



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

FACILITY OPERATING LICENSE

License No. NPF-44

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for license filed by Northeast Nuclear Energy Company, as agent and representative of 15 utilities listed below and hereafter referred to as licensees, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's regulations set forth in 10 CFR Chapter I, and all required notifications to other agencies or bodies have been duly made;
  - B. Construction of the Millstone Nuclear Power Station, Unit No. 3 (the facility) has been substantially completed in conformity with Construction Permit No. CPPR-113 and the application, as amended, the provisions of the Act, and the regulations of the Commission;
  - C. The facility will operate in conformity with the application, as amended, the provisions of the Act, and the regulations of the Commission, (except as exempted from compliance in Section 2.D below);
  - D. There is reasonable assurance: (1) that the activities authorized by this operating license can be conducted without endangering the health and safety of the public, and (2) that such activities will be conducted in compliance with the Commission's regulations set forth in 10 CFR Chapter I, (except as exempted from compliance in Section 2D below):

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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 Energy Cooperative, The Connecticut Light and Power Company, Fitchburg Gas and Electric Light Company, Massachusetts Municipal Wholesale Electric Company, Montaup Electric Company, New England Power Company, Public Service Company of New Hampshire, The United Illuminating 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.

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- E. Northeast Nuclear Energy Company is technically qualified to engage in the activities authorized by this license in accordance with the Commission's regulations set forth in 10 CFR Chapter I;
  - F. The licensees have satisfied the applicable provisions of 10 CFR Part 140 "Financial Protection Requirements and Indemnity Agreements" of the Commission's regulations;
  - G. The issuance of this license will not be inimical to the common defense and security or to the health and safety of the public;
  - H. After weighing the environmental, economic, technical and other benefits of the facility against environmental and other costs and considering available alternatives, the issuance of Facility Operating License No. NPF-44, subject to the conditions for protection of the environment set forth in the Environmental Protection Plan attached as Appendix B, is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied; and
  - I. The receipt, possession, and use of source, byproduct and special nuclear material as authorized by this license will be in accordance with the Commission's regulations in 10 CFR Parts 30, 40 and 70.
2. Based on the foregoing findings regarding this facility, Facility Operating License No. NPF-44 is hereby issued to Northeast Nuclear Energy Company, et al. (the licensees) to read as follows:
- A. This license applies to the Millstone Nuclear Power Station, Unit 3, a pressurized water nuclear reactor and associated equipment (the facility), owned by the licensees. The facility is located in Waterford Township, New London County, Connecticut on the north shore of Long Island Sound, and is described in the licensees' "Final Safety Analysis Report", as supplemented and amended, and in the licensees' Environmental Report, as supplemented and amended.
  - B. Subject to the conditions and requirements incorporated herein, the Commission hereby licenses;
    - (1) Northeast Nuclear Energy Company (NNECO), pursuant to Section 103 of the Act and 10 CFR Part 50, to possess, use and operate the facility at the designated location in New London County, Connecticut in accordance with the procedures and limitations set forth in this license;
    - (2) NNECO, pursuant to the Act and 10 CFR Part 70, to receive, possess and use at any time special nuclear material as reactor fuel, in accordance with the limitations for storage and amounts required for reactor operation, as described in the Final Safety Analysis Report, as supplemented and amended;

- (3) NNECO, pursuant to the Act and 10 CFR Parts 30, 40 and 70, to receive, possess, and use at any time any byproduct, source and special nuclear material as sealed neutron sources for reactor startup, sealed sources for reactor instrumentation and radiation monitoring equipment calibration, and as fission detectors in amounts as required;
  - (4) NNECO, 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 calibration or associated with radioactive apparatus or components; and
  - (5) NNECO, pursuant to the Act and 10 CFR Parts 30, 40 and 70, to possess, but not separate, such byproduct and special nuclear materials as may be produced by the operations of the facility.
- C. This license shall be deemed to contain and is subject to the conditions specified in the Commission's regulations set forth in 10 CFR Chapter I and is subject to all applicable provisions of the Act and to the rules, regulations, and orders of the Commission now or hereafter in effect; and is subject to the additional conditions specified or incorporated below:

(1) Maximum Power Level

Northeast Nuclear Energy Company is authorized to operate the facility at reactor core power levels not in excess of 3411 megawatts thermal (100% rated power) in accordance with the conditions specified herein. Pending Commission approval, this license is restricted to power levels not to exceed 5 percent of rated power (170 megawatts thermal). The items identified in Attachment 1 to this license shall be completed as specified. Attachment 1 is hereby incorporated into this license.

(2) Technical Specification and Environmental Protection Plan

The Technical Specifications contained in Appendix A and the Environmental Protection Plan contained in Appendix B, both of which are attached hereto, are hereby incorporated into this license. Northeast Nuclear Energy Company shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

(3) Main Steam Line Break Outside Containment (Section 3.6.1, 3.11 SER, SSER 4)

By December 27, 1985 NNECO shall submit a revised compartment analysis using the mass and energy release data provided by the Westinghouse Owners Group Program.

- (4) Seismic Interaction Program (Section 3.9.2, Section 17, SSER 4)\*  
Prior to exceeding 5% power, NNECO shall complete the implementation of its seismic interaction program including corrective actions.
- (5) Containment Average Temperature (Section 3.11, SSER 4)  
Prior to startup following the first refueling outage, the qualified life of electrical equipment within the scope of 10 CFR 50.49 located inside containment shall be recalculated based on the actual temperatures monitored inside containment during the first cycle of operation.
- (6) N-1 Loop Operation (Section 4.4.7 SER, Section 4.4.7, 15.10, SSER 4)  
Three loop operation is prohibited until outstanding issues are resolved to the satisfaction of the NRC staff.
- (7) Instrumentation for Detection of Inadequate Core Cooling, TMI Item II.F.2 (Section 4.4.8, SSER 4)  
Prior to exceeding 5% power, the reactor coolant inventory monitoring system shall be fully operational including calibration and an implementation report shall be submitted to NRC.
- (8) Inservice Inspection Program (Section 5.2.4.3, SER, 6.6.3 SER)  
NNECO shall submit the inservice inspection program which conforms to the ASME Code in effect 12 months prior to the date of this license, in accordance with 50.55a(g)(4), for NRC staff review and approval within six months from the date of this license.
- (9) Mass and Energy Release Analysis (Section 6.2.1.4, SER, SSER 2, SSER 4)  
Prior to completion of the startup test program, NNECO shall justify the applicability of the Westinghouse LOFTRAN Methodology to the Model F Steam Generator as contained in Topical Report WCAP-8822-P-S2 "Mass and Energy Releases Following a Steamline Rupture".

\* The parenthetical notation following the title of many license conditions denotes the section of the Safety Evaluation Report and/or its supplements wherein the license condition is discussed.

(10) Instrumentation for Monitoring Post Accident Conditions R.G. 1.97  
Revision 2 Requirements (Section 7.5.2.6, SER, SSER 4 )

NNECO shall install and have operational instrumentation to monitor containment sump water temperature at the first scheduled outage of sufficient duration after procurement is complete but no later than startup after the first refueling outage.

(11) Installation of Post Accident Sampling System, TMI Item II.B.3  
(Section 9.3.2, SER)

Prior to exceeding 5% power, NNECO shall have installed and operational the post accident sampling system.

(12) Fire Protection (Section 9.5.1, SER, SSER 2 SSER 4)

- (a) NNECO shall implement and maintain in effect all provisions of the approved fire protection program as described in its Final Safety Analysis Report for the facility through Amendment 16 and as approved in the SER through Supplement No. 3, subject to provisions (b) and (c) below.
- (b) NNECO may make no change to the approved fire protection program which would significantly decrease the level of fire protection in the plant without prior approval of the Commission. To make such a change, NNECO must submit an application for a license amendment pursuant to 10 CFR 50.90.
- (c) NNECO may make changes to features of the approved fire protection program which do not significantly decrease the level of fire protection without prior Commission approval provided:
  - (i) such changes do not otherwise involve a change in a license condition or Technical Specification or result in an unreviewed safety question (see 10 CFR 50.59), and
  - (ii) such changes do not result in failure to complete the fire protection program approved by the Commission prior to license issuance.

NNECO shall maintain, in an auditable form, a current record of all such changes, including an analysis of the effects of the changes on the fire protection program, and shall make such records available to NRC inspectors upon request. All changes to the approved program shall be reported to the Director of the Office of Nuclear Reactor Regulation, together with the FSAR revisions required by 10 CFR 50.71(e).

(13) Moisture in Air Start System (Section 9.5.6, SER SSER-3)

NNECO shall install air dryers in the emergency diesel air start system at the first scheduled outage of sufficient duration after procurement is completed but no later than startup after the first refueling outage.

(14) Operating Staff Experience Requirements (Section 13.1.2.1, SER SSER 4)

Prior to exceeding 5% power, NNECO shall have a licensed senior operator on each shift who has had at least 6 months of hot operating experience as a licensed operator on a plant of the same type as Millstone Unit 3. This experience shall include at least 6 weeks at power levels greater than 20% full power and start-up and shutdown experience. For those shifts without such an individual, an advisor shall be provided who has had at least 4 years of power plant experience, including 2 years of nuclear plant experience, and who has had at least 1 year of experience on shift as a licensed senior operator at a comparable facility or its equivalent as approved by the staff.

Use of advisors who were licensed only at the RO level will be evaluated on a case-by-case basis. Advisors shall be trained on plant procedures, Technical Specifications and plant systems, and shall be examined on these topics at a level sufficient to assure familiarity with the plant. For each shift, the remainder of the shift crew shall be trained as to the role of the advisors. The training of the advisors and the shift crew by NNECO shall be completed and approved by the NRC prior to exceeding 5% power. Prior to exceeding 5% power, NNECO shall certify to the NRC names of the advisors who have been examined and have been determined to be competent to provide advice to the operating shifts. These advisors, or fully trained and qualified replacements, shall be retained until the experience levels for licensed senior operators identified in the first two sentences above have been achieved. Any replacement advisor shall be certified by NNECO prior to being placed on shift. The NRC shall be notified at least 30 days prior to the release of any special assigned advisors.

(15) Reanalysis of Transients and Accidents - Emergency Operating Procedures Generation Package, TMI Item I.C.1 (Section 13.5.2, SER SSER 4)

Prior to exceeding 5% power, NNECO shall:

- (a) Establish guidelines and criteria for the use of the RCS loop isolation valves during accident recovery.
- (b) Revise the degraded core cooling guidelines, EOP 35 FR-C.2, to direct the operator to the correct procedural EOP steps and to include use of the RVLMS.

(c) Revise the Millstone 3 EOPs to include RVLMS setpoints corresponding to a 50% steam water mixture with reactor coolant pumps running, or demonstrate that the proposed alternatives are acceptable.

(16) Initial Test Program (Section 14, SER SSER 3)

Any changes to the Initial Test Program described in Section 14 of the FSAR made in accordance with the provisions of 10 CFR 50.59 shall be reported in accordance with 50.59(b) within one month of such change.

(17) Revised Small Break LOCA Methods to Show Compliance with 10 CFR 50.46, TMI Item II.K.3.31 (Section 15.9.13, SSER 2)

By June 15, 1986, NNECO shall submit a plant specific analysis utilizing NOTRUMP, as required by TMI Action Plan Item II.K.3.31 per Generic Letter 83-35. Compliance with TMI Action Plan Item II.K.3.31 may be submitted generically. The staff requires that the generic submittal include validation that the limiting break location has not shifted away from the cold legs to the hot or pump suction legs.

(18) Hazards Program (Section 17, SSER 4)

Prior to exceeding 5% power, NNECO shall complete its Hazards Program and provide a schedule for making any required modifications.

(19) SPDS (Section 18, SER, SSER 1, SSER 4)

Prior to restart following the first refueling outage, NNECO shall add to the Safety Parameter Display System (SPDS) and have operational the following SPDS parameters:

- (i) Residual Heat Removal (RHR) Flow
- (ii) Containment Isolation
- (iii) Containment Hydrogen Concentration
- (iv) Primary Coolant System Hot Leg Temperature

(20) Salem ATWS Events Generic Letter 83-28

NNECO shall submit responses to and implement the requirements of Generic Letter 83-28 Salem ATWS Events on a schedule which is consistent with that given in their November 8, 1983, letter as modified by their letters dated March 16, 1984 and September 5, 1985.

- D. Exemptions from certain requirements of Appendix J to 10 CFR Part 50 (Section 6.2.6, SSER 4) and from a portion of the requirements of General Design Criterion 2 (Section 3.9.2, SSER 4) and General Design Criterion 4 (Section 3.9.3.1, SSER 4) of Appendix A to 10 CFR Part 50 are described in the Safety Evaluation Report. These exemptions are authorized by law and will not endanger life or property or the common defense and security and are otherwise in the public interest. Therefore, these exemptions are hereby granted pursuant to 10 CFR 50.12. With the granting of these exemptions the facility will operate, to the extent authorized herein, in conformity with the application, as amended, the provisions of the Act, and the rules and regulations of the Commission.
- E. Northeast Nuclear Energy Company shall fully implement and maintain in effect all provisions of the Commission approved Physical Security, Guard Training and Qualification, and Safeguards Contingency plans, including all amendments and revisions made pursuant to the authority of 10 CFR 50.90 and 10 CFR 50.54(p). The plans, which contain safeguards information protected under 10 CFR 73.21, are entitled: "Millstone Nuclear Power Station Security Plan"; "Millstone Nuclear Power Station Guard Training and Qualification Plan," and "Millstone Nuclear Power Station Safeguards Contingency Plan".
- F. Except as otherwise provided in the Technical Specification or Environmental Protection Plan, Northeast Nuclear Energy Company shall report any violations of the requirements contained in Section 2.C of this license in the following manner: initial notification shall be made within 24 hours to the NRC Operations Center via the Emergency Notification System with written followup within thirty days in accordance with the procedures described in 10 CFR 50.73(b), (c) and (e).
- G. The licensees shall have and maintain financial protection of such type and in such amounts as the Commission shall require in accordance with Section 170 of the Atomic Energy Act of 1954, as amended, to cover public liability claims.

H. This license is effective as of the date of issuance and shall expire at Midnight on November 25, 2025.

FOR THE NUCLEAR REGULATORY COMMISSION



Harold R. Denton, Director  
Office of Nuclear Reactor Regulation

**Attachments/Appendices:**

1. Attachment 1 - Work Items to be Completed
2. Appendix A - Technical Specifications (NUREG-1161)
3. Appendix B - Environmental Protection Plan

Date of Issuance: **NOV 25 1985**

ATTACHMENT 1

TO-NPF 44

This attachment identifies preoperational tests and other items which must be completed to the NRC's satisfaction and identifies required timing for their completion:

1. Adopt final approved procedures for modes 1 through 4 one week prior to entering the mode for which they are required.
2. Prior to achieving initial criticality:
  - a. Demonstrate operability of the gaseous fire suppression system.
  - b. Provide satisfactory engineering solutions to outstanding construction deficiencies (10 CFR 50.55(e) reports).

APPENDIX B  
TO FACILITY OPERATING LICENSE NO. NPF-44  
MILLSTONE NUCLEAR POWER STATION, UNIT 3  
NORTHEAST NUCLEAR ENERGY COMPANY  
DOCKET NO. 50-423  
ENVIRONMENTAL PROTECTION PLAN  
(NONRADIOLOGICAL)

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MILLSTONE NUCLEAR POWER STATION, UNIT NO. 3

ENVIRONMENTAL PROTECTION PLAN  
(NONRADIOLOGICAL)

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## 1.0 Objectives of the Environmental Protection Plan

The Environmental Protection Plan (EPP) is to provide for protection of non-radiological environmental values during operation of the nuclear facility.

The principal objectives of the EPP are as follows:

- (1) Verify that the facility is operated in an environmentally acceptable manner, as established by the Final Environmental Statement - Operating Licensing Stage (FES-OL) and other NRC environmental impact assessments.
- (2) Coordinate NRC requirements and maintain consistency with other Federal, State and local requirements for environmental protection.
- (3) Keep NRC informed of the environmental effects of facility construction and of actions taken to control those effects.

Environmental concerns identified in the FES-OL which relate to water quality matters are regulated by way of the licensee's NPDES permit.

## 2.0 Environmental Protection Issues

In the FES-OL dated December, 1984, the staff considered the environmental impacts associated with the operation of Millstone Nuclear Power Station, Unit No. 3. No environmental issues were identified which required study or license conditions to resolve environmental concerns and to assure adequate protection of the environment.

### 3.0 Consistency Requirements

#### 3.1 Plant Design and Operation

The licensee may make changes in station design or operation or perform tests or experiments affecting the environment provided such activities do not involve an unreviewed environmental question and do not involve a change in the EPP\*. Changes in station design or operation or performance of tests or experiments which do not affect the environment are not subject to the requirements of this EPP. Activities governed by Section 3.3 are not subject to the requirements of this Section.

Before engaging in additional construction or operational activities which may significantly affect the environment, the licensee shall prepare and record an environmental evaluation of such activity. Activities are excluded from this requirement if all measurable nonradiological environmental effects are confined to the onsite areas previously disturbed during site preparation and plant construction. When the evaluation indicates that such activity involves an unreviewed environmental question, the licensee shall provide a

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\* This provision does not relieve the licensee of the requirements of 10 CFR 50.50.

written evaluation of such activity and obtain prior NRC approval. When such activity involves a change in the EPP, such activity and change to the EPP may be implemented only in accordance with an appropriate license amendment as set forth in Section 5.3 of this EPP.

A proposed change, test or experiment shall be deemed to involve an unreviewed environmental question if it concerns: (1) a matter which may result in a significant increase in any adverse environmental impact previously evaluated in the FES-OL, environmental impact appraisals, or in any decisions of the Atomic Safety and Licensing Board; or (2) a significant change in effluents or power level; or (3) a matter, not previously reviewed and evaluated in the documents specified in (1) of this Subsection, which may have a significant adverse environmental impact.

The licensee shall maintain records of changes in facility design or operation and of tests and experiments carried out pursuant to this Subsection. These records shall include written evaluations which provide bases for the determination that the change, test, or experiment does not involve an unreviewed environmental question or constitute a decrease in the effectiveness of this EPP to meet the objectives specified in Section 1.0. The licensee shall include as part of the Annual Environmental Operating Report (pre Subsection 5.4.1) brief descriptions, analyses, interpretations, and evaluations of such changes, tests and experiments.

### 3.2 Reporting Related to the NPDES Permit and State Certification

- Changes to, or renewals of, the NPDES Permits or the State certification shall be reported to the NRC within 30 days following the date the change or renewal is approved. If a permit or certification, in part or in its entirety, is appealed and stayed, the NRC shall be notified within 30 days following the date the stay is granted.

The licensee shall notify the NRC of changes to the effective NPDES Permit proposed by the licensee by providing NRC with a copy of the proposed change at the same time it is submitted to the permitting agency. The licensee shall provide the NRC a copy of the application for renewal of the NPDES Permit at the same the application is submitted to the permitting agency.

### 3.3 Changes Required for Compliance with Other Environmental Regulations

Changes in plant design or operation and performance of tests or experiments which are required to achieve compliance with other Federal, State, and local environmental regulations are not subject to the requirements of Section 3.1.

## 4.0 Environmental Conditions

### 4.1 Unusual or Important Environmental Events

Any occurrence of an unusual or important event that indicates or could result in significant environmental impact causally related to plant operation but not included in the reporting requirements of 10 CFR 50.72, shall be recorded and reported to the NRC within 24 hours followed by a written report per Subsection 5.4.2. The following are examples: excessive bird impaction events, onsite plant or animal disease outbreaks, mortality or unusual occurrence of any species protected by the Endangered Species Act of 1973, fish kills, increase in nuisance organisms or conditions, and unanticipated or emergency discharge of non-radioactive waste water or chemical substances.

No routine monitoring programs are required to implement this condition.

### 4.2 Environmental Monitoring

#### 4.2.1 Aquatic Monitoring

The certifications and permits required under the Clean Water Act provide mechanisms for protecting water quality and, indirectly, aquatic biota. The NRC will rely on the decisions made by the State of Connecticut, under the authority of the Clean Water Act, for any requirements for aquatic monitoring.

#### 4.2.2 Terrestrial Monitoring

• No terrestrial monitoring is required.

## 5.0 Administrative Procedures

### 5.1 Review

The licensee shall provide for review of compliance with the EPP. The reviews shall be conducted independently of the individual or groups responsible for performing the specific activity. A description of the organization structure utilized to achieve the independent review function and results of the review activities shall be maintained and made available for inspection.

### 5.2 Records Retention

Records and logs relative to the environmental aspects of station operation shall be made and retained in a manner convenient for review and inspection. These records and logs shall be made available to NRC on request.

Records of modifications to station structures, systems and components determined to potentially affect the continued protection of the environment shall be retained for the life of the station. All other records, data and logs relating to this EPP shall be retained for five years or, where applicable, in accordance with the requirements of other agencies.

### 5.3 Changes in Environmental Protection Plan

Requests for changes in the EPP shall include an assessment of the environmental impact of the proposed change and a supporting justification. Implementation of such changes in the EPP shall not commence prior to NRC approval of the proposed changes in the form of a license amendment incorporating the appropriate revision to the EPP.

### 5.4 Plant Reporting Requirements

#### 5.4.1 Routine Reports

An Annual Environmental Operating Report describing implementation of this EPP for the previous year shall be submitted to the NRC on or before May 1 of each year. The initial report shall be submitted on or before May 1 of the year following start of commercial operation of the plant.

The report shall include summaries and analyses of the results of the environmental protection activities required by Subsection 4.2 of this EPP for the report period, including a comparison with related preoperational studies, operational controls (as appropriate), and previous nonradiological environmental monitoring reports, and an assessment of the observed impacts of the plant operation on the environment. If harmful effects or evidence of trends toward

irreversible damage to the environment are observed, the licensee shall provide a detailed analysis of the data and a proposed course of mitigating action.

The Annual Environmental Operating Report shall also include:

- (1) A list of EPP noncompliances and the corrective actions taken to remedy them.
- (2) A list of all changes in station design or operation, tests, and experiments made in accordance with Subsection 3.1 which involved a potentially significant unreviewed environmental question.
- (3) A list of nonroutine reports submitted in accordance with Subsection 5.4.2.

In the event that some results are not available by the report due date, the report shall be submitted noting and explaining the missing results. The missing results shall be submitted as soon as possible in a supplementary report.

#### 5.4.2 Nonroutine Reports

A written report shall be submitted to the NRC within 30 days of occurrence of a nonroutine event. The report shall (a) describe, analyze, and evaluate the event, including extent and magnitude of the impact, and plant operating

characteristics, (b) describe the probable cause of the event, (c) indicate the action taken to correct the reported event, (d) indicate the corrective action taken to preclude repetition of the event and to prevent similar occurrences involving similar components or systems, and (e) indicate the agencies notified and their preliminary responses.

Events reportable under this subsection which also require reports to other Federal, State or local agencies shall be reported in accordance with those reporting requirements in lieu of the requirements of this Subsection. The NRC shall be provided with a copy of such report at the same time it is submitted to the other agency.

NORTHEAST NUCLEAR ENERGY COMPANY\*MILLSTONE NUCLEAR POWER STATION, UNIT NO. 3DOCKET NO. 50-423NOTICE OF ISSUANCE OF FACILITY OPERATING LICENSE

Notice is hereby given that the U.S. Nuclear Regulatory Commission (the Commission or NRC), has issued Facility Operating License No. NPF-44 to Northeast Nuclear Energy Company and 15 owners listed below\* (the licensees) which authorizes operation of the Millstone Nuclear Power Station, Unit No. 3 (the facility), at reactor core power levels not in excess of 170 megawatts thermal in accordance with the provisions of the License, the Technical Specifications and the Environmental Protection Plan with a condition currently limiting operation to five percent of full power (170 megawatts thermal). Authorization to operate beyond five percent of full power will require specific Commission approval.

The Millstone Nuclear Power Station, Unit No. 3 (Millstone Unit 3) is a pressurized water reactor located on the north shore of Long Island Sound in Waterford Township, New London County, Connecticut. The license is effective as of the date of issuance.

The application for the license complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the

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\* Northeast Nuclear Energy Company acts 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 Energy Cooperative, The Connecticut Light and Power Company, Fitchburg Gas and Electric Company, Massachusetts Municipal Wholesale Electric Company, Montaup Electric Company, New England Power Company, Public Service Company of New Hampshire, The United Illuminating Company, The Village of Lydonville Electric Department, Western Massachusetts Electric Company, and Vermont Electric Generation and Transmission Cooperative, Inc.

Commission's regulations. The Commission has made appropriate findings as required by the Act and the Commission's regulations in 10 CFR Chapter I which are set forth in the license. Prior public notice of the overall action involving the proposed issuance of an operating license was published in the Federal Register on March 4, 1983 (48 FR 9408).

The Commission has determined that the issuance of this license will not result in any environmental impacts other than those evaluated in the Final Environmental Statement since the activity authorized by the license is encompassed by the overall action evaluated in the Final Environmental Statement.

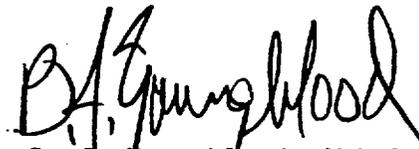
For further details with respect to this action, see (1) Facility Operating License No. NPF-44, with Technical Specifications (NUREG-1161) and the Environmental Protection Plan; (2) the report of the Advisory Committee on Reactor Safeguards, dated September 10, 1984; (3) the Commission's Safety Evaluation Report, dated July 1984 (NUREG-1031), and Supplements 1 through 3; (4) the Final Safety Analysis Report and Amendments thereto; (5) the Environmental Report and supplements thereto; (6) the Final Environmental Statement dated December 1984 (NUREG-1064); and (7) Assessment of the Effect of License Duration on Matters Discussed in the Final Environmental Statement for the Millstone Nuclear Power Station, Unit No. 3.

These items are available for inspection at the Commission's Public Document Room located at 1717 H Street, N.W., Washington, D. C. 20555 and in the Waterford Public Library, Rope Ferry Road, Route 156, Waterford, Connecticut 06385. A copy of Facility Operating License NPF-44 may be obtained upon request addressed to the U. S. Nuclear Regulatory Commission, Washington, D. C. 20555, Attention: Director, Division of Licensing. Copies of the Safety

Evaluation Report and Supplements 1 through 3 (NUREG-1031) and the Final Environmental Statement (NUREG-1064) may be purchased at current rates from the Superintendent of Documents, U. S. Government Printing Office, Post Office Box 37082, Washington D. C. 20013-7982 or by calling (202) 275-2060 or (202) 275-2171.

Dated at Bethesda, Maryland this 25<sup>th</sup> day of November 1985.

FOR THE NUCLEAR REGULATORY COMMISSION



B. J. Youngblood, Chief  
Licensing Branch No. 1  
Division of Licensing



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

Docket Nos. 50-245  
50-336  
50-423

AMENDMENT TO INDEMNITY AGREEMENT NO. B-39  
AMENDMENT NO. 17

Effective November 25, 1985 Indemnity Agreement No. B-39, between Northeast Nuclear Energy Company, The Connecticut Light and Power Company, Western Massachusetts Electric Company, New England Power Company, United Illuminating Company, Public Service Company of New Hampshire, Central Vermont Public Service Corporation, Montaup Electric Company, City of Burlington, Vermont, Electric Light Department, Chicopee Municipal Lighting Plant, Massachusetts Municipal Wholesale Electric Company, Vermont Electric Generation and Transmission Cooperative, Inc., Central Maine Power Company, Village of Lyndonville Electric Department, Connecticut Municipal Electric Energy Cooperative, Fitchburg Gas and Electric Light Company and the Atomic Energy Commission, dated May 9, 1969, as amended, is hereby further amended as follows:

Item 3 of the Attachment to the indemnity agreement is deleted in its entirety and the following substituted therefor:

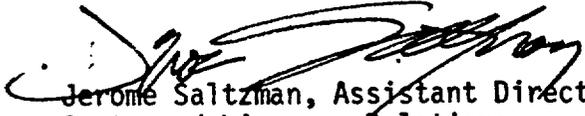
Item 3 - License number or numbers

SNM-1098	(From 12:01 a.m., May 9, 1969, to 12 midnight, October 6, 1970 inclusive)
DPR-21	(From 12:01 a.m., October 7, 1970)
SNM-1335	(From 12:01 a.m., January 22, 1973, to 12 midnight, July 31, 1975 inclusive)
DPR-65	(From 12:01 a.m., August 1, 1975)
SNM-1950	(From 12:01 a.m., April 16, 1985, to 12 midnight, November 24, 1985 inclusive)

NPF-44

(From 12:01 a.m., November 25, 1985 )

FOR THE U.S. NUCLEAR REGULATORY COMMISSION

  
 Jerome Saltzman, Assistant Director  
 State and Licensee Relations  
 Office of State Programs

Accepted \_\_\_\_\_, 1985

By \_\_\_\_\_  
NORTHEAST NUCLEAR ENERGY COMPANY

Accepted \_\_\_\_\_, 1985

By \_\_\_\_\_  
WESTERN MASSACHUSETTS ELECTRIC  
COMPANY

Accepted \_\_\_\_\_, 1985

By \_\_\_\_\_  
UNITED ILLUMINATING COMPANY

Accepted \_\_\_\_\_, 1985

By \_\_\_\_\_  
CENTRAL VERMONT PUBLIC SERVICE  
CORPORATION

Accepted \_\_\_\_\_, 1985

By \_\_\_\_\_  
CITY OF BURLINGTON, VERMONT,  
ELECTRIC LIGHT DEPARTMENT

Accepted \_\_\_\_\_, 1985

By \_\_\_\_\_  
MASSACHUSETTS MUNICIPAL  
WHOLESALE ELECTRIC COMPANY

Accepted \_\_\_\_\_, 1985

Accepted \_\_\_\_\_, 1985

By \_\_\_\_\_  
THE CONNECTICUT LIGHT AND  
POWER COMPANY

Accepted \_\_\_\_\_, 1985

By \_\_\_\_\_  
NEW ENGLAND POWER COMPANY

Accepted \_\_\_\_\_, 1985

By \_\_\_\_\_  
PUBLIC SERVICE COMPANY OF  
NEW HAMPSHIRE

Accepted \_\_\_\_\_, 1985

By \_\_\_\_\_  
MONTAUP ELECTRIC COMPANY

Accepted \_\_\_\_\_, 1985

By \_\_\_\_\_  
CHICOPEE MUNICIPAL LIGHTING PLANT

Accepted \_\_\_\_\_, 1985

By \_\_\_\_\_  
VERMONT ELECTRIC GENERATION  
AND TRANSMISSION COOPERATIVE, INC.

Accepted \_\_\_\_\_, 1985

By CENTRAL MAINE POWER COMPANY

Accepted \_\_\_\_\_, 1985

By CONNECTICUT MUNICIPAL ELECTRIC  
ENERGY COOPERATIVE

By VILLAGE OF LYNDONVILLE ELECTRIC  
DEPARTMENT

Accepted \_\_\_\_\_, 1985

By FITCHBURG GAS AND ELECTRIC  
LIGHT COMPANY

ENCLOSURE

ASSESSMENT OF THE EFFECT OF LICENSE DURATION ON MATTERS DISCUSSED  
IN THE FINAL ENVIRONMENTAL STATEMENT FOR THE MILLSTONE NUCLEAR POWER  
STATION UNIT 3 FACILITY DATED DECEMBER 1984

INTRODUCTION

The Final Environmental Statement (FES) for the operation of the Millstone Nuclear Power Station, Unit 3 was published in December 1984. It has been past practice to issue operating licenses for a period of 40 years from the date of the construction permit. For Millstone Unit 3, the Construction Permit, CPPR-113, was issued August 9, 1974, thus, approximately 29 years of operating life would be available.

Northeast Nuclear Energy Company requested that the operating license for Millstone Nuclear Power Station, Unit 3 have a duration of 40 years from the date of issuance.

DISCUSSION

The staff has reviewed the Millstone 3 FES to determine which aspects considered in the FES are affected by the duration of the operating license. In general, the FES assesses various impacts associated with operation of the facility in terms of annual impacts and balances these against the anticipated annual energy production benefits. Thus, the overall assessment and conclusions would not be dependent on a specific operating life. There are, however, two areas in which a specific operating life was assumed:

1. Radiological assessments are based on a 15-year plant midlife.
2. Uranium fuel cycle impacts are based on one initial core load and annual refuelings.

These were assessed to determine whether the use of a 40-year operating period rather than a 30-year operating period would significantly affect our assessment concerning these areas.

EVALUATION:

The staff's appraisal of the significance of the use of 40 years of operation rather than 30 as it affects these three areas is presented in the following discussions:

1. Radiological Assessments - The NRC staff calculates dose commitments to the human population residing around nuclear power reactors to assess the impact on people from radioactive material released from these reactors. The annual dose commitment is calculated to be the dose which would be received over a 50-year period following the intake of radioactivity for 1 year under the conditions which would exist 15 years after the plant began operation.

The 15-year period is chosen as representing the midpoint of plant operation and factors into the dose models by allowing for buildup of long-life radionuclides in the soil. It affects the estimated doses only for radionuclides ingested by humans which have half-lives greater than a few years. For a plant licensed for 40 years, increasing the buildup period from 15 to 20 years would increase the dose from long life radionuclides via the ingestion pathways by 33 percent at most. It would have much less effect on doses from shorter-life radionuclides. Tables D-6a, D-6b and D-7 in the Millstone 3 FES indicate that the estimated doses via the ingestion pathways are less than the regulatory design objectives. For example, the ingestion dose to the liver is 7.8 mrem/yr compared to an Appendix I design objective of 15 mrem/yr. Thus, even with an increase of as much as 33 percent in these pathways, the estimated doses would still remain within the Appendix I guidelines.

2. Uranium Fuel Cycle Impacts - The impacts of the uranium fuel cycle are based on 30 years of operation of a model light water reactor (LWR). The fuel requirements for the model LWR were assumed to be one initial-core load and 29 annual refuelings representing about one-third new fuel for each reload. The annual fuel requirement for the model LWR averaged out over a 40-year operating life (1 initial core and 39 refuelings of about 1/3 core) would be reduced slightly as compared to the annual fuel requirement averaged for a 30-year operating life.

The net result would be about a 1.5 percent reduction in the annual fuel requirement for the model LWR. This small reduction in fuel requirements would not lead to significant changes in the impacts of the uranium fuel cycle. Accordingly, the staff does not believe that any changes to Table 5.21 (S-3) of the Millstone 3 FES, are necessary for a 40-year operation of the Millstone 3 facility. This conclusion is based on our assessment that the values in Table 5.21 become more conservative when a 40-year period of operation is considered.

CONCLUSION

The staff has reviewed the Millstone 3 FES and determined that only two of the areas related to its NEPA analysis discussed in this statement were tied directly to a 30-year operating life. We have concluded, based on the reasons discussed in the sections above, that the impacts associated with a 40-year operating license duration are not significantly different from those associated with a 30-year license duration and are not significantly different from those impacts assessed in the Millstone 3 FES.

Docket No.: 50-423

NOV 25 1985

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

Dear Mr. Opeka:

SUBJECT: ISSUANCE OF FACILITY OPERATING LICENSE NPF-44 - MILLSTONE NUCLEAR POWER STATION, UNIT NO. 3

The U. S. Nuclear Regulatory Commission (NRC) has issued the enclosed Facility Operating License NPF-44, together with the Technical Specifications and the Environmental Protection Plan for the Millstone Nuclear Power Station, Unit No. 3. License No. NPF-44 authorizes operation of Millstone Nuclear Power Station, Unit 3 at reactor core power levels not in excess of 3411 megawatts thermal (100% rated power). Pending Commission approval, operation is restricted to power levels not to exceed 5 percent of full power (170 megawatts thermal).

Enclosed is a copy of a related notice, the original of which has been forwarded to the Office of the Federal Register for publication.

Seventeen signed copies of Amendment No. 17 to Indemnity Agreement No. B-39 which covers the activities authorized under License No. NPF-44 are also enclosed. Please sign all copies and return one to this office.

Sincerely,

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Hugh L. Thompson, Jr., Director  
Division of PWR Licensing-A  
Office of Nuclear Reactor Regulation

Enclosures:

1. Facility Operating License No. NPF-44
2. Federal Register Notice
3. Amendment No. 17 to Indemnity Agreement No. B-39
4. Assessment of the Effects of License Duration on Matters Discussed in the FES

cc w/enclosures: See next page

\* SEE PREVIOUS CONCURRENCES

LB#1/DL	LB#1/DL	SP	SP	OELD	OELD
*MRushbrook/mac	*EDoolittle	*IDinitz	*JSaltzman	*JRuthberg	*MKarman
11/22/85	11/22/85	11/25/85	11/25/85	11/24/85	11/22/85
OELD	LB#1/DL	AD/DL	D/DL		
*JScinto	BJYoungblood	*TMNovak	HThompson		
11/22/85	11/25/85	11/25/85	11/25/85		

Evaluation Report and Supplements 1 through 3 (NUREG-1031) and the Final Environmental Statement (NUREG-1064) may be purchased at current rates from the Superintendent of Documents, U. S. Government Printing Office, Post Office Box 37082, Washington D. C. 20013-7982 or by calling (202) 275-2060 or (202) 275-2171.

Dated at Bethesda, Maryland this 25<sup>th</sup> day of November 1985.

FOR THE NUCLEAR REGULATORY COMMISSION

15/

B. J. Youngblood, Chief  
Licensing Branch No. 1  
Division of Licensing

LB#1/DL  
MRushbrook/mac  
11/22/85

LB#1/DL  
EQuodittle  
11/22/85

OELD  
11/22/85  
NLS

LB#1/DL  
BJYoungblood  
11/25/85

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# **Technical Specifications**

## **Millstone Nuclear Power Station, Unit No. 3**

Docket No. 50-423

Appendix "A" to  
License No. NPF-44

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**Issued by the  
U.S. Nuclear Regulatory  
Commission**

**Office of Nuclear Reactor Regulation**

November 1985



## NOTICE

### Availability of Reference Materials Cited in NRC Publications

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Washington, DC 20013-7082
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Documents available from public and special technical libraries include all open literature items, such as books, journal and periodical articles, and transactions. *Federal Register* notices, federal and state legislation, and congressional reports can usually be obtained from these libraries.

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Single copies of NRC draft reports are available free, to the extent of supply, upon written request to the Division of Technical Information and Document Control, U.S. Nuclear Regulatory Commission, Washington, DC 20555.

Copies of industry codes and standards used in a substantive manner in the NRC regulatory process are maintained at the NRC Library, 7920 Norfolk Avenue, Bethesda, Maryland, and are available there for reference use by the public. Codes and standards are usually copyrighted and may be purchased from the originating organization or, if they are American National Standards, from the American National Standards Institute, 1430 Broadway, New York, NY 10018.