrumentation Surveillance Requirements" is changed to clarify Loss-of-Offsite Power (LOOP) Test requirements.

A copy of the related Safety Evaluation is also enclosed. The notice of issuance will be included in the Commission's bi-weekly Federal Register notice.

Sincerely,

David H. Jaffe, Project Manager
Project Directorate I-4
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Enclosures:

1. Amendment No.45 to NPF-49
2. Safety Evaluation

cc w/enclosures:
See next page

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NAME	:SNorris	:DJaffe	:JStolz	:	:	:	:
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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

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Sincerely,

A handwritten signature in dark ink, appearing to read "D. H. Jaffe", is written over a horizontal line.

David H. Jaffe, Project Manager
Project Directorate I-4
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Enclosures:

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cc w/enclosures:
See next page

Mr. E. J. Mroczka
Northeast Nuclear Energy Company

Millstone Nuclear Power Station
Unit No. 3

cc:

Gerald Garfield, Esquire
Day, Berry and Howard
Counselors at Law
City Place
Hartford, Connecticut 06103-3499

R. M. Kacich, Manager
Generation Facilities Licensing
Northeast Utilities Service Company
Post Office Box 270
Hartford, Connecticut 06141-0270

W. D. Romberg, Vice President
Nuclear Operations
Northeast Utilities Service Company
Post Office Box 270
Hartford, Connecticut 06141-0270

D. O. Nordquist
Manager of Quality Assurance
Northeast Nuclear Energy Company
Post Office Box 270
Hartford, Connecticut 06141-0270

Kevin McCarthy, Director
Radiation Control Unit
Department of Environmental Protection
State Office Building
Hartford, Connecticut 06106

Regional Administrator
Region I
U. S. Nuclear Regulatory Commission
475 Allendale Road
King of Prussia, Pennsylvania 19406

Bradford S. Chase, Under Secretary
Energy Division
Office of Policy and Management
80 Washington Street
Hartford, Connecticut 06106

First Selectmen
Town of Waterford
Hall of Records
200 Boston Post Road
Waterford, Connecticut 06385

S. E. Scafe, Station Superintendent
Millstone Nuclear Power Station
Northeast Nuclear Energy Company
Post Office Box 128
Waterford, Connecticut 06385

W. J. Raymond, Resident Inspector
Millstone Nuclear Power Station
c/o U. S. Nuclear Regulatory Commission
Post Office Box 811
Niantic, Connecticut 06357

C. H. Clement, Unit Superintendent
Millstone Unit No. 3
Northeast Nuclear Energy Company
Post Office Box 128
Waterford, Connecticut 06385

M. R. Scully, Executive Director
Connecticut Municipal Electric
Energy Cooperative
30 Stott Avenue
Norwich, Connecticut 06360

Ms. Jane Spector
Federal Energy Regulatory Commission
825 N. Capitol Street, N.E.
Room 8608C
Washington, D.C. 20426

Mr. Alan Menard, Manager
Technical Services
Massachusetts Municipal Wholesale
Electric Company
Post Office Box 426
Ludlow, Massachusetts 01056

Burlington Electric Department
c/o Robert E. Fletcher, Esq.
271 South Union Street
Burlington, Vermont 05402



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

NORTHEAST NUCLEAR ENERGY COMPANY, ET AL.

DOCKET NO. 50-423

MILLSTONE NUCLEAR POWER STATION, UNIT NO. 3

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 45
License No. NPF-49

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The applications for amendment by Northeast Nuclear Energy Company, et al. (the licensee) dated October 17 and October 19, 1989, comply 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, 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. 45, 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 its issuance, to be implemented within 30 days of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



John F. Stolz, Director
Project Directorate I-4
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: February 2, 1990

ATTACHMENT TO LICENSE AMENDMENT NO. 45

FACILITY OPERATING LICENSE NO. NPF-49

DOCKET NO. 50-423

Replace the following pages of the Appendix A Technical Specifications with the enclosed pages. The revised pages are identified by amendment number and contain vertical lines indicating the areas of change. The corresponding overleaf pages are provided to maintain document completeness.

Remove

3/4 3-1
3/4 3-16
3/4 3-39
3/4 3-40
3/4 3-41

Insert

3/4 3-1
3/4 3-16
3/4 3-39
3/4 3-40
3/4 3-41

3/4.3 INSTRUMENTATION

3/4.3.1 REACTOR TRIP SYSTEM INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.1 As a minimum, the Reactor Trip System instrumentation channels and interlocks of Table 3.3-1 shall be OPERABLE with RESPONSE TIMES as shown in Table 3.3-2.

APPLICABILITY: As shown in Table 3.3-1.

ACTION:

As shown in Table 3.3-1.

SURVEILLANCE REQUIREMENTS

4.3.1.1 Each Reactor Trip System instrumentation channel and interlock and the automatic trip logic shall be demonstrated OPERABLE by the performance of the Reactor Trip System Instrumentation Surveillance Requirements specified in Table 4.3-1.

4.3.1.2 The REACTOR TRIP SYSTEM RESPONSE TIME of each Reactor trip function shall be demonstrated to be within its limit at least once per 18 months. Each test shall include at least one train such that both trains are tested at least once per 36 months and one channel (to include input relays to both trains) per function such that all channels are tested at least once every N times 18 months where N is the total number of redundant channels in a specific Reactor trip function as shown in the "Total No. of Channels" column of Table 3.3-1.

TABLE 3.3-1

REACTOR TRIP SYSTEM INSTRUMENTATION

<u>FUNCTIONAL UNIT</u>	<u>TOTAL NO. OF CHANNELS</u>	<u>CHANNELS TO TRIP</u>	<u>MINIMUM CHANNELS OPERABLE</u>	<u>APPLICABLE MODES</u>	<u>ACTION</u>
1. Manual Reactor Trip	2	1	2	1, 2	1
	2	1	2	3*, 4*, 5*	11
2. Power Range, Neutron Flux					
a. High Setpoint	4	2	3	1, 2	2#
b. Low Setpoint	4	2	3	1###, 2	2#
3. Power Range, Neutron Flux High Positive Rate	4	2	3	1, 2	2#
4. Power Range, Neutron Flux, High Negative Rate	4	2	3	1, 2	2#
5. Intermediate Range, Neutron Flux	2	1	2	1###, 2	3
6. Source Range, Neutron Flux					
a. Startup	2	1	2	2##	4
b. Shutdown	2	0	1	3, 4, 5	5
c. Shutdown	2	1	2	3*, 4*, 5*	11
7. Overtemperature ΔT					
a. Four Loop Operation	4	2	3	1, 2	6#
b. Three Loop Operation	3	2	2	1, 2	6#
8. Overpower ΔT					
a. Four Loop Operation	4	2	3	1, 2	6#
b. Three Loop Operation	3	2	2	1, 2	6#
9. Pressurizer Pressure--Low	4	2	3	1**	6# (1)
10. Pressurizer Pressure--High	4	2	3	1, 2	6# (1)
11. Pressurizer Water Level--High	3	2	2	1**	6#

INSTRUMENTATION

3/4.3.2 ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.2 The Engineered Safety Features Actuation System (ESFAS) instrumentation channels and interlocks shown in Table 3.3-3 shall be OPERABLE with their Trip Setpoints set consistent with the values shown in the Trip Setpoint column of Table 3.3-4 and with RESPONSE TIMES as shown in Table 3.3-5.

APPLICABILITY: As shown in Table 3.3-3.

ACTION:

- a. With an ESFAS Instrumentation or Interlock Trip Setpoint trip less conservative than the value shown in the Trip Setpoint column but more conservative than the value shown in the Allowable Value column of Table 3.3-4, adjust the Setpoint consistent with the Trip Setpoint value.
- b. With an ESFAS Instrumentation or Interlock Trip Setpoint less conservative than the value shown in the Allowable Value column of Table 3.3-4, either:
 1. Adjust the Setpoint consistent with the Trip Setpoint value of Table 3.3-4, and determine within 12 hours that Equation 2.2-1 was satisfied for the affected channel, or
 2. Declare the channel inoperable and apply the applicable ACTION statement requirements of Table 3.3-3 until the channel is restored to OPERABLE status with its Setpoint adjusted consistent with the Trip Setpoint value.

Equation 2.2-1

$$Z + R + S \leq TA$$

Where:

Z = The value from Column Z of Table 3.3-4 for the affected channel,

R = The "as measured" value (in percent span) of rack error for the affected channel,

S = Either the "as measured" value (in percent span) of the sensor error, or the value from Column S (Sensor Error) of Table 3.3-4 for the affected channel, and

TA = The value from Column TA (Total Allowance) of Table 3.3-4 for the affected channel.

- c. With an ESFAS instrumentation channel or interlock inoperable, take the ACTION shown in Table 3.3-3.

INSTRUMENTATION

SURVEILLANCE REQUIREMENTS

4.3.2.1 Each ESFAS instrumentation channel and interlock and the automatic actuation logic and relays shall be demonstrated OPERABLE by performance of the ESFAS Instrumentation Surveillance Requirements specified in Table 4.3-2.

4.3.2.2 The ENGINEERED SAFETY FEATURES RESPONSE TIME of each ESFAS function shall be demonstrated to be within the limit at least once per 18 months. Each test shall include at least one train such that both trains are tested at least once per 36 months and one channel (to include input relays to both trains) per function such that all channels are tested at least once per N times 18 months where N is the total number of redundant channels in a specific ESFAS function as shown in the "Total No. of Channels" column of Table 3.3-3.

TABLE 4.3-2 (Continued)ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION
SURVEILLANCE REQUIREMENTS

<u>FUNCTIONAL UNIT</u>	<u>CHANNEL CHECK</u>	<u>CHANNEL CALIBRATION</u>	<u>ANALOG CHANNEL OPERATIONAL TEST</u>	<u>TRIP ACTUATING DEVICE OPERATIONAL TEST</u>	<u>ACTUATION LOGIC TEST</u>	<u>MASTER RELAY TEST</u>	<u>SLAVE RELAY TEST</u>	<u>MODES FOR WHICH SURVEILLANCE IS REQUIRED</u>
6. Auxiliary Feedwater								
a. Manual Initiation	N.A.	N.A.	N.A.	R	N.A.	N.A.	N.A.	1, 2, 3
b. Automatic Actuation and Actuation Relays	N.A.	N.A.	N.A.	N.A.	M(1)	M(1)	Q	1, 2, 3
c. Steam Generator Water Level-Low-Low	S	R	M	N.A.	N.A.	N.A.	N.A.	1, 2, 3
d. Safety Injection	See Item 1. above for all Safety Injection Surveillance Requirements.							
e. Loss-of-Offsite Power Requirements.	See Item 8 below for all Loss of Power Surveillance							
f. Containment Depres- surization Actuation (CDA)	See Item 2. above for all CDA Surveillance Requirements.							
7. Control Building Isolation								
a. Manual Actuation	N.A.	N.A.	N.A.	R	N.A.	N.A.	N.A.	All
b. Manual Safety Injection Actuation	N.A.	N.A.	N.A.	R	N.A.	N.A.	N.A.	1, 2, 3, 4
c. Automatic Actuation Logic and Actuation Relays	N.A.	N.A.	N.A.	N.A.	M(1)	M(1)	Q	1, 2, 3, 4
d. Containment Pressure-- High-1	S	R	M	N.A.	N.A.	N.A.	N.A.	1, 2, 3

TABLE 4.3-2 (Continued)
ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION
SURVEILLANCE REQUIREMENTS

<u>FUNCTIONAL UNIT</u>	<u>CHANNEL CHECK</u>	<u>CHANNEL CALIBRATION</u>	<u>ANALOG CHANNEL OPERATIONAL TEST</u>	<u>TRIP ACTUATING DEVICE OPERATIONAL TEST</u>	<u>ACTUATION LOGIC TEST</u>	<u>MASTER RELAY TEST</u>	<u>SLAVE RELAY TEST</u>	<u>MODES FOR WHICH SURVEILLANCE IS REQUIRED</u>
7. Control Building Isolation (Continued)								
e. Control Building Inlet Ventilation Radiation	S	R	M	N.A.	N.A.	N.A.	N.A.	All
8. Loss of Power								
a. 4 kV Bus Undervoltage (Loss of Voltage)	N.A.	R	N.A.	M(3)	N.A.	N.A.	N.A.	1, 2, 3, 4
b. 4 kV Bus Undervoltage (Grid Degraded Voltage)	N.A.	R	N.A.	M(3)	N.A.	N.A.	N.A.	1, 2, 3, 4
9. Engineered Safety Features Actuation System Interlocks								
a. Pressurizer Pressure, P-11	N.A.	R	M	N.A.	N.A.	N.A.	N.A.	1, 2, 3
b. Low-Low T _{avg} , P-12	N.A.	R	M	N.A.	N.A.	N.A.	N.A.	1, 2, 3
c. Reactor Trip, P-4	N.A.	N.A.	N.A.	R	N.A.	N.A.	N.A.	1, 2, 3
d. Steam Generator Water Level, P-14	S	R	M	N.A.	M(1)	M(1)	Q	1, 2, 3
10. Emergency Generator Load Sequencer	N.A.	N.A.	N.A.	N.A.	Q(1, 2)	N.A.	N.A.	1, 2, 3, 4

TABLE 4.3-2 (Continued)

TABLE NOTATION

- (1) Each train shall be tested at least every 62 days on a STAGGERED TEST BASIS.
- (2) This surveillance may be performed continuously by the emergency generator load sequencer auto test system as long as the EGLS auto test system is demonstrated operable by the performance of an ACTUATION LOGIC TEST at least once per 92 days.
- (3) On a monthly basis an undervoltage condition will be initiated at the sensing device to verify the operability of the trip actuating device and verify that the associated logic and alarm relays operate.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 45

TO FACILITY OPERATING LICENSE NO. NPF-49

NORTHEAST NUCLEAR ENERGY COMPANY, ET AL.

MILLSTONE NUCLEAR POWER STATION, UNIT NO. 3

DOCKET NO. 50-423

INTRODUCTION

By applications for license amendment dated October 17 and October 19, 1989, Northeast Nuclear Energy Company, et. al (the licensee), requested changes to Millstone Unit 3 Technical Specifications (TS).

The proposed amendment would change the Millstone Unit 3 TS as follows:

- (1) TS 4.3.1.2, "Reactor Trip System Instrumentation" and TS 4.3.2.2, "Engineered Safety Features Actuation System Instrumentation" would be changed to require testing of input relays as part of the response time testing program, and
- (2) TS Table 4.3-2, "Engineered Safety Features Actuation System Instrumentation Surveillance Requirements" would be changed to clarify Loss-of-Offsite Power (LOOP) Test requirements.

DISCUSSION AND EVALUATION

The purpose of response time testing is to assure that equipment which is credited in the safety analyses for preventing, or ameliorating, the consequences of accidents will respond within the time frame assumed in the safety analyses. At the present time, the instrumentation associated with the Reactor Trip System (RTS) and the Engineered Safety Features Actuation System (ESFAS) are response time tested under TS 4.3.1.2 and 4.3.2.2, respectively. One design feature that is common to the RTS and the ESFAS is the two trains of input relays which are actuated by sensors and subsequently actuate the RTS and ESFAS. The licensee has proposed a change to TS 4.3.1.2 and 4.3.2.2 to explicitly include testing of the input relays as part of the RTS and ESFAS response time testing programs.

The licensee's proposed change to TS 4.3.1.2 and 4.3.2.2 does not affect any response times or associated safety analyses but does serve to assure that the input relays are tested with the intended frequency. Accordingly, the proposed changes to TS 4.3.1.2 and 4.3.2.2 are acceptable.

Test intervals for the ESFAS are specified in TS Table 4.3-2. At the present time, LOOP testing associated with ESFAS instrumentation is addressed twice in TS Table 4.3-2 and is, in fact, the same requirement. Item 6.e is the LOOP actuation surveillance for the Auxiliary Feedwater (AFW) System while Item 8 is the LOOP actuation surveillance for all ESFAS instrumentation devices (including AFW). The licensee has proposed that Item 6.e of TS Table 4.3-2 be eliminated by referring to Item 8. In addition, the licensee has proposed the following clarifying note for the monthly LOOP test required by Item 8 of TS Table 4.3-2:

On a monthly basis an undervoltage condition will be initiated at the sensing device to verify the operability of the trip actuating device and verify that the associated logic and alarm relays operate.

The proposed changes to the TS do not affect equipment test methods or frequencies but do serve to clarify existing requirements. Accordingly, the proposed changes to TS Table 4.3-2 are acceptable.

ENVIRONMENTAL CONSIDERATION

This 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. We have 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 staff has previously published a proposed finding that the amendment involves no significant hazards consideration and there has been no public comment on such finding. 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.

CONCLUSION

We have 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, and (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.

Dated: February 2, 1990

Principal Contributor: David H. Jaffe