

November 26, 1990

Docket No. 50-336

Mr. Edward J. Mrocza
Senior Vice President
Nuclear Engineering and Operations
Connecticut Yankee Atomic Power Company
Northeast Nuclear Energy Company
P. O. Box 270
Hartford, Connecticut 06141-0270

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Dear Mr. Mrocza:

SUBJECT: ISSUANCE OF AMENDMENT (TAC NO. 77300)

The Commission has issued the enclosed Amendment No.150 to Facility Operating License No. DPR-65 for Millstone Nuclear Power Station, Unit No. 2, in response to your application dated August 7, 1990.

The amendment changes Technical Specification 3.9.3.2 to add a requirement that the Spent Fuel Pool (SFP) bulk temperature be maintained below 140 degrees F at all times and remove the current requirement that the SFP cooling trains be operable in Modes 5 and 6 whenever the most recent 1/3 core off-load has decayed less than 21 days (504 hours) from subcriticality and the shutdown cooling is not being used to cool the SFP. Action statements are added to require (1) immediate actions to restore the temperature below 140 degrees F, (2) within one hour suspension of fuel movement within the SFP, (3) within one hour isolation of the SFP cleanup demineralizers, and (4) recording SFP temperature at least once per 4 hours if the Limiting Condition for Operation is not satisfied. The surveillance requirement is also revised to monitor the SFP temperature every 12 hours.

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

Sincerely,

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

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Enclosures:

- 1. Amendment No. 150 to DPR-65
- 2. Safety Evaluation

cc w/enclosures:
See next page

* See previous concurrence

Document Name: AMEND 77300

OFC	:PDI-4:LA *	:PDI-4:PM	:SPLB *	:PDI-4:D *	:OGC	<i>Commented by telephone</i>
NAME	:SNorris <i>MS/90</i>	:GVissing/Bah <i>MS/90</i>	:CMcCracken	:JStolz	:	<i>K.H.</i>
DATE	:9/26/90	:11/5/90	:10/10/90	:10/16/90	:11/26/90	:

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Mr. Edward J. Mroczka
Northeast Nuclear Energy Company

Millstone Nuclear Power Station
Unit No. 2

cc:

Gerald Garfield, Esquire
Day, Berry and Howard
Counselors at Law
City Place
Hartford, Connecticut 06103-3499

R. M. Kacich, Manager
Generation Facilities Licensing
Northeast Utilities Service Company
Post Office Box 270
Hartford, Connecticut 06141-0270

W. D. Romberg, Vice President
Nuclear Operations
Northeast Utilities Service Company
Post Office Box 270
Hartford, Connecticut 06141-0270

D. O. Nordquist
Director of Quality Services
Northeast Utilities Service Company
Post Office Box 270
Hartford, Connecticut 06141-0270

Kevin McCarthy, Director
Radiation Control Unit
Department of Environmental Protection
State Office Building
Hartford, Connecticut 06106

Regional Administrator
Region I
U. S. Nuclear Regulatory Commission
475 Allendale Road
King of Prussia, Pennsylvania 19406

Bradford S. Chase, Under Secretary
Energy Division
Office of Policy and Management
80 Washington Street
Hartford, Connecticut 06106

First Selectmen
Town of Waterford
Hall of Records
200 Boston Post Road
Waterford, Connecticut 06385

S. E. Scace, Nuclear Station Director
Millstone Nuclear Power Station
Northeast Nuclear Energy Company
Post Office Box 128
Waterford, Connecticut 06385

W. J. Raymond, Resident Inspector
Millstone Nuclear Power Station
c/o U. S. Nuclear Regulatory Commission
Post Office Box 811
Niantic, Connecticut 06357

J. S. Keenan, Nuclear Unit Director
Millstone Unit No. 2
Northeast Nuclear Energy Company
Post Office Box 128
Waterford, Connecticut 06385

Charles Brinkman, Manager
Washington Nuclear Operations
C-E Power Systems
Combustion Engineering, Inc.
12300 Twinbrook Pkwy
Suite 330
Rockville, Maryland 20852



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. 150
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 August 7, 1990, 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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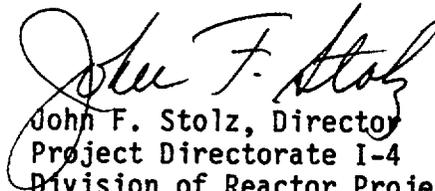
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Facility Operating License No. DPR-65 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 150, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of the date of issuance, to be implemented within 30 days of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



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

Attachment:
Changes to the Technical
Specifications

Date of Issuance: November 26, 1990

ATTACHMENT TO LICENSE AMENDMENT NO. 150

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 are identified by amendment number and contain vertical lines indicating the areas of change.

Remove

3/4 9-3a
B 3/4 9-1

Insert

3/4 9-3a
B 3/4 9-1

REFUELING OPERATIONS

SPENT FUEL POOL TEMPERATURE

LIMITING CONDITION FOR OPERATION

3.9.3.2 The spent fuel pool bulk temperature shall be maintained at less than or equal to 140°F.

APPLICABILITY: Whenever irradiated fuel is stored in the spent fuel pool.

ACTION:

With the above conditions not satisfied;

- a. Immediate initiate actions to restore the spent fuel pool temperature to less than or equal to 140°F, and
- b. Within one hour, suspend all fuel movement in the spent fuel pool, and
- c. Within one hour, isolate the spent fuel pool cleanup demineralizers, and
- d. At least once per 4 hours, record the spent fuel pool bulk temperature.

SURVEILLANCE REQUIREMENTS

4.9.3.2 The spent fuel pool bulk temperature shall be verified to be less than or equal to 140°F at least once per 12 hours.

3/4.9 REFUELING OPERATIONS

BASES

3/4.9.1 BORON CONCENTRATION

The limitations on reactivity conditions during REFUELING ensure that: 1) the reactor will remain subcritical during CORE ALTERATIONS, and 2) a uniform boron concentration is maintained for reactivity control in the water volume having direct access to the reactor vessel. These limitations are consistent with the initial conditions assumed for the boron dilution incident in the accident analyses.

3/4.9.2 INSTRUMENTATION

The OPERABILITY of the source range neutron flux monitors ensures that redundant monitoring capability is available to detect changes in the reactivity condition of the core.

3/4.9.3 DECAY TIME

The minimum requirement for reactor subcriticality prior to movement of irradiated fuel ensures that sufficient time has elapsed to allow the radioactive decay of the short-lived fission products. This decay time is consistent with the assumptions used in the accident analyses.

The requirement that the spent fuel pool bulk temperature be maintained below 140°F ensures that high water temperature will not degrade resin in the spent fuel pool demineralizers and that the temperature and humidity above the pool are compatible with personnel comfort and safety requirements. Additionally, the requirement ensures that the design temperature of the fuel pool cooling system, liner/building structures, and racks are not exceeded.

The requirement for the reactor to remain in MODE 5 or 6 until the most recent 1/3 core offload has decayed 504 hours ensures that alternate cooling is available during this time to cool the spent fuel pool should a failure occur in the spent fuel pool cooling system. The shutdown cooling (SDC) system is a high capacity system; that is, one train is sufficient to cool both the core and the spent fuel pool should a failure occur in the spent fuel pool cooling system within 504 hours from reactor shutdown.

3/4.9.4 CONTAINMENT PENETRATIONS

The requirements on containment penetration closure and OPERABILITY ensure that a release of radioactive material within containment will be restricted from leakage to the environment. The OPERABILITY and closure restrictions are sufficient to restrict radioactive material release from a fuel element rupture based upon the lack of containment pressurization potential while in the REFUELING MODE.

3/4.9.5 COMMUNICATIONS

The requirement for communications capability ensures that refueling station personnel can be promptly informed of significant changes in the facility status or core reactivity condition during fuel or CEA movement within the reactor pressure vessel.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 150

TO FACILITY OPERATING LICENSE NO. DPR-65

NORTHEAST NUCLEAR ENERGY COMPANY, ET AL.

MILLSTONE NUCLEAR POWER STATION, UNIT NO. 2

DOCKET NO. 50-336

1.0 INTRODUCTION

By application for license amendment dated August 7, 1990, Northeast Nuclear Energy Company (the licensee) requested changes to the Technical Specifications (TS) for Millstone Nuclear Power Station, Unit 2. The proposed amendment would change Technical Specification 3.9.3.2 to add a requirement that the Spent Fuel Pool (SFP) bulk temperature be maintained below 140 degrees F at all times and would remove the current requirement that the SFP cooling trains be operable in Modes 5 and 6 whenever the most recent 1/3 core off-load has decayed less than 21 days (504 hours) from subcriticality and the shutdown cooling is not being used to cool the SFP. Action statements would be added to require (1) immediate actions to restore the temperature below 140 degrees F, (2) within one hour suspension of fuel movement within the SFP, (3) within one hour isolation of the SFP cleanup demineralizers, and (4) recording SFP temperature at least once per 4 hours if the Limiting Condition for Operation (LCO) is not satisfied. The surveillance requirement would also be revised to monitor the SFP temperature every 12 hours.

2.0 EVALUATION

The current TS requires that both trains of SFP cooling be operable whenever the most recent 1/3 core offload has decayed less than 504 hours (21 days) from subcriticality. It is applicable only in Modes 5 and 6 (cold shutdown and refueling) and is not applicable when the shutdown cooling (SDC) is being used to cool the SFP. Action statements require (1) immediate initiation of actions to restore both trains of SFP cooling, (2) within one hour, suspend all fuel movement in the SFP, and (3) within one hour, isolate the SFP cleanup demineralizers if the LCO is not satisfied. The current TS (TS 3.9.3.3) also requires the reactor be maintained in Mode 5 or 6 until the most recent 1/3 core offload in the SFP has decayed for greater than 504 hours from subcriticality.

During refuel or core offloading or immediately upon entry into Mode 5 from Mode 6 with the most recent 1/3 core offload decayed less than 504 hours from criticality would be the times when the greatest SFP cooling is required. The licensee has determined that, at most times, the SFP temperature can be

maintained below 140 degrees F with only one train of SFP cooling available. The proposed TS would require that the plant immediately take actions to restore the SFP to 140 degrees F or less, if the temperature limit is exceeded. The licensee has indicated in the application for amendment that even assuming the initial pool temperature is at 140 degrees F when SFP cooling is lost, the minimum time to boiling (212 degree F) is estimated to be 8.4 hours. Also, with the plant in Mode 6 (refueling) with complete core offload assuming initial pool temperature at 140 degrees F and SFP cooling lost, the minimum time to boiling is estimated to be 3.5 hours. By letter dated February 22, 1989, on a similar subject, the licensee established that, given a single failure and if one train could not provide enough cooling with the plant in Mode 5 (cold shutdown with the vessel head on), SDC could be initiated within 6 hours to provide cooling to the SFP. The licensee has indicated that the SFP liner, building structures and racks have been qualified for a maximum water temperature of 212 degrees F. Therefore, even in the worst-case scenario, the proposed change would allow sufficient time for the operators to reinitiate SFP cooling or lineup SDC and ensure the design limits of the associated components are not exceeded.

During normal operation in Modes 1 through 4 both SFP trains would be available with one train capable of providing sufficient cooling to maintain the SFP temperature equal to or less than 140 degree F.

Since the proposed TS would retain the requirement to suspend fuel movement within the SFP if the SFP temperature exceeded 140 degrees F, the SFP could be evacuated to ensure personnel safety in case of SFP heat-up.

The proposed TS would also retain the requirement to isolate the SFP cleanup demineralizers within one hour if the SFP temperature exceeded 140 degrees F. This would assure protection of the demineralizer resins from excessive temperature.

To assure that the proposed LCO would be met, the proposed surveillance requirement would verify the SFP temperature is less than or equal to 140 degrees at least once per 12 hours. Also, to assure that the proposed LCO is met, if SFP temperature exceeds 140 degrees, the licensee would be required to monitor the SFP temperature every 4 hours.

We have evaluated the proposed changes to the TS and have determined that they are acceptable.

3.0 ENVIRONMENTAL CONSIDERATION

This amendment changes a requirement with respect to the installation or use of a facility component located within the restricted areas as defined in 10 CFR Part 20 and changes surveillance requirements. We have 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 staff 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 (3) the issuance of the amendment will not be inimical to the common defense and security or the health and safety of the public.

Dated: November 26, 1990

Principal Contributor:

G. S. Vissing