

February 3, 1987

Docket No. 50-336

DISTRIBUTION:

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Dear Mr. Mrocza:

The Commission has issued the enclosed Amendment No. 115 to Facility Operating License No. DPR-65 for Millstone Nuclear Power Station, Unit No. 2, in response to your application dated October 29, 1986.

This change relates to the Technical Specifications (TS) for Millstone Unit 2 associated with primary system iodine spiking: (1) the requirement in TS 3.4.8, "Specific Activity", that operation, outside predetermined primary coolant activity limits, not exceed 10 percent of the unit's total yearly operating time is deleted; and (2) the current "special report" requirement in TS 6.9.2i associated with primary coolant activity is replaced by an annual report requirement in TS 6.9.1.4.

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

Sincerely,

/s/

David H. Jaffe, Project Manager  
PWR Project Directorate #8  
Division of PWR Licensing-B

Enclosures:

1. Amendment No. 115 to DPR-65
2. Safety Evaluation

cc w/enclosures:  
See next page

PBD-8:  
PKreutzer  
01/20/87

PBD-8:  
DJaffe:JCh  
01/21/87

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PBD-8:  
ATHadani  
01/23/87

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Mr. Edward J. Mroczka  
Northeast Nuclear Energy Company

Millstone Nuclear Power Station  
Unit No. 2

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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. 115  
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 29, 1986 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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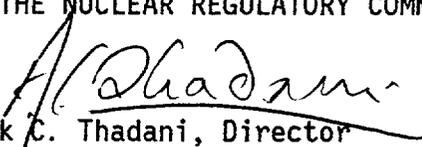
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Facility Operating License No. DPR-65 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 115, 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.

FOR THE NUCLEAR REGULATORY COMMISSION

  
Ashok C. Thadani, Director  
PWR Project Directorate #8  
Division of PWR Licensing-B

Attachment:  
Changes to the Technical  
Specifications

Date of Issuance: February 3, 1987

ATTACHMENT TO LICENSE AMENDMENT NO. 115

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 is identified by amendment number and contain vertical lines indicating the area of change. The corresponding overleaf pages are provided to maintain document completeness.

<u>Remove Page</u>	<u>Insert Page</u>
3/4 4-13	3/4 4-13
3/4 4-14	3/4 4-14
B 3/4 4-4	B 3/4 4-4
6-18	6-18
6-19	6-19

REACTOR COOLANT SYSTEM

SPECIFIC ACTIVITY

LIMITING CONDITION FOR OPERATION

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3.4.8 The specific activity of the primary coolant shall be limited to:

- a.  $\leq 1.0 \mu\text{Ci/gram DOSE EQUIVALENT I-131}$ , and
- b.  $\leq 100/\bar{E} \mu\text{Ci/gram}$ .

APPLICABILITY: MODES 1, 2, 3, 4 and 5.

ACTION:

MODES 1, 2 and 3\*:

- a. With the specific activity of the primary coolant  $> 1.0 \mu\text{Ci/gram DOSE EQUIVALENT I-131}$  but within the allowable limit (below and to the left of the line) shown on Figure 3.4-1, operation may continue for up to 48 hours. The provisions of Specification 3.0.4 are not applicable.
- b. With the specific activity of the primary coolant  $> 1.0 \mu\text{Ci/gram DOSE EQUIVALENT I-131}$  for more than 48 hours during one continuous time interval or exceeding the limit line shown on Figure 3.4-1, be in HOT STANDBY with  $T_{\text{avg}} < 515^\circ\text{F}$  within 4 hours.
- c. With the specific activity of the primary coolant  $> 100/\bar{E} \mu\text{Ci/gram}$ , be in HOT STANDBY with  $T_{\text{avg}} < 515^\circ\text{F}$  within 4 hours.

MODES 1, 2, 3, 4 and 5:

- d. With the specific activity of the primary coolant  $> 1.0 \mu\text{Ci/gram DOSE EQUIVALENT I-131}$  or  $> 100/\bar{E} \mu\text{Ci/gram}$ , perform the sampling and analysis requirements of item 4 a) of Table 4.4-2 until the specific activity of the primary coolant is restored to within its limits.

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\*With  $T_{\text{avg}} \geq 515^\circ\text{F}$ .

REACTOR COOLANT SYSTEM

SURVEILLANCE REQUIREMENTS

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4.4.8 The specific activity of the primary coolant shall be determined to be within the limits by performance of the sampling and analysis program of Table 4.4-2.

## REACTOR COOLANT SYSTEM

### BASES

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#### 3/4.4.6 REACTOR COOLANT SYSTEM LEAKAGE

##### 3/4.4.6.1 LEAKAGE DETECTION SYSTEMS

The RCS leakage detection systems required by this specification are provided to monitor and detect leakage from the Reactor Coolant Pressure Boundary. These detection systems are consistent with the recommendations of Regulatory Guide 1.45, "Reactor Coolant Pressure Boundary Leakage Detection Systems."

##### 3/4.4.6.2 REACTOR COOLANT SYSTEM LEAKAGE

Industry experience has shown that while a limited amount of leakage is expected from the RCS, the unidentified portion of this leakage can be reduced to a threshold value of less than 1 GPM. This threshold value is sufficiently low to ensure early detection of additional leakage.

The 10 GPM IDENTIFIED LEAKAGE limitation provides allowance for a limited amount of leakage from known sources whose presence will not interfere with the detection of UNIDENTIFIED LEAKAGE by the leakage detection systems.

The total steam generator tube leakage limit of 1 GPM for all steam generators ensures that the dosage contribution from the tube leakage will be limited to a small fraction of Part 100 limits in the event of either a steam generator tube rupture or steam line break. The 1 GPM limit is consistent with the assumptions used in the analysis of these accidents.

PRESSURE BOUNDARY LEAKAGE of any magnitude is unacceptable since it may be indicative of an impending gross failure of the pressure boundary. Therefore, the presence of any PRESSURE BOUNDARY LEAKAGE requires the unit to be promptly placed in COLD SHUTDOWN.

## REACTOR COOLANT SYSTEM

### BASES

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#### 3/4.4.7 CHEMISTRY

The limitations on Reactor Coolant System contaminants ensure that corrosion of the Reactor Coolant System is minimized and reduce the potential for Reactor Coolant System leakage or failure due to stress corrosion. Maintaining the concentrations of the contaminants within the Steady State Limits shown on Table 3.4-1 provides adequate corrosion protection to ensure the structural integrity of the Reactor Coolant System over the life of the plant. The associated effects of exceeding the oxygen, chloride and fluoride limits are time and temperature dependent. Corrosion studies show that operation may be continued with contaminant concentration levels in excess of the Steady State Limits, up to the Transient Limits, for the specified limited time intervals without having a significant effect on the structural integrity of the Reactor Coolant System. The time interval permitting continued operation within the restrictions of the Transient Limits provides time for taking corrective actions to restore the contaminant concentrations to within the Steady State Limits.

The surveillance requirements provide adequate assurance that concentrations in excess of the limits will be detected in sufficient time to take corrective action.

#### 3/4.4.8 SPECIFIC ACTIVITY

The limitations on the specific activity of the primary coolant ensure that the resulting 2 hour doses at the site boundary will not exceed an appropriately small fraction of Part 100 limits following a steam generator tube rupture accident in conjunction with an assumed steady state primary-to-secondary steam generator leakage rate of 1.0 GPM and a concurrent loss of offsite electrical power.

The ACTION statement permitting POWER OPERATION to continue for limited time periods with the primary coolant's specific activity  $> 1.0 \mu\text{Ci/gram}$  DOSE EQUIVALENT I-131, but within the allowable limit shown on Figure 3.4-1, accommodates possible iodine spiking phenomenon which may occur following changes in THERMAL POWER.

## ADMINISTRATIVE CONTROLS

6.8.3 Temporary changes to procedures of 6.8.1 above may be made provided:

- a. The intent of the original procedure is not altered.
- b. The change is approved by two members of the plant management staff, at least one of whom holds a Senior Reactor Operator's License on the unit affected.
- c. The change is documented, reviewed by the PORC/SORC, as applicable, and approved by the Unit Superintendent/Station Superintendent within 14 days of implementation.

6.8.4 Written procedures shall be established, implemented and maintained covering Section I.E, Radiological Environmental Monitoring, of the REMODCM.

6.8.5 All procedures and procedure changes required for the Radiological Environmental Monitoring Program of 6.8.4 above shall be reviewed by an individual (other than the author) from the Radiological Assessment Branch or the Production Operation Services Laboratory (POSL) and approved by appropriate supervision.

Temporary changes may be made provided the intent of the original procedure is not altered and the change is documented and reviewed by an individual (other than the author) from the Radiological Assessment Branch or the POSL, within 14 days of implementation.

## 6.9 REPORTING REQUIREMENTS

### ROUTINE REPORTS

6.9.1 In addition to the applicable reporting requirements of Title 10, Code of Federal Regulations, the following reports shall be submitted to Regional Administrator, Region I, U.S. Nuclear Regulatory Commission, unless otherwise noted.

### STARTUP REPORT

6.9.1.1 A summary report of plant startup and power escalation testing shall be submitted following (1) receipt of an operating license, (2) amendment to the license involving a planned increase in power level, (3) installation of fuel that has a different design or has been manufactured by a different fuel supplier, and (4) modifications that may have significantly altered the nuclear, thermal or hydraulic performance of the plant.

6.9.1.2 The startup report shall address each of the tests identified in the FSAR and shall include a description of the measured values of the operating conditions or characteristics obtained during the test program and a comparison of these values with design predictions and specifications. Any additional specific details required in license conditions based on other commitments shall be included in this report.

## ADMINISTRATIVE CONTROLS

6.9.1.3 Startup reports shall be submitted within (1) 90 days following completion of the startup test program, (2) 90 days following resumption or commencement of commercial power operation, or (3) 9 months following initial criticality, whichever is earliest. If the Startup Report does not cover all three events (i.e., initial criticality, completion of startup test program, and resumption or commencement of commercial power operation), supplementary reports shall be submitted at least every three months until all three events have been completed.

### ANNUAL REPORTS<sup>1/</sup>

6.9.1.4 Annual reports covering the activities of the unit as described below for the previous calendar year shall be submitted prior to March 1 of each year. The initial report shall be submitted prior to March 1 of the year following initial criticality.

6.9.1.5 Reports required on an annual basis shall include:

- a. A tabulation on an annual basis of the number of station, utility and other personnel (including contractors) receiving exposures greater than 100 mrem/yr and their associated man-rem exposure according to work and job functions,<sup>2/</sup> e.g., reactor operations and surveillance, inservice inspection, routine maintenance, special maintenance (describe maintenance), waste processing and refueling. The dose assignment to various duty functions may be estimates based on pocket dosimeter, TLD or film badge measurements. Small exposures totalling less than 20% of the individual total dose need not be accounted for. In the aggregate, at least 80% of the total whole body dose received from external sources shall be assigned to specific major work functions.
- b. The complete results of steam generator tube inservice inspections performed during the report period (reference Specification 4.4.5.5.b).
- c. The results of specific activity analysis in which the primary coolant exceeded the limits of Specification 3.4.8. The following information shall be included: (1) Reactor power history starting 48 hours prior to the first sample in which the limit was exceeded; (2) Results of the last isotopic analysis for radioiodine performed prior to exceeding the limit, results of analysis while limit was exceeded and results of one analysis after the radioiodine activity was reduced to less than the limit. Each result should include date and time of sampling and the radioiodine concentrations; (3) Clean-up system flow history starting 48 hours prior to the first sample in which the limit was exceeded; (4) Graph of the I-131 concentration and one other radioiodine isotope concentration in microcuries per gram as a function of time for the duration of the specific activity above the steady-state level; and (5) The time duration when the specific activity of the primary coolant exceeded the radioiodine limit.

<sup>1/</sup> A single submittal may be made for a multiple unit station. The submittal should combine those sections that are common to all units at the station.

<sup>2/</sup> This tabulation supplements the requirements of §20.407 of 10 CFR Part 20.

## ADMINISTRATIVE CONTROLS

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### MONTHLY OPERATING REPORT

6.9.1.6 Routine reports of operating statistics and shutdown experience shall be submitted on a monthly basis to the Director, Office of Resource Management, U. S. Nuclear Regulatory Commission, Washington, D. C. 20555, with a copy to the Regional Administrator, Region I, U. S. Nuclear Regulatory Commission, no later than the 15th of each month following the calendar month covered by the report.

### SPECIAL REPORTS

6.9.2 Special reports shall be submitted to the Regional Administrator, Region I, U. S. Nuclear Regulatory Commission, within the time period specified for each report. These reports shall be submitted covering the activities identified below pursuant to the requirements of the applicable reference specification:

- a. Inoperable Seismic Monitoring Instrumentation, Specification 3.3.3.3.
- b. Inoperable Meteorological Monitoring Instrumentation, Specification 3.3.3.4.
- c. Safety Class 1 Inservice Inspection Program Review, Specification 4.4.10.1.
- d. ECCS Actuation, Specifications 3.5.2 and 3.5.3.
- e. Fire Detection Instrumentation, Specification 3.3.3.7.
- f. Fire Suppression Systems, Specifications 3.7.9.1 and 3.7.9.2.
- g. RCS Overpressure Mitigation, Specification 3.4.9.3.
- h. Radiological Effluent Reports required by Specifications 3.11.1.2, 3.11.2.2, 3.11.2.3, and 3.11.4.
- i. Degradation of containment structure, Specification 4.6.1.6.4.
- j. Steam Generator Tube Inspection, Specification 4.4.5.1.5.

## ADMINISTRATIVE CONTROLS

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### 6.10 RECORD RETENTION

6.10.1 The following records shall be retained for at least five years:

- a. Records and logs of facility operation covering time interval at each power level.
- b. Records and logs of principal maintenance activities, inspections, repair and replacement of principal items of equipment related to nuclear safety.
- c. ALL REPORTABLE EVENTS.
- d. Records of surveillance activities, inspections and calibrations required by these Technical Specifications.
- e. Records of reactor tests and experiments.
- f. Records of changes made to operating procedures.
- g. Records of radioactive shipments.
- h. Records of sealed source leak tests and results.
- i. Records of annual physical inventory of all sealed source material of record.

6.10.2 The following records shall be retained for the duration of the facility operating license:

- a. Records and drawing changes reflecting facility design modifications made to systems and equipment described in the Final Safety Analysis Report.
- b. Records of new and irradiated fuel inventory, fuel transfers and assembly burnup histories.
- c. Records of facility radiation and contamination surveys.
- d. Records of radiation exposure for all individuals entering radiation control areas.
- e. Records of gaseous and liquid radioactive material released to the environs.
- f. Records of transient or operational cycles for those facility components designed for a limited number of transients or cycles.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 115 TO DPR-65

NORTHEAST NUCLEAR ENERGY COMPANY, ET AL.

MILLSTONE NUCLEAR POWER STATION, UNIT NO. 2

DOCKET NO. 50-336

INTRODUCTION

By application for license amendment dated October 29, 1986, Northeast Nuclear Energy Company, et al. (the licensee), requested changes to the Technical Specifications (TS) for Millstone Unit 2 related to primary system iodine spiking: (1) the requirement in TS 3.4.8, "Specific Activity", that operation, outside predetermined primary coolant activity limits, not exceed 10 percent of the unit's total yearly operating time would be deleted; and (2) the current "special report" requirement in TS 6.9.2i associated with primary coolant activity would be replaced by an annual report requirement in TS 6.9.1.4.

Discussion and Evaluation

On September 27, 1985, the NRC issued Generic Letter (GL) 85-19, "Reporting Requirements on Primary Coolant Iodine Spikes." The purpose of GL 85-19 was to propose that licensees be relieved of certain unnecessary requirements associated with primary system activity, as follows:

As part of our continuing program to delete unnecessary reporting requirements, we have reviewed the reporting requirements related to primary coolant specific activity levels, specifically primary coolant iodine spikes. We have determined that the reporting requirements for iodine spiking can be reduced from a short-term report (Special Report or Licensee Event Report) to an item which is to be included in the Annual Report. The information to be included in the Annual Report is similar to that previously required in the Licensee Event Report but has been changed to more clearly designate the results to be included from the specific activity analysis and to delete the information regarding fuel burnup by core region.

In our effort to eliminate unnecessary Technical Specification requirements, we have also determined that the existing requirements to shut down a plant if coolant iodine activity limits are exceeded for 800 hours in a 12-month period can be eliminated. The quality of nuclear

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fuel has been greatly improved over the past decade with the result that normal coolant iodine activity (i.e. in the absence of iodine spiking) is well below the limit. Appropriate actions would be initiated long before accumulating 800 hours above the iodine activity limit. In addition, 10 CFR 50.72(b)(1)(ii) requires the NRC to be immediately notified of fuel cladding failures that exceed expected values or that are caused by unexpected factors. Therefore, this Technical Specification limit is no longer considered necessary on the basis that proper fuel management by licensees and existing reporting requirements should preclude ever approaching the limit.

Licensees are expected to continue to monitor iodine activity in the primary coolant and take responsible actions to maintain it at a reasonably low level (i.e., accumulated time with high iodine activity should not approach 800 hours).

The licensee's application dated October 29, 1986 was submitted in response to GL 85-19.

As indicated in GL 85-19, the improved quality of fuel and the existence of adequate reporting requirements precludes the operation of the facility with primary system activity that is excessive. Excessive primary system activity would be of concern in the event of an accident involving release of reactor coolant. In addition, the proposed changes to the TS conform with the NRC guidance provided in GL 85-19.

Based upon the above, the proposed changes to TS 3.4.8, 6.9.2 and 6.9.1.4 are acceptable.

#### ENVIRONMENTAL CONSIDERATION

This amendment involves a change in the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. 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 issued a proposed finding that this amendment involves no significant hazards consideration and there has been no public comment on such finding. Accordingly, this amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). This amendment also involves changes in recordkeeping, reporting, or administrative procedures or requirements. Accordingly, with respect to these items, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(10). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of this 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.

Date: February 3, 1987

Principal Contributor: D. Jaffe