AUG 3 0 1976

Docket No.: 50-336

Northeast Nuclear Energy Company
ATTN: Mr. D. C. Switzer, President
P. O. Box 270
Hartford, Connecticut 06101

Gentlemen:

The Commission has issued the enclosed Amendment No. 17 to Facility Operating License No DPR-65 for the Millstone Nuclear Power Station, Unit No. 2. The amendment consists of changes to the Technical Specifications in response to your application dated August 4, 1976.

The amendment will provide for a redesigned undervoltage (UV) reactor trip function for the Reactor Protective System (RPS).

Copies of the safety Evaluation and the Federal Register Notice are also enclosed.

Sincerely,

Original signed by
George Lear, Chief
Operating Reactors Branch #3
Division of Operating Reactors

Enclosures:
1. Amendment No. 17
2. Safety Evaluation
3. Federal Register Notice

cc w/ enclosures:
See next page

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DATE	8/17/76	8/17/76	8/18/76	8/18/76	8/25/76	8/26/76

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

THE CONNECTICUT LIGHT AND POWER COMPANY,
THE HARTFORD ELECTRIC LIGHT COMPANY,
WESTERN MASSACHUSETTS ELECTRIC COMPANY, AND
NORTHEAST NUCLEAR ENERGY COMPANY

DOCKET NO. 50-336

MILLSTONE NUCLEAR POWER STATION, UNIT NO. 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 17
License No. DPR-65

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

   A. The application for amendment by The Connecticut Light and Power Company, The Hartford Electric Light Company, Western Massachusetts Electric Company, and Northeast Nuclear Energy Company (the licensees), dated August 4, 1976, 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 a change to the Technical Specifications as indicated in the attachment to this license amendment.

3. The license amendment is effective as of the date of its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

George Lear

George Lear, Chief
Operating Reactors Branch #3
Division of Operating Reactors

Attachment:
Changes to the
Technical Specifications

Date of Issuance: August 30, 1976

ATTACHMENT TO LICENSE AMENDMENT NO. 17

FACILITY OPERATING LICENSE NO. DPR-65

DOCKET NO. 50-336

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 area of change. The corresponding overleaf pages are also provided to maintain document completeness.

Pages

3/4 3-14
3/4 3-20
3/4 3-24

TABLE 3.3-3 (Continued)

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION

FUNCTIONAL UNIT	TOTAL NO. OF CHANNELS	CHANNELS TO TRIP	MINIMUM CHANNELS OPERABLE	APPLICABLE MODES	ACTION
4. MAIN STEAM LINE ISOLATION					
Steam Generator Pressure - Low	4	2	3	1, 2, 3(c)	7
5. ENCLOSURE BUILDING FILTRATION (EBFAS)					
a. Manual EBFAS (Trip Buttons)	2	1	2	1, 2, 3, 4	6
b. Manual SIAS (Trip Buttons)	2	1	2	1, 2, 3, 4	6
c. Containment Pressure - High	4	2	3	1, 2, 3	7
d. Pressurizer Pressure - Low	4	2	3	1, 2, 3(a)	7
6. CONTAINMENT SUMP RECIRCULATION (SRAS)					
a. Manual SRAS (Trip Buttons)	2	1	2	1, 2, 3, 4	6
b. Refueling Water Storage Tank - Low	4	2	3	1, 2, 3	7

TABLE 3.3-3 (Continued)

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION

FUNCTIONAL UNIT	TOTAL NO. OF CHANNELS	CHANNELS TO TRIP	MINIMUM CHANNELS OPERABLE	APPLICABLE MODES	ACTION
7. CONTAINMENT PURGE VALVES ISOLATION					
a. Manual CIAS (Trip Buttons)	2	1	2	1, 2, 3, 4	6
b. Manual SIAS (Trip Buttons)	2	1	2	1, 2, 3, 4	6
c. Automatic CIAS Actuation Logic	2	1	2	1, 2, 3	6
d. Containment Radiation - High					
Gaseous Monitor	1(d)	1(d)	1	1, 2, 3, 4, 6	8
Particulate Monitor	1(d)	1(d)	1	1, 2, 3, 4, 6	8
8. LOSS OF POWER					
a. 4.16 kv Emergency Bus Undervoltage (Undervoltage relays) - level one	4/Bus	2/Bus	3/Bus	1, 2, 3	7
b. 4.16 kv Emergency Bus Undervoltage (Undervoltage relays) - level two	4/Bus	2/Bus	3/Bus	1, 2, 3	7

TABLE 3.3-4 (Continued)

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION TRIP VALUES

FUNCTIONAL UNIT	TRIP VALUE	ALLOWABLE VALUES
5. ENCLOSURE BUILDING FILTRATION (EBFAS)		
a. Manual EBFAS (Trip Buttons)	Not Applicable	Not Applicable
b. Manual SIAS (Trip Buttons)	Not Applicable	Not Applicable
c. Containment Pressure - High	$\leq$ 5 psig	$\leq$ 5 psig
d. Pressurizer Pressure - Low	$\geq$ 1600 psia	$\geq$ 1600 psia
6. CONTAINMENT SUMP RECIRCULATION (SRAS)		
a. Manual SRAS (Trip Buttons)	Not Applicable	Not Applicable
b. Refueling Water Storage Tank - Low	30 inches above tank bottom	30 inches above tank bottom
7. CONTAINMENT PURGE VALVES ISOLATION		
a. Manual CIAS (Trip Buttons)	Not Applicable	Not Applicable
b. Manual SIAS (Trip Buttons)	Not Applicable	Not Applicable
c. Automatic CIAS Actuation Logic	Not Applicable	Not Applicable
d. Containment Radiation - High		
Gaseous Activity	9100 cpm	9100 cpm
Particulate Activity	1.0×10^6 cpm/hr	1.0×10^6 cpm/hr

TABLE 3.3-4 (Continued)

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION TRIP VALUES

FUNCTIONAL UNIT	TRIP VALUE	ALLOWABLE VALUES
8. LOSS OF POWER		
a. 4.16 kv Emergency Bus Undervoltage (Undervoltage relays) - level one	≥ 2912 volts	≥ 2912 volts
b. 4.16 kv Emergency Bus Undervoltage (Undervoltage relays) - level two	≥ 3700 volts with an 8.0 + 2.0 second time delay	≥ 3700 volts with an 8.0 + 2.0 second time delay
9. TURBINE RUNBACK		
a. CEA Insertion Limits Switches	0 steps	+3 steps
b. Power Range Nuclear Instrumentation	≥ 2% power decrease in ≤ 2 seconds	> 2% power decrease in ≤ 2 seconds

TABLE 4.3-2

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTAION SURVEILLANCE REQUIREMENTS

FUNCTIONAL UNIT	CHANNEL CHECK	CHANNEL CALIBRATION	CHANNEL FUNCTIONAL TEST	MODES IN WHICH SURVEILLANCE REQUIRED
1. SAFETY INJECTION (SIAS)				
a. Manual (Trip Buttons)	N.A.	N.A.	R	N.A.
b. Containment Pressure - High	S	R	M	1, 2, 3
c. Pressurizer Pressure - Low	S	R	M	1, 2, 3
d. Automatic Actuation Logic	N.A.	N.A.	M(1)	1, 2, 3
2. CONTAINMENT SPRAY (CSAS)				
a. Manual (Trip Buttons)	N.A.	N.A.	R	N.A.
b. Containment Pressure -- High - High	S	R	M	1, 2, 3
c. Automatic Actuation Logic	N.A.	N.A.	M(1)	1, 2, 3
3. CONTAINMENT ISOLATION (CIAS)				
a. Manual CIAS (Trip Buttons)	N.A.	N.A.	R	N.A.
b. Manual SIAS (Trip Buttons)	N.A.	N.A.	R	N.A.
c. Containment Pressure - High	S	R	M	1, 2, 3
d. Pressurizer Pressure - Low	S	R	M	1, 2, 3
e. Automatic Actuation Logic	N.A.	N.A.	M(1)	1, 2, 3
4. MAIN STEAM LINE ISOLATION				
a. Steam Generator Pressure - Low	S	R	M	1, 2, 3
b. Automatic Actuation Logic	N.A.	N.A.	M(1)	1, 2, 3
5. ENCLOSURE BUILDING FILTRATION (EBFAS)				
a. Manual EBFAS (Trip Buttons)	N.A.	N.A.	R	N.A.
b. Manual SIAS (Trip Buttons)	N.A.	N.A.	R	N.A.
c. Containment Pressure - High	S	R	M	1, 2, 3
d. Pressurizer Pressure - Low	S	R	M	1, 2, 3
e. Automatic Actuation Logic	N.A.	N.A.	M(1)	1, 2, 3

TABLE 4.3-2 (Continued)

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION SURVEILLANCE REQUIREMENTS

FUNCTIONAL UNIT	CHANNEL CHECK	CHANNEL CALIBRATION	CHANNEL FUNCTIONAL TEST	MODES IN WHICH SURVEILLANCE REQUIRED
6. CONTAINMENT SUMP RECIRCULATION (SRAS)				
a. Manual SRAS (Trip Buttons)	N.A.	N.A.	R	N.A.
b. Refueling Water Storage Tank - Low	S	R	M	1, 2, 3
c. Automatic Actuation Logic	N.A.	N.A.	M(1)	1, 2, 3
7. CONTAINMENT PURGE VALVES ISOLATION				
a. Manual CIAS (Trip Buttons)	N.A.	N.A.	R	N.A.
b. Manual SIAS (Trip Buttons)	N.A.	N.A.	R	N.A.
c. Automatic CIAS Actuation Logic	N.A.	N.A.	M(1)	1, 2, 3
d. Containment Radiation - High				
Gaseous Monitor	S	R	M	ALL MODES
Particulate Monitor	S	R	M	ALL MODES
8. LOSS OF POWER				
a. 4.16 kv Emergency Bus Undervoltage (Undervoltage) relays) - level one	S	R	M	1, 2, 3
b. 4.16 kv Emergency Bus Undervoltage (Undervoltage relays) - level two	S	R	M	1, 2, 3
9. TURBINE RUNBACK				
a. CEA Insertion Limit Switches	S	R	S/U(2)	N.A.
b. Power Range Nuclear Instrumentation	S	R	M	1

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NO. 17 TO LICENSE NO. DPR-65

NORTHEAST NUCLEAR ENERGY COMPANY

MILLSTONE UNIT NO. 2

DOCKET NO. 50-336

Introduction

By application for license amendment dated August 4, 1976, Northeast Nuclear Energy Company (NNECO) requested changes to the Technical Specifications for Millstone Unit No. 2. The proposed changes provide for a redesigned undervoltage (UV) reactor trip function for the Reactor Protective System (RPS).

Discussion

In our Safety Evaluation Report (SER) dated July 30, 1976, issued in support of License Amendment No. 16 for Millstone Unit No. 2, we described an incident which occurred at Millstone Unit No. 2 on July 21, 1976, which resulted in the loss of all AC power to vital plant systems. We stated in our SER of July 30, 1976 that NNECO would submit details of a design change to the UV reactor trip function of the RPS that would prevent the loss of AC power to the vital plant systems.

The August 4, 1976, submittal by NNECO provides for a redesigned UV reactors trip function that incorporates the following features: (1) two levels of undervoltage protection with each level having four instrumentation channels; coincident undervoltage indications from two channels are required to trip the reactor (two-out-of-four logic); (2) level one instrumentation will trip the reactor at voltages equal to or greater than 2912 volts (70% of nominal voltage): (3) level two instrumentation will trip the reactor at voltages greater than or equal to 3700 volts (88% of nominal voltage) with a time delay of eight seconds, plus or minus 2 seconds. NNECO has also proposed that the trip setpoints as well as operability and surveillance requirements for the redesigned UV reactor trip function be incorporated into the Technical Specifications.

Evaluation

NNECO has proposed a test program that will provide verification of the functional operability of the redesigned UV reactor trip function. This test program together with those tests discussed in our SER dated July 30, 1976, will provide reasonable assurance that no adverse system interactions will result from the proposed design modification to the UV reactor trip function.

We have concluded, on the basis of our evaluation of the information provided in NNECO's submittal of August 4, 1976, that implementation of the design modification, as augmented by the test program, will be in accordance with the requirements of IEEE Std 279-1971, "Criteria for Protection Systems for Nuclear Power Generating Systems" and is, therefore, acceptable.

With regard to the proposed Technical Specifications, the operability and surveillance requirements for the redesigned UV reactor trip function are the same as those provided for the unmodified system. We find them adequate to assure that the redesigned system will be available to perform its designed function, as required.

The proposed setpoints, $\geq$3700 volts and $\geq$2912 volts, have been chosen to: (1) assure that offsite power is maintained down to approximately 3700 volts, (2) promptly trip the reactor and transfer vital loads to the onsite power source when offsite power drops below approximately 2912 volts, (3) prevent reactor trips due to grid transients (via the level two time delay) in the voltage range from 3700 volts to 2912 volts, and (4) prevent sustained reactor operation in the voltage range from 2912 volts to 3700 volts which otherwise might cause damage to vital components. With regard to operation between 3700 volts and 2912 volts for up to eight seconds, we find that 8 seconds is a sufficiently short period of time so as not to damage vital AC components. Our conclusion is based upon a test program undertaken by NNECO which demonstrated that vital AC components could withstand a 14 second duration under the most degraded voltage situation permitted by the new UV trip logic. Accordingly, we find the proposed setpoints to be acceptable.

The design modification and the proposed Technical Specifications serve to enhance the reliability of the Millstone Unit No. 2 plant AC power supply. The probability or consequences of any accident will not be more severe than previously evaluated since the equipment designed to mitigate the consequences of these accidents will be assured a more reliable source of AC power and thus no safety margins will be decreased.

Environmental Considerations

We have determined that the amendment does not authorize a change in effluent types or total amounts nor an increase in power level and will not result in any significant environmental impact. Having made this determination, we have further concluded that the amendment involves an action which is insignificant from the standpoint of environmental impact and pursuant to 10 CFR §51.5(d)(4), that an environmental impact statement, negative declaration, or environmental impact appraisal need not be prepared in connection with the issuance of this amendment.

Conclusion

We have concluded, based on the considerations discussed above, that: (1) because the changes do not involve a significant increase in the probability or consequences of accidents previously considered and do not involve a significant decrease in a safety margin, the changes do not involve a significant hazards consideration, (2) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (3) such activities will be conducted in compliance with the Commission's regulations and the issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public.

UNITED STATES NUCLEAR REGULATORY COMMISSION

DOCKET NO. 50-336

NORTHEAST NUCLEAR ENERGY COMPANY,
THE CONNECTICUT LIGHT AND POWER COMPANY,
THE HARTFORD ELECTRIC LIGHT COMPANY, AND
WESTERN MASSACHUSETTS ELECTRIC COMPANY

NOTICE OF ISSUANCE OF AMENDMENT TO FACILITY
OPERATING LICENSE

Notice is hereby given that the U. S. Nuclear Regulatory Commission (the Commission) has issued Amendment No. 17 to Facility Operating License No. DPR-65 issued to Northeast Nuclear Energy Company, The Connecticut Light and Power Company, The Hartford Electric Light Company, and Western Massachusetts Electric Company, which revised Technical Specifications for operation of the Millstone Nuclear Power Station, Unit No. 2, located in the Town of Waterford, Connecticut. The amendment is effective as of the date of issuance.

The amendment will provide for a redesigned undervoltage (UV) reactor trip function for the Reactor Protective System (RPS).

The application for the amendment complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations. The Commission has made appropriate findings as required by the Act and the Commission's rules and regulations in 10 CFR Chapter I, which are set forth in the license amendment. Prior public notice of this amendment was not required since the amendment does not involve a significant hazards consideration.

The Commission has determined that the issuance of this amendment will not result in any significant environmental impact and that pursuant to

10 CFR §51.5(d)(4) an environmental impact statement, negative declaration or environmental impact appraisal need not be prepared in connection with issuance of this amendment.

For further details with respect to this action, see (1) the application for amendment dated August 4, 1976, (2) Amendment No. 17 to License No. DPR-65, and (3) the Commission's related Safety Evaluation. All of these items are available for public inspection at the Commission's Public Document Room, 1717 H Street, N. W., Washington, D. C. and at the Waterford Public Library, Rope Ferry Road, Waterford, Connecticut 06385.

A copy of items (2) and (3) may be obtained upon request addressed to the U. S. Nuclear Regulatory Commission, Washington, D. C. 20555, Attention: Director, Division of Operating Reactors.

Dated at Bethesda, Maryland, this 30thday of August, 1976.

FOR THE NUCLEAR REGULATORY COMMISSION

George Lear

George Lear, Chief
Operating Reactors Branch #3
Division of Operating Reactors