February 16, 1988

Docket No. 50-423

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

Dear Mr. Mroczka:

SUBJECT: ISSUANCE OF AMENDMENT (TAC NO. 66789)

The Commission has issued the enclosed Amendment No. 14 to Facility Operating License No. NPF-49 for Millstone Nuclear Power Station, Unit No. 3, in response to your application dated December 4, 1987.

The amendment revises the Technical Specifications to delete the chlorine detection system from Technical Specification 3/4.3.2.

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,

[redacted]

Robert L. Ferguson, Project Manager
Project Directorate I-4
Division of Reactor Projects I/II
Office of Nuclear Reactor Regulation

Enclosures:
1. Amendment No. 14 to NPF-49.
2. Safety Evaluation

cc w/enclosures:
See next page

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

W. D. Romberg, Vice President
Nuclear Operations
Northeast Utilities Service 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

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

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

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

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

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

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

D. O. Nordquist, Director
Quality Services Department
Northeast Utilities Services Company
Post Office Box 270
Hartford, Connecticut 06141-0270

Regional Administrator
Region I
U. S. Nuclear Regulatory Commission
631 Park Avenue
King of Prussia, Pennsylvania 19406

First Selectmen
Town of Waterford
Hall of Records
200 Boston Post Road
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

M. R. Scully, Executive Director
Connecticut Municipal Electric
Energy Cooperative
268 Thomas Road
Groton, Connecticut 06340

Michael L. Jones, Manager
Project Management Department
Massachusetts Municipal Wholesale
Electric Company
Post Office Box 426
Ludlow, Massachusetts 01056

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. 14
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 December 4, 1987, 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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*Northeast Nuclear Energy Company is authorized to act as agent and representative for the following Owners: Central Maine Power Company, Central Vermont Public Service Corporation, Chicopee Municipal Lighting Plant, City of Burlington, Vermont, Connecticut Municipal Electric Light Company, Massachusetts Municipal Wholesale Electric Company, Montaup Electric Company, New England Power Company, The Village of Lyndonville Electric Department, Western Massachusetts Electric Company, and Vermont Electric Generation and Transmission Cooperative, Inc., and has exclusive responsibility and control over the physical construction, operation and maintenance of the facility.

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. 14 , 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.

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 16, 1988

ATTACHMENT TO LICENSE AMENDMENT NO. 14

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	Insert
3/4 3-22	3/4 3-22
3/4 3-29	3/4 3-29
3/4 3-34	3/4 3-34
3/4 3-40	3/4 3-40

TABLE 3.3-3 (Continued)

ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION

FUNCTIONAL UNIT	TOTAL NO. OF CHANNELS	CHANNELS TO TRIP	MINIMUM CHANNELS OPERABLE	APPLICABLE MODES	ACTION
6. Auxiliary Feedwater					
a. Manual Initiation	2	1	2	1, 2, 3	23
b. Automatic Actuation Logic and Actuation Relays	2	1	2	1, 2, 3	22
c. Stm. Gen. Water Level--Low-Low					
1) Start Motor-Driven Pumps	4/stm. gen.	2/stm. gen. in any operating stm. gen.	3/stm. gen. in each operating stm. gen.	1, 2, 3	20*
2) Start Turbine-Driven Pump	4/stm. gen.	2/stm. gen. in any 2 operating stm. gen.	3/stm. gen. in each operating stm. gen.	1, 2, 3	20*
d. Safety Injection Start Motor-Driven Pumps	See Item 1. above for all Safety Injection initiating functions and requirements.				
e. Loss-of-Offsite Power Start Motor-Driven Pumps	2	1	2	1, 2, 3	19

TABLE 3.3-3 (Continued)

ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION

FUNCTIONAL UNIT	TOTAL NO. OF CHANNELS	CHANNELS TO TRIP	MINIMUM CHANNELS OPERABLE	APPLICABLE MODES	ACTION
6. Auxiliary Feedwater (Continued)					
f. Containment Depressurization Actuation (CDA) Start Motor-Driven Pumps	See Item 2. above for all CDA functions and requirements.				
7. Control Building Isolation					
a. Manual Actuation	2	1	2	All	19
b. Manual Safety Injection Actuation	2	1	2	1, 2, 3, 4	19
c. Automatic Actuation Logic and Actuation Relays	2	1	2	All	14
d. Containment Pressure--High-1	3	2	2	1, 2, 3	15
e. Control Building Inlet Ventilation Radiation	2/intake	1	2/intake	All	18
8. Loss of Power					
a. 4 kV Bus Under-voltage-Loss of Voltage	4/bus	2/bus	3/bus	1, 2, 3, 4	20*
b. 4 kV Bus Undervoltage-Grid Degraded Voltage	4/bus	2/bus	3/bus	1, 2, 3, 4	20*

TABLE 3.3-4 (Continued)

ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION TRIP SETPOINTS

FUNCTIONAL UNIT	TOTAL ALLOWANCE (TA)	Z	SENSOR ERROR (S)	TRIP SETPOINT	ALLOWABLE VALUE
6. Auxiliary Feedwater (Continued)					
2) Start Turbine-Driven Pumps	20.5	18.98	1.75	≥ 23.5% of narrow range instrument span.	≥ 22.6% of narrow range instrument span.
d. Safety Injection	See Item 1. above for all Safety Injection Trip Setpoints and Allowable Values.				
e. Loss-of-Offsite Power Start Motor-Driven Pumps	N.A.	N.A.	N.A.	≥ 2800V	≥ 2720V
f. Containment Depressurization Actuation (CDA) Start Motor-Driven Pumps	See Item 2. above for all CDA Trip Setpoints and Allowable Values.				
7. Control Building Isolation					
a. Manual Actuation	N.A.	N.A.	N.A.	N.A.	N.A.
b. Manual Safety Injection Actuation	N.A.	N.A.	N.A.	N.A.	N.A.
c. Automatic Actuation Logic and Actuation Relays	N.A.	N.A.	N.A.	N.A.	N.A.
d. Containment Pressure--High 1	3.3	1.01	1.75	≤ 3.0 psig	≤ 3.8 psig
e. Control Building Inlet Ventilation Radiation	N.A.	N.A.	N.A.	≤ 1.5×10^{-5} μc/cc	≤ 1.5×10^{-5} μc/cc

TABLE 3.3-4 (Continued)

ENGINEERING SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION TRIPS SETPOINTS

FUNCTIONAL UNIT	TOTAL ALLOWANCE (TA)	Z	SENSOR ERROR (S)	TRIP SETPOINT	ALLOWABLE VALUE
8. Loss of Power					
a. 4 kV Bus Undervoltage (Loss of Voltage)	N.A.	N.A.	N.A.	$\geq$ 2800 volts with a $\leq$ 2 second time delay.	$\geq$ 2720 volts with a $\leq$ 2 second time delay.
b. 4 kV Bus Undervoltage (Grid Degraded Voltage)	N.A.	N.A.	N.A.	$\geq$ 3710 volts with a $\leq$ 8 second time delay with ESF actuation or $\leq$ 300 second time delay without ESF actuation.	$\geq$ 3706 volts with a $\leq$ 8 second time delay with ESF actuation or $\leq$ 300 second time delay without ESF actuation.
9. Engineering Safety Features Actuation System Interlocks					
a. Pressurizer Pressure, P-11	N.A.	N.A.	N.A.	$\leq$ 1985 psig	$\leq$ 1995 psig.
b. Low-Low T_{avg}, P-12	N.A.	N.A	N.A.	$\geq$ 553°F	$\geq$ 549.6°F
c. Reactor Trip, P-4	N.A.	N.A.	N.A.	N.A.	N.A.
d. Steam Generator Water Level, P-14	See Item 5 above for all Steam Generator Water Level Trip Setpoints and Allowable Values.				
10. Emergency Generator Load Sequencer	N.A.	N.A.	N.A.	N.A.	N.A.

TABLE 3.3-5 (Continued)

ENGINEERED SAFETY FEATURES RESPONSE TIMES

INITIATING SIGNAL AND FUNCTION	RESPONSE TIME IN SECONDS
4. Steam Line Pressure--Low	
a. Safety Injection (ECCS)	$\leq 27^{(5)}/37^{(4)}$
1) Reactor Trip	≤ 2
2) Feedwater Isolation	$\leq 6.8^{(3)}$
3) Phase "A" Isolation	$\leq 2^{(2)(6)}/12^{(1)(6)}$
4) Auxiliary Feedwater	≤ 60
5) Service Water	$\leq 90^{(1)}$
6) Start Diesel Generators	≤ 12
b. Steam Line Isolation	$\leq 6.8^{(3)}$
5. Containment Pressure--High-3	
a. Quench Spray	$\leq 32^{(2)}/42^{(1)}$
b. Phase "B" Isolation	$\leq 2^{(2)(6)}/12^{(1)(6)}$
c. Motor-Driven Auxiliary Feedwater Pumps	≤ 60
d. Service Water	$\leq 90^{(1)}$
6. Containment Pressure--High-2	
a. Steam Line Isolation	$\leq 6.8^{(3)}$
7. Steam Line Pressure - Negative Rate--High	
a. Steam Line Isolation	$\leq 6.8^{(3)}$
8. Steam Generator Water Level--High-High	
a. Turbine Trip	≤ 2.5
b. Feedwater Isolation	$\leq 6.8^{(3)}$
9. Steam Generator Water Level--Low-Low	
a. Motor-Driven Auxiliary Feedwater Pumps	≤ 60
b. Turbine-Driven Auxiliary Feedwater Pump	≤ 60
10. Loss-of-Offsite Power	
a. Motor-Driven Auxiliary Feedwater Pump	≤ 60

TABLE 3.3-5 (Continued)

ENGINEERED SAFETY FEATURES RESPONSE TIMES

INITIATING SIGNAL AND FUNCTION	RESPONSE TIME IN SECONDS
11. Loss of Power	
a. 4 kV Bus Undervoltage (Loss of Voltage)	$\leq$ 13
b. 4 kV Emergency Bus Undervoltage (Grid Degraded Voltage)	$\leq$ 18(7)/310(8)
12. T_{avg} Low Coincident With Reactor Trip (P-4)	
a. Feedwater Isolation	$\leq$ 12(3)
13. Control Building Inlet Ventilation Radiation	
a. Control Building Isolation	$\leq$ 3.7

TABLE 4.3-2 (Continued)

ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION
SURVEILLANCE REQUIREMENTS

FUNCTIONAL UNIT	CHANNEL CHECK	CHANNEL CALIBRATION	ANALOG CHANNEL OPERATIONAL TEST	TRIP ACTUATING DEVICE OPERATIONAL TEST	ACTUATION LOGIC TEST	MASTER RELAY TEST	SLAVE RELAY TEST	MODES FOR WHICH SURVEILLANCE IS REQUIRED
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	N.A.	R	N.A.	M	N.A.	N.A.	N.A	1, 2, 3
f. Containment Depressurization 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

FUNCTIONAL UNIT	CHANNEL CHECK	CHANNEL CALIBRATION	ANALOG CHANNEL OPERATIONAL TEST	TRIP ACTUATING DEVICE OPERATIONAL TEST	ACTUATION LOGIC TEST	MASTER RELAY TEST	SLAVE RELAY TEST	MODES FOR WHICH SURVEILLANCE IS REQUIRED
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	N.A.	N.A.	N.A.	1, 2, 3, 4
b. 4 kV Bus Undervoltage (Grid Degraded Voltage)	N.A.	R	N.A.	M	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

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 14

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 letter dated December 4, 1987, the Northeast Nuclear Energy Company (NNECO) proposed to revise technical specification section 3/4.3.2 to remove the chlorine detection system.

EVALUATION

The chlorine detection system was placed in the Control Building Ventilation System to assure the habitability of the control room in the event of an on-site chlorine release. The chlorine of concern was 55 tons (per unit) stored 434.3 m from the nearest control room air intake. The chlorination systems of Millstone Units 1, 2 and 3 have been modified to use sodium hypochlorite solution instead of gaseous chlorine. Therefore, the on-site storage of liquid chlorine has been eliminated.

Chlorine rail traffic on the Amtrack right-of-way through Northeast Utilities property was a concern because of the close proximity to Millstone Unit No. 3 (1700 feet) and the large quantity of chlorine contained in a rail tank car (typically 55 tons). NNECO contracted Providence and Worcester Railroad (P&W) to perform a Millstone Nuclear Power Station chlorine rail traffic study. The results of this study indicated that there was no chlorine rail traffic on this right-of-way in 1986 and for the years 1983 through 1985 the average chlorine rail traffic was two carloads per year. Based upon the data obtained for the years 1983-1985, NNECO does not anticipate any increase in the chlorine rail traffic in the vicinity of the Millstone Station. However, in order to monitor any future changes, NNECO has contracted with P&W to provide NNECO with annual updates to the Millstone Nuclear Power Station Chlorine Rail Traffic Study through the year 1991. In the Millstone Unit No. 3 FSAR, NNECO determined that shipments of liquid chlorine by barge or truck will have no adverse impact on the safety of Millstone Station, due to the decreasing use of Long Island Sound as a shipping channel and the four mile distance of the nearest interstate highway from the site.

Regulatory Guide 1.78 specifies that only frequently shipped hazardous chemicals need to be addressed in the plant design. Frequent shipments are defined in Regulatory Guide 1.78 as exceeding 10 per year for truck shipments, 30 per year for rail shipments, and 50 per year for barge shipments. The chlorine shipments identified above are below these thresholds.

NNECO has evaluated the potential effect of chlorine released from an off-site chlorine bulk storage facility and has determined that no hazard exists. The New London Water Treatment Facility was identified as a bulk storage facility of chlorine which utilizes two ton cylinders and is located four miles from Millstone Unit No. 3. Based on the small containers utilized and the four mile distance, the New London Water Treatment Facility does not represent a credible hazard to the Millstone Unit No. 3 Control Room (as per Regulatory Guide 1.78).

The Pfizer Pharmaceutical Company was also identified as a bulk storage facility of chlorine. This facility utilizes rail tank cars for chlorine storage and is located five miles from Millstone Unit No. 3. Regulatory Guide 1.78 states that "chemicals stored at distances greater than five miles from the facility need not be considered because if a release occurs at such a distance, atmospheric dispersion will dilute and disperse the incoming plume to such a degree that there should be sufficient time for the Control Room operators to take appropriate action." Based on this principle, the Pfizer Pharmaceutical Company storage facility was evaluated and determined not to be a hazard to Millstone Unit No. 3.

In summary, based upon the elimination of on-site chlorine bulk storage, verification of low chlorine rail frequency, and the absence of potentially hazardous off-site chlorine bulk storage facilities, the elimination of the Millstone Unit No. 3 Technical Specification requirements for Control Building Ventilation System Chlorine Detectors is 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. The 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 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 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 16, 1988

Principal Contributor:

R. Ferguson