

DEC 2 1977

Docket No. 50-336

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

Distribution

✓ Docket	CHebron
ORB #3	ACRS (16)
Local PDR	OPA (CMiles)
NRC PDR	DRoss
VStello	TBAbernathy
KGoller	JRBuchanan
GLear	
CParrish	
DJaffe	
Attorney, OELD	
OI&E (5)	
BJones (4)	
BScharf (10)	
JMcGough	

Gentlemen:

The Commission has issued the enclosed Amendment No. **33** to Facility Operating License No. DPR-65 for the Millstone Nuclear Power Station, Unit No. 2. The amendment consists of a change to the license and changes to the Technical Specifications in response to your requests dated November 4, 1977 (as supplemented by letter dated September 28, 1977) and November 18, 1977.

The amendment consists of a license amendment and Technical Specification changes relating to (1) the receipt, possession, and use of byproduct, source, and special nuclear material and (2) an extension of the maximum allowable fuel burn-up from 500 to 502 effective full power days (EFPD).

Our current procedure for the licensing of byproduct, source, and special nuclear materials included in reactor licenses is not to specify quantity limits. Therefore, we have issued this amendment consistent with that procedure.

Copies of the related Safety Evaluation and the FEDERAL REGISTER Notice also are enclosed.

Sincerely,

Original signed by

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

Enclosures:

1. Amendment No. **33** to License DPR-16
2. Safety Evaluation
3. FEDERAL REGISTER Notice

cc w/enclosures: See page 2

Cont 1
60

OFFICE >	ORB #3	ORB # <i>10</i>	OELD <i>g</i>	ORB #3		
SURNAME >	CParrish <i>g</i>	DJaffe <i>g</i>	J. RIGRAY	GLear <i>g</i>		
DATE >	11/18/77	11/19/77	11/30/77	12/2/77		

cc: William H. Cuddy, Esquire
Day, Berry & Howard
Counselors At Law
One Constitution Plaza
Hartford, Connecticut 06103

Anthony Z. Roisman, Esquire
Sheldon, Harmon and Roisman
1025 15th Street, N. W.
5th Floor
Washington, D. C. 20005

Robert Bishop
Department of Planning & Energy Policy
20 Grand Street
Hartford, Connecticut 06115

Mr. Albert L. Partridge, First Selectman
Town of Waterford
Hall of Records - 200 Boston Post Road
Waterford, Connecticut 06385

Northeast Nuclear Energy Company
ATTN: Superintendent
Millstone Plant
P. O. Box 128
Waterford, Connecticut 06385

Chief, Energy Systems Analysis Branch (AW-459)
Office of Radiation Programs
U. S. Environmental Protection Agency
Room 645, East Tower
401 M Street, N. W.
Washington, D. C. 20460

U. S. Environmental Protection Agency
Region I Office
ATTN: EIS COORDINATOR
John F. Kennedy Federal Building
Boston, Massachusetts 02203

Waterford Public Library
Rope Ferry Road, Route 156
Waterford, Connecticut 06385



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. 33
License No. DPR-65

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The applications 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 November 4, 1977, (as supplemented by letter dated September 28, 1977) and November 18, 1977, 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.

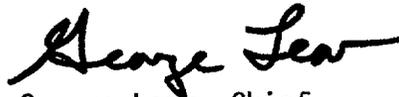
2. Accordingly, the license is amended by a change to the Technical Specifications as indicated in the attachment to this license amendment and Facility Operating License No. DPR-65, as amended, is hereby further amended by replacing in their entirety paragraphs B.(4) and B.(5) with new paragraph B.(4) and renumbering paragraph B.(6) to read paragraph B.(5) as follows:

"(4) Pursuant to the Act and 10 CFR Parts 30, 40, and 70, to receive, possess and use in amounts as required any byproduct, source or special nuclear material without restriction to chemical or physical form, for sample analysis or instrument and equipment calibration or associated with radioactive apparatus or components;

(5) Pursuant to the Act and 10 CFR Parts 30 and 70, to possess, but not separate, such byproduct and special nuclear materials as may be produced by the operation of the facility."

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

FOR THE NUCLEAR REGULATORY COMMISSION



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

Date of Issuance: December 2, 1977

ATTACHMENT TO LICENSE AMENDMENT NO. 33

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 area of change. The corresponding overleaf page 3/4 2-12 is also provided to maintain document completeness. No changes were made on 3/4 2-12.

Page

3/4 2-11

POWER DISTRIBUTION LIMITS

FUEL RESIDENCE TIME

LIMITING CONDITION FOR OPERATION

3.2.4 The core average fuel burnup shall be limited to ≤ 502 Effective Full Power Days during the initial fuel cycle.

APPLICABILITY: MODE 1.

ACTION:

With the core average fuel burnup determined to exceed 502 Effective Full Power Days, be in at least HOT STANDBY within the next 6 hours.

SURVEILLANCE REQUIREMENTS

4.2.4 The core average fuel burnup, based on gross thermal energy generation, shall be determined by calculation at least once per 31 days.

POWER DISTRIBUTION LIMITS

DNB MARGIN

LIMITING CONDITION FOR OPERATION

3.2.5 The DNB margin shall be preserved by maintaining the cold leg temperature, pressurizer pressure, reactor coolant flow rate, and AXIAL SHAPE INDEX within the limits specified in Table 3.2-1 and Figure 3.2-4.

APPLICABILITY: MODE 1.

ACTION:

With any of the above parameters exceeding its specified limits, restore the parameter to within its above specified limits within 2 hours or reduce THERMAL POWER to $\leq 5\%$ of RATED THERMAL POWER within the next 4 hours.

SURVEILLANCE REQUIREMENTS

4.2.5 The cold leg temperature, pressurizer pressure, reactor coolant flow rate, and AXIAL SHAPE INDEX shall be determined to be within the limits of Table 3.2-1 and Figure 3.2-4 at least once per 12 hours.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NO. 33 TO LICENSE NO. DPR-65

NORTHEAST NUCLEAR ENERGY COMPANY

MILLSTONE NUCLEAR POWER STATION, UNIT NO. 2

DOCKET NO. 50-336

Introduction

By applications dated November 4 and November 18, 1977 (as supplemented on September 28, 1977) Northeast Nuclear Energy Company (NNECO) has requested changes to the Millstone Unit No. 2 Facility Operating License and Technical Specifications. The changes proposed by NNECO provide for (1) a modified license condition involving the receipt, possession, and use of byproduct, source, and special nuclear materials and (2) an extension of the maximum allowable fuel burn-up from 500 to 502 effective full power days (EFPD).

During the course of our review, we have found it necessary to modify the changes proposed by NNECO. These modifications were discussed with and concurred in by NNECO.

Discussion and Evaluation

A discussion and our evaluation of the modified license condition and Technical Specification change proposed by NNECO is contained in the following sections:

I. Modified License Condition

At the present time, Section B.(4) of the Facility Operating License for Millstone Unit No. 2 limits the receipt, possession, and use of byproduct material to 100 millicuries. In addition, Section B.(5) limits the receipt, possession, and use of source and special nuclear materials to 100 milligrams. As a result of the application dated November 18, 1977 (and discussion with the licensee) NNECO proposed that Sections B.(4) and B.(5) be replaced by a single license condition as follows:

- "(4) Pursuant to the Act and 10 CFR Parts 30, 40 and 70, to receive, possess and use in amounts as required any byproduct, source or special nuclear material without restriction to chemical or physical form, for sample analysis or instrument and equipment calibration or associated with radioactive apparatus or components;"

This proposed change would have the effect of (1) deleting the current limits on the receipt, possession and use of byproduct, source, and special nuclear materials, and (2) allowing for the use of byproduct material for specified purposes in the testing and calibration of plant equipment.

In our Safety Evaluation Report dated May 10, 1974, issued in support of the Facility Operating License for Millstone Unit No. 2, we reviewed NNECO's Radioactive Material Safety Program. At that time we stated that: "The personnel qualifications, facilities, equipment and procedures for handling the byproduct, source and special nuclear material sources utilized for reactor startup and equipment calibration were reviewed. Based on the information provided in the FSAR and Amendments, we conclude that there is reasonable assurance that these sources will be stored and used in a manner to meet the applicable radiation protection provisions of 10 CFR Parts 20 and 30." In addition, information contained in November 18, 1977 application indicates that NNECO complies with the requirements of Regulatory Guide 1.70.3 entitled "Additional Information-Radiation Protection" which we had requested all power reactor licensees to commit to via letters dated December 16, 1974.

We have also reviewed the use by Millstone Unit No. 2 of small quantities of byproduct material in conjunction with the testing and calibration of plant equipment. The action which prompts this change is the NNECO plan to inject a small quantity of Sodium-24 into secondary water (shell side) of the steam generators to measure the moisture carryover to the main turbine. The use of byproduct material as a tracer, for industrial purposes, is a proven, often-used and safe technique when applied in conjunction with the approved Millstone Unit No. 2 Radioactive Materials Safety Program.

Based upon the above, we conclude that the proposed license condition as stated above is consistent with our position on receipt, possession, and use of byproduct, source, and special nuclear materials. Accordingly, we find the proposed modified license condition to be acceptable.

2. Extension of the Maximum Allowable Fuel Burn-up

At the present time, Millstone Unit No. 2 Technical Specification 3.2.4 limits the fuel burn-up (depletion) to 500 effective full power days (EFPD). By application dated November 4, 1977, NNECO requested that Technical Specification 3.2.4 be changed to allow a maximum fuel burn-up of 502 EFPD to accommodate the expected end-of-cycle shutdown depletion.

The limit in EFPD for Millstone Unit No. 2 is based upon (1) expected limits for clad collapse, and (2) assumptions made in the safety analysis regarding reactor characteristics associated with end-of-cycle. With regard to clad collapse, information presented in NNECO's September 28, 1977 submittal indicates that the operational limit on fuel burn-up, based

upon clad collapse considerations, would not be reached until a cumulative burn-up in excess of 1000 EFPD had been achieved. With regard to safety analysis considerations, based upon our experience, the reactor characteristics of safety significance, near end-of-cycle, vary gradually with burn-up. An extension of end-of-cycle from 500 to 502 EFPD would not perceptibly change the reactor characteristics. Accordingly, extending the limit on EFPD from 500 to 502 would not significantly change the probability or consequences of any transient or accidents previously considered. Nor would it significantly decrease the safety margins for end-of-cycle operation. The proposed change to Technical Specification 3.4.2, to extend the limit on EFPDs from 500 to 502, is therefore acceptable.

Environmental Consideration

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 or negative declaration and 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 amendment does not involve a significant increase in the probability or consequences of accidents previously considered and does not involve a significant decrease in a safety margin, the amendment does 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.

Dated: December 2, 1977

UNITED STATES NUCLEAR REGULATORY COMMISSIONDOCKET NO. 50-336NORTHEAST NUCLEAR ENERGY COMPANY,
THE CONNECTICUT LIGHT AND POWER COMPANY,
THE HARTFORD ELECTRIC LIGHT COMPANY, AND
WESTERN MASSACHUSETTS ELECTRIC COMPANYNOTICE OF ISSUANCE OF AMENDMENT TO FACILITY
OPERATING LICENSE

The U. S. Nuclear Regulatory Commission (the Commission) has issued Amendment No. 33 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 consists of a license amendment and Technical Specification changes relating to (1) the receipt, possession, and use of byproduct, source, and special nuclear material and (2) an extension of the maximum allowable fuel burn-up from 500 to 502 effective full power days (EFPD).

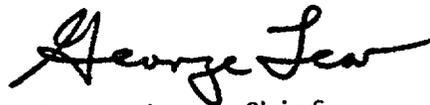
The applications for the amendment comply with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations. The Commission has made appropriate findings as required by the Act and the Commission's rules and regulations in 10 CFR Chapter 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 or negative declaration and 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 applications for amendment dated November 4, 1977, (as supplemented by letter dated September 28, 1977) and November 18, 1977, (2) Amendment No. 33 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 Regulation Commission, Washington, D. C. 20555, Attention: Director, Division of Operating Reactors.

Dated at Bethesda, Maryland, this 2nd day of December 1977.

FOR THE NUCLEAR REGULATORY COMMISSION



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