December 23, 1992

Docket No. 50-336

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Mr. John F. Opeka
Executive Vice President, Nuclear
Connecticut Yankee Atomic Power Company
Northeast Nuclear Energy Company
Post Office Box 270
Hartford, Connecticut 06141-0270

Dear Mr. Opeka:

SUBJECT: ISSUANCE OF AMENDMENT (TAC NO. M84775)

The Commission has issued the enclosed Amendment No. 168 to Facility Operating License No. DPR-65 for Millstone Nuclear Power Station, Unit No. 2, in response to your application dated October 28, 1992, as supplemented November 25, 1992, and December 8, 1992.

The amendment incorporates changes which modify the Millstone 2 Technical Specifications in the area of TABLE 3.3-3, ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION (Page 3/4 3-13), the TABLE NOTATION, page 3/4 3-16 and the ACTION STATEMENTS, ACTION 4, page 3/4 3-17.

A copy of the related Safety Evaluation is enclosed. Also enclosed is the notice of issuance which has been forwarded to the Office of the Federal Register for publication.

Sincerely,

Original signed by
D. Jaffe for

Guy S. Vissing, Senior Project Manager
Project Directorate I-4
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Enclosures:
1. Amendment No. 168 to DPR-65
2. Safety Evaluation
3. Notice

cc w/enclosures:
See next page

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

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. 168
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 October 28, 1992, as supplemented November 25, 1992, and December 8, 1992, 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. DPR-65 is hereby amended to read as follows:

   (2) Technical Specifications

   The Technical Specifications contained in Appendix A, as revised through Amendment No. 168, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of the date of 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: December 23, 1992

ATTACHMENT TO LICENSE AMENDMENT NO. 168

FACILITY OPERATING LICENSE NO. DPR-65

DOCKET NO. 50-336

Replace the following page of the Appendix A Technical Specifications with the enclosed page. The revised page is identified by amendment number and contains vertical lines indicating the areas of change.

Remove	Insert
3/4 3-13	3/4 3-13
3/4 3-16	3/4 3-16
3/4 3-17	3/4 3-17

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					
a. Containment Pressure - High	4	2	3	1, 2, 3	2
b. Steam Generator Pressure - Low	4	2	3	1, 2, 3(c)	2
5. ENCLOSURE BUILDING FILTRATION (EBFAS)					
a. Manual EBFAS (Trip Buttons)	2	1	2	1, 2, 3, 4	1
b. Manual SIAS (Trip Buttons)	2	1	2	1, 2, 3, 4	1
c. Containment Pressure-High	4	2	3	1, 2, 3	2
d. Pressurizer Pressure-Low	4	2	3	1, 2, 3(a)	2
6. CONTAINMENT SUMP RECIRCULATION (SRAS)					
a. Manual SRAS (Trip Buttons)	2	1	2	1, 2, 3, 4	1
b. Refueling Water Storage Tank - Low	4	2(f)	4	1, 2, 3	4

TABLE 3.3-3 (Continued)

TABLE NOTATION

(a) Trip function may be bypassed when pressurizer pressure is < 1750 psia; bypass shall be automatically removed when pressurizer pressure is ≥ 1750 psia.

(b) An SIAS signal is first necessary to enable CSAS logic.

(c) Trip function may be bypassed below 600 psia; bypass shall be automatically removed at or above 600 psia.

(d) Each channel has two sensors, high radiation level on either sensor will initiate containment purge valve isolation.

(e) Trip may be bypassed during testing pursuant to Special Test Exception 3.10.3.

(f) The logic combinations of A/C and B/D do not provide a SRAS trip condition.

ACTION STATEMENTS

ACTION 1 - With the number of OPERABLE channels one less than the Total Number of Channels, restore the inoperable channel to OPERABLE status within 48 hours or be in COLD SHUTDOWN within the next 36 hours.

ACTION 2 - With the number of OPERABLE channels one less than the Total Number of Channels and with the pressurizer pressure:

a. < 1750 psia; immediately place the inoperable channel in the bypassed condition; restore the inoperable channel to OPERABLE status prior to increasing the pressurizer pressure above 1750 psia.

b. ≥ 1750 psia, operation may continue with the inoperable channel in the bypassed condition, provided the following conditions are satisfied:

1. All functional units receiving an input from the bypassed channel are also placed in the bypassed condition.

2. The Minimum Channels OPERABLE requirement is met; however, one additional channel may be removed from service for up to 2 hours for surveillance testing per Specification 4.3.2.1 provided one of the inoperable channels is placed in the tripped condition.

TABLE 3.3-3 (Continued)

ACTION 3 - With one or more channels inoperable, operation may continue provided the containment purge valves are maintained closed.

ACTION 4 - With the number of OPERABLE channels one less than the Minimum Number of Channels, place the inoperable channel in the bypassed condition and restore the channel to OPERABLE status within 48 hours or be in COLD SHUTDOWN within the next 36 hours. No other channels shall be removed from service for surveillance testing during this ACTION STATEMENT.

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO.168

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 October 28, 1992, as supplemented November 25, 1992, and December 8, 1992, Northeast Nuclear Energy Company (NNECO or the licensee) submitted an application for amendment of the Operating License No. DPR-65 for the Millstone Nuclear Power Station, Unit 2 (Millstone 2). The proposed amendment would change the technical specifications (TS) requirement for minimum channel operable for refueling water storage tank (RWST) level instruments from 3 to 4 and its applicable limiting condition for operation (LCO) would be revised as follows:

> With the number of OPERABLE channels one less than the Minimum Number of Channels, place the inoperable channel in the bypassed condition and restore the channel to OPERABLE status within 48 hours or be in COLD SHUTDOWN within the next 36 hours. No other channels shall be removed from service for surveillance testing during this ACTION STATEMENT.

2.0 BACKGROUND

On July 6, 1992, while Millstone 2 was in a refueling outage, a loss of normal power (LNP) occurred when two (out of four) engineered safeguards actuation system (ESAS) sensor cabinets were de-energized during a simultaneous replacement of two class IE 120 volt inverters. A subsequent review of the ESAS circuitry indicated that a sump recirculation actuation signal (SRAS) will be generated if control power is lost to two specific combinations of two-out-of-four sensor cabinets.

The existing instrumentation at Millstone 2 uses four refueling water storage tank (RSWT) level channels to initiate a two-out-of-four logic. With four channels (A, B, C, and D) the two-out-of-four logic permits six combinations, namely AB, AC, AD, BC, BD, and CD. Out of these six combinations, the

combinations AC and BD can occur in the event of loss of a single control power source (one 125V dc supply). The licensee has modified the SRAS logic to eliminate these two undesired combinations (AC and BD). This modification necessitated a change in the existing action statement for the LCO of the SRAS instrumentation which states:

> With the number of OPERABLE channels one less than the Total Number of Channels and with the pressurizer pressure:
>
> a. < 1750 psia; immediately place the inoperable channel in the bypassed condition; restore the inoperable channel to OPERABLE status prior to increasing the pressurizer pressure above 1750 psia.
>
> b. $\geq$ 1750 psia; operation may continue with the inoperable channel in the bypassed condition, provided the following conditions are satisfied:
>
> 1. All functional units receiving an input from the bypassed channel are also placed in the bypassed condition.
>
> 2. The Minimum Channels OPERABLE requirement is met; however, one additional channel may be removed from service for up to 2 hours for surveillance testing per Specification 4.3.2.1 provided one of the inoperable channels is placed in the tripped condition.

As part of the corrective actions related to the LNP event the licensee submitted, by letter dated October 28, 1992, the application for amendment of the operating license for Millstone Nuclear Power Station, Unit 2.

The NRC staff discussed this proposal and the supporting analysis with the licensee and invited their attention to the subject LCO in the new revised draft standard Technical Specifications for Combustion Engineering (CE) power plants. This LCO allows bypassing of an operable SRAS instrumentation channel for 48 hours before placing it in a trip mode. The licensee's October 28, 1992, submittal proposed a 7-day time period. As a result of discussions with the staff, NNECO modified the Action Statement in letter dated December 8, 1992, to reduce 7 days time period to 48 hours. The proposed 48 hour LCO is in conformance with draft NUREG-1432, "Standard Technical Specifications for Combustion Engineering Plants". NNECO also submitted a copy of their emergency operating procedure (EOP) for manual operation of SRAS and informed the staff that sufficient instrumentation including the indication and annunciations are available in the control room to adequately support the necessary operator action for manual switchover to sump recirculation if the automatic initiation of SRAS does not occur.

3.0 EVALUATION

With an inoperable channel placed in bypass, the modified SRAS logic (SRAS actuation only by four combinations of two-out-of-four instead of six as in the original CE design) does not meet single failure criterion during the bypass period. To meet the single failure criterion, the channel has to be either made operable or placed in a trip mode. The Standard Technical Specifications for CE plants require the inoperable SRAS instrumentation channel to be placed in trip if not made operable in 1 hour. NNECO proposed to place the inoperable channel in the bypass condition and restore the channel to operable status within 7 days or be in cold shutdown within the 36 hours. This proposal would effectively allow the SRAS instrumentation to be vulnerable to a single failure for 7 days. The licensee submitted Probabilistic Risk Analysis (PRA) to quantify risk of an increase in core damage frequency when an inoperable channel is placed in trip mode within 1 hour versus in bypass mode for 7 days. The analysis shows a small increase in core damage frequency for either case: approximately 2 E-9 per year for a 7 day bypass and 3 E-8 per year for a trip in 1 hour. However, an allowed outage time of 48 hours is shorter and considerably reduces SRAS instrumentation vulnerability to a single failure. Additionally, the proposed action to achieve cold shutdown in the next 36 hours after the 48 hour LCO, reduces the risk of a spurious SRAS. When an inoperable channel is placed in a trip mode for an indefinite period of time, the possibility of a spurious SRAS is increased. SRAS with no water in the sump may cause damage to the safety injection equipment.

The staff has also reviewed EOP 2532 for loss of primary coolant at Millstone 2 and find that there are specific instructions provided in the EOP with reference to control board indications to achieve manual sump recirculation switchover without potential damage to ECCS pumps. The permissible time between failure of automatic SRAS and manual SRAS switchover without ECCS pump damage is approximately 4 minutes. The time required for manual SRAS switchover action is approximately 2 minutes. All switches and indicators required for this manual operation are located on one control board. Under most scenarios, the manual initiation of SRAS requires depressing of one push button per train on this control board. The licensee informed the staff that the operators for Millstone 2 are extensively trained to use this EOP.

Based on the above evaluation, the staff concludes that there is sufficient assurance that the proposed changes do not degrade or adversely affect the plant safety systems and are acceptable.

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

Pursuant to 10 CFR 51.21, 51.32, and 51.35, an environmental assessment and finding of no significant impact have been prepared and published in the Federal Register on December 23, 1992 (57 FR 61102). Accordingly, based upon the environmental assessment, the staff has determined that the issuance of the amendment will not have a significant effect on the quality of the human environment.

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 Contributors: I. Ahmed
C. Liang
S. Mazumdar

Date: December 23, 1992

7590-01

UNITED STATES NUCLEAR REGULATORY COMMISSION

NORTHEAST NUCLEAR ENERGY COMPANY

DOCKET NO. 50-336

NOTICE OF ISSUANCE OF AMENDMENT TO

FACILITY OPERATING LICENSE

The U.S. Nuclear Regulatory Commission (Commission) has issued Amendment No. 168 to Facility Operating License No. DPR-65 issued to Northeast Nuclear Energy Company (the licensee), which revised the Technical Specifications for operation of the Millstone Nuclear Power Station, Unit No. 2 located in New London County, Connecticut. The amendment is effective as of the date of issuance.

The amendment incorporates into the Technical Specifications changes in the area of TABLE 3.3-3, ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION (Page 3/4 3-13), the TABLE NOTATION, page 3/4 3-16, and the ACTION STATEMENTS, ACTION 4, page 3/4 3-17.

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.

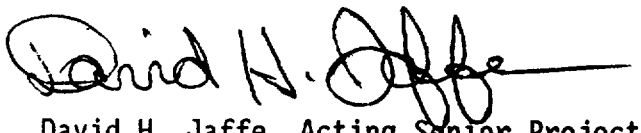
Notice of Consideration of Issuance of Amendment and Opportunity for Hearing in connection with this action was published in the FEDERAL REGISTER on November 12, 1992 (57 FR 53795). No request for a hearing or petition for leave to intervene was filed following this notice.

The Commission has prepared an Environmental Assessment related to the action and has determined not to prepare an environmental impact statement. Based upon the environmental assessment, the Commission has concluded that the issuance of this amendment will not have a significant effect on the quality of the human environment (57 FR 61102).

For further details with respect to the action see (1) the application for amendment dated October 28, 1992, as supplemented November 25, 1992 and December 8, 1992, (2) Amendment No.168 to License No. DPR-65, (3) the Commission's related Safety Evaluation, and (4) the Commission's Environmental Assessment. All of these items are available for public inspection at the Commission's Public Document Room, the Gelman Building, 2120 L Street NW., Washington, DC 20555, and at the local public document room located at the Learning Resources Center, Thames Valley State Technical College, 574 New London Turnpike, Norwich, Connecticut 06360. A copy of items (2), (3) and (4) may be obtained upon request addressed to the U.S. Nuclear Regulatory Commission, Washington, DC 20555, Attention: Document Control Desk.

Dated at Rockville, Maryland this 23rd day of December 1992.

FOR THE NUCLEAR REGULATORY COMMISSION



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