

June 15, 1987

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Amdt. 5

to NPF-49

Docket No. 50-423

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

Dear Mr. Mroczka:

SUBJECT: ISSUANCE OF AMENDMENT (TAC 64402)

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The Commission has issued the enclosed Amendment No. 5 to Facility Operating License No. NPF-49 for Millstone Nuclear Power Station, Unit No. 3, in response to your application dated December 10, 1986.

This amendment would revise the Technical Specification Sections 4.6.1.2.d, 4.6.1.2.g, 4.6.1.7.2 and Technical Specification Pases Section 3/4.6.1.7 to delete the requirement to leak test the containment purge supply and exhaust isolation valves every six months. Instead, these valves would be leak tested at intervals no greater than 24 months in accordance with Technical Specification Section 4.6.1.2.d and 10 CFR 50, Appendix J in conjunction with a valve seat replacement program.

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

Sincerely,

/s/

Robert L. Ferguson, Project Manager
Project Directorate I-4
Division of Reactor Projects I/II

Enclosures:

1. Amendment No. 5 to NPF-49.
2. Safety Evaluation

cc w/enclosures:
See next page

LAPDI-4
SNorris
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Mr. E. J. Mroccka
Northeast Nuclear Energy Company

Millstone Nuclear Power Station
Unit No. 3

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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

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 5
License No. NPF-49

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 December 10, 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.

*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 Light Company, Massachusetts Municipal Wholesale Electric Company, Montaup Electric Company, New England Power 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.

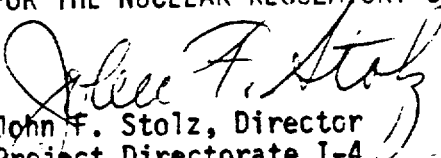
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Facility Operating License No. NPF-49 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 5, and the Environmental Protection Plan contained in Appendix B, both of which are attached hereto are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

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

FOR THE NUCLEAR REGULATORY COMMISSION


John F. Stolz, Director
Project Directorate I-4
Division of Reactor Projects I/II

Attachment:
Changes to the Technical
Specifications

Date of Issuance: June 15, 1987

ATTACHMENT TO LICENSE AMENDMENT NO. 5

FACILITY OPERATING LICENSE NO. NPF-49

DOCKET NO. 50-423

Replace the following pages of the Appendix "A" Technical Specifications with the enclosed pages. The revised pages are identified by amendment number and contain vertical lines indicating the areas of change.

Remove Pages

3/4 6-3
3/4 6-11
B 3/4 6-2

Insert Pages

3/4 6-3
3/4 6-11
B 3/4 6-2

CONTAINMENT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

- c. The accuracy of each Type A test shall be verified by a supplemental test which:
 - 1) Confirms the accuracy of the test by verifying that the supplemental test results, L_C , minus the sum of the Type A and the superimposed leak, L_O , is equal to or less than $0.25 L_A$;
 - 2) Has a duration sufficient to establish accurately the change in leakage rate between the Type A test and the supplemental test; and
 - 3) Requires that the rate at which gas is injected into the containment or bled from the containment during the supplemental test is between $0.75 L_A$ and $1.25 L_A$.
- d. Type B and C tests shall be conducted with gas at P_a , 54.1 psia (39.4 psig), at intervals no greater than 24 months except for tests involving:
 - 1) Air locks
- e. The combined bypass leakage rate shall be determined to be less than or equal to $0.01 L_A$ by applicable Type B and C tests at least once per 24 months except for penetrations which are not individually testable; penetrations not individually testable shall be determined to have no detectable leakage when tested with soap bubbles while the containment is pressurized to P_a , 54.1 psig (39.4 psig), during each Type A test;
- f. Air locks shall be tested and demonstrated OPERABLE by the requirements of Specification 4.6.1.3;
- g. Purge supply and exhaust isolation valves shall be demonstrated OPERABLE by the requirements of Specifications 4.6.3.2.c and 4.9.9.
- h. The provisions of Specification 4.0.2 are not applicable.

TABLE 3.6-1

ENCLOSURE BUILDING BYPASS LEAKAGE PATHS

<u>PENETRATION</u>	<u>RELEASE LOCATION</u>
14	Ground Release
15	Ground Release
28	Plant Vent
29	Plant Vent
35	Plant Vent
36	Plant Vent
37	Plant Vent
38	Plant Vent
45	Plant Vent
52	Turbine Building Roof Exhaust
54	Turbine Building Roof Exhaust
56	Ground Release
70	Ground Release
72	Plant Vent
85	Ground Release
86	Plant Vent
116	Plant Vent

CONTAINMENT SYSTEMS

CONTAINMENT VENTILATION SYSTEM

LIMITING CONDITION FOR OPERATION

3.6.1.7 Each containment purge supply and exhaust isolation valve shall be OPERABLE and each 42-inch containment shutdown purge supply and exhaust isolation valve shall be closed and locked closed.

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

ACTION:

- a. With a 42-inch containment purge supply and/or exhaust isolation valve open or not locked closed, close and/or lock close that valve or isolate the penetration(s) within 4 hours, otherwise be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.6.1.7.1 The containment purge supply and exhaust isolation valves shall be verified to be locked closed and closed at least once per 31 days.

CONTAINMENT SYSTEMS

3/4.6.2 DEPRESSURIZATION AND COOLING SYSTEMS

CONTAINMENT QUENCH SPRAY SYSTEM

LIMITING CONDITION FOR OPERATION

3.6.2.1 Two independent Containment Quench Spray subsystems shall be OPERABLE.

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

ACTION:

With one Containment Quench Spray subsystem inoperable, restore the inoperable system to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.6.2.1 Each Containment Quench Spray subsystem shall be demonstrated OPERABLE:

a. At least once per 31 days:

- 1) Verifying that each valve (manual, power-operated, or automatic) in the flow path is not locked, sealed, or otherwise secured in position, is in its correct position; and
- 2) Verifying the temperature of the borated water in the refueling water storage tank is between 40°F and 50°F.

b. By verifying, that on recirculation flow, each pump develops a differential pressure of greater than or equal to 114 psid when tested pursuant to Specification 4.0.5;

c. At least once per 18 months during shutdown, by:

- 1) Verifying that each automatic valve in the flow path actuates to its correct position on a CDA test signal, and
- 2) Verifying that each spray pump starts automatically on a CDA test signal.

d. At least once per 5 years by performing an air or smoke flow test through each spray header and verifying each spray nozzle is unobstructed.

3/4.6 CONTAINMENT SYSTEMS

BASES

3/4.6.1 PRIMARY CONTAINMENT

3/4.6.1.1 CONTAINMENT INTEGRITY

Primary CONTAINMENT INTEGRITY ensures that the release of radioactive materials from the containment atmosphere will be restricted to those leakage paths and associated leak rates assumed in the safety analyses. This restriction, in conjunction with the leakage rate limitation, will limit the SITE BOUNDARY radiation doses to within the dose guidelines of 10 CFR Part 100 during accident conditions.

3/4.6.1.2 CONTAINMENT LEAKAGE

The limitations on containment leakage rates ensure that the total containment leakage volume will not exceed the value assumed in the safety analyses at the peak accident pressure, P_a . As an added conservatism, the measured overall integrated leakage rate is further limited to less than or equal to $0.75 L_a$ during performance of the periodic test to account for possible degradation of the containment leakage barriers between leakage tests.

The surveillance testing for measuring leakage rates are consistent with the requirements of Appendix J of 10 CFR Part 50.

3/4.6.1.3 CONTAINMENT AIR LOCKS

The limitations on closure and leak rate for the containment air locks are required to meet the restrictions on CONTAINMENT INTEGRITY and containment leak rate. Surveillance testing of the air lock seals provides assurance that the overall air lock leakage will not become excessive due to seal damage during the intervals between air lock leakage tests.

3/4.6.1.4 and 3/4.6.1.5 AIR PARTIAL PRESSURE and AIR TEMPERATURE

The limitations on containment air partial pressure and average air temperature as a function of service water temperature ensure that: (1) the containment structure is prevented from exceeding its design negative pressure of 8 psia, (2) the containment peak pressure does not exceed the design pressure of 60 psia during LOCA conditions, and (3) the containment pressure is returned to subatmospheric conditions following a LOCA within 60 minutes. Measurements shall be made at all listed locations, whether by fixed or portable instruments, prior to determining the average air temperature.

The limits on the parameters of Figure 3.6-1 are consistent with the assumptions of the safety analyses.

CONTAINMENT SYSTEMS

BASES

3/4.6.1.6 CONTAINMENT STRUCTURAL INTEGRITY

This limitation ensures that the structural integrity of the containment will be maintained comparable to the original design standards for the life of the facility. Structural integrity is required to ensure that the containment will withstand the maximum pressure of 60 psia in the event of a LOCA. A visual inspection in conjunction with the Type A leakage tests is sufficient to demonstrate this capability.

3/4.6.1.7 CONTAINMENT VENTILATION SYSTEM

The 42-inch containment purge supply and exhaust isolation valves are required to be locked closed during plant operation since these valves have not been demonstrated capable of closing during a LOCA or steam line break accident. Maintaining these valves closed during plant operations ensures that excessive quantities of radioactive materials will not be released via the Containment Purge System. To provide assurance that these containment valves cannot be inadvertently opened, the valves are locked closed in accordance with Standard Review Plan 6.2.4 which includes mechanical devices to seal or lock the valve closed, or prevents power from being supplied to the valve operator.

The Type C testing frequency required by 4.6.1.2d is acceptable, provided that the resilient seats of these valves are replaced every other refueling outage.

3/4.6.2 DEPRESSURIZATION AND COOLING SYSTEMS

3/4.6.2.1 and 3/4.6.2.2 CONTAINMENT QUENCH SPRAY SYSTEM and RECIRCULATION SPRAY SYSTEM

The OPERABILITY of the Containment Spray Systems ensures that containment depressurization and subsequent return to subatmospheric pressure will occur in the event of a LOCA. The pressure reduction and resultant termination of containment leakage are consistent with the assumptions used in the safety analyses.

3/4.6.2.3 SPRAY ADDITIVE SYSTEM

The OPERABILITY of the Spray Additive System ensures that sufficient NaOH is added to the containment spray in the event of a LOCA. The limits on NaOH volume and concentration ensure a pH value of between 7.0 and 7.5 for the solution recirculated within containment after a LOCA. This pH band minimizes the effect of chloride and caustic stress corrosion on mechanical systems and components. The contained water volume limit includes an allowance for water not usable because of tank discharge line location or other physical characteristics.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 5

TO FACILITY OPERATING LICENSE NO. NPF-49

NORTHEAST NUCLEAR ENERGY COMPANY, ET AL.

MILLSTONE NUCLEAR POWER STATION, UNIT NO. 3

DOCKET NO. 50-423

1.0 INTRODUCTION

By letter dated December 10, 1986, the Northeast Nuclear Energy Company (licensee) requested changes to the Millstone Unit No. 3 Technical Specifications, Sections 4.6.1.2.d, 4.6.1.2.g, 4.6.1.7.2 and Technical Specification Bases Section 3/4.6.1.7 to delete the requirement to leak test the containment purge supply and exhaust isolation valves every six months. Instead, these valves would be leak tested at intervals no greater than 24 months in accordance with Technical Specification Section 4.6.1.2.d and 10 CFR 50, Appendix J in conjunction with a valve seat replacement program.

2.0 EVALUATION

In Section 6.2.6 of the Safety Evaluation Report, issued on August 2, 1984, the staff recommended that purge supply and exhaust valves with resilient seats be tested for their leakage integrity once every six months, and prescribed such testing in the Millstone, Unit 3, Technical Specifications. The staff's position that more frequent testing of the purge valves be conducted is based on a study which shows that resilient seat materials may deteriorate more rapidly than expected, for a variety of reasons.

By letter dated December 10, 1986, the licensee proposed changes to TS 4.6.1.2.d, 4.6.1.2.g, 4.6.1.7.2 and TS Bases 3/4.6.1.7, which would eliminate the more frequent (i.e., 6-month) integrity checks, while adhering to the leak testing requirements of Appendix J to 10 CFR 50 and commit to replace the valve seats every other refueling outage.

The licensee has stated that the purge system butterfly valves used at Millstone, Unit 3 are similar to the valves at Millstone, Units 1 and 2, in the following respects: the same type of resilient seat material is used, the valves are not exposed to potentially harsh seasonal environments and the valve actuators are the same.

The local leak rate test (LLRT) data for Millstone, Units 1 and 2 from 1982 to 1985 have shown that the resilient seat of this type of valve typically retains its leakage integrity beyond 24 months, and in some cases up to 4½ years (3 full cycles). The testing of the Millstone 3 purge valves in January, February, and April of 1986 has not disclosed any seal deterioration. The staff's previous Safety Evaluation Reports

dated May 2, 1986 and February 28, 1986 for Millstone Units 1 and 2, respectively, found based on plant-specific test data, that the Appendix J leak testing in conjunction with a prescribed seat replacement program is an acceptable alternative to the more frequent integrity checks.

The licensee has committed to a similar valve seat replacement program for the Millstone Unit 3 purge valves, and since the valve design and operating environment are similar, the staff finds the licensee's proposal to leak test the purge valves in accordance with 10 CFR 50, Appendix J, in lieu of performing leakage integrity checks every six months, is acceptable.

3.0 ENVIRONMENTAL CONSIDERATION

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

4.0 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: June 15, 1987

Principal Contributors:

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