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. 159
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 6, 1991, 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.

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. 159 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, 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: June 16, 1992

ATTACHMENT TO LICENSE AMENDMENT NO. 159

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	Insert
3/4 5-4	3/4 5-4
3/4 5-6	3/4 5-6
B 3/4 5-1	B 3/4 5-1
B 3/4 5-2	B 3/4 5-2

4.5.2 Each ECCS subsystem shall be demonstrated OPERABLE:

a. At least once per 31 days on a STAGGERED TEST BASIS by:

1. Verifying that each high-pressure safety injection pump:

a) Starts automatically on a test signal.

b) Develops a differential pressure of ≥ 1231 psi on recirculation flow.

c) Operates for at least 15 minutes.

2. Verifying that each low-pressure safety injection pump:

a) Starts automatically on a test signal.

b) Develops a differential pressure of ≥ 157 psi on recirculation flow.

c) Operates for at least 15 minutes.

3. Verifying that each charging pump:

a) Starts automatically on a test signal.

b) Operates for at least 15 minutes.

4. Verifying that each boric acid pump (when required OPERABLE per Specification 3.5.2.d):

a) Starts automatically on a test signal.

b) Develops a discharge pressure of ≥ 98 psig on recirculation flow.

c) Operates for at least 15 minutes.

5. Verifying that upon a sump recirculation actuation signal, the containment sump isolation valves open.

6. Cycling each testable, automatically operated valve through at least one complete cycle.

7. Verifying the correct position for each manual valve not locked, sealed or otherwise secured in position.

8. Verifying the correct position for each remote or automatically operated valve.

9. Verifying that each ECCS subsystem is aligned to receive electrical power from separate OPERABLE emergency busses.

d At least once per 18 months, during shutdown, by cycling each power operated valve in the subsystem flow path not testable during plant operation through one complete cycle of full travel.

e. By a visual verification that each of the throttle valves in Table 4.5-1 will open to the correct position. This verification shall be performed:

1. Within 4 hours following the completion of each valve stroking operation,

2. Immediately prior to returning the valve to service after maintenance, repair, or replacement work is performed on the valve or its associated actuator or its control circuit, or

3. At least once per 18 months.

f. By conducting a flow balance verification immediately prior to returning to service any portion of a subsystem after the completion of a modification that could alter system flow characteristics. The injection leg flow rate shall be as follows:

1. HPSI Headers - the sum of the three lowest injection flows must be $\geq$ 471 gpm. The sum of the four injection flows must be $\leq$ 675 gpm.

2. LPSI Header - the sum of the three lowest injection flows must be $\geq$ 2850 gpm. The sum of the four injection flows must be

$$\leq 4500 + \left[\frac{\text{RWST level (\%)} - 10(\%)}{90\%} \times 200 \right]$$

g. At least once per 18 months, during shutdown, by verifying that on a Safety Injection Actuation test signal:

1. The valves in the boron injection flow path from the boric acid storage tank via the boric acid pump and charging pump actuate to their required positions, and

2. The charging pump and boric acid pump start automatically.

3/4.5.1 SAFETY INJECTION TANKS

The OPERABILITY of each of the RCS safety injection tanks ensures that a sufficient volume of borated water will be immediately forced into the reactor core through each of the cold legs in the event the RCS pressure falls below the pressure of the safety injection tanks. This initial surge of water into the core provides the initial cooling mechanism during large RCS pipe ruptures.

The limits on safety injection tank volume, boron concentration and pressure ensure that the assumptions used for safety injection tank injection in the accident analysis are met.

The limit of one hour for operation with an inoperable safety injection tank minimizes the time exposure of the plant to a LOCA event occurring concurrent with failure of an additional safety injection tank which may result in unacceptable peak cladding temperatures.

3/4.5.2 and 3/4.5.3 ECCS SUBSYSTEMS

The OPERABILITY of two separate and independent ECCS subsystems ensures that sufficient emergency core cooling capability will be available in the event of a LOCA assuming the loss of one subsystem through any single failure consideration. Either subsystem operating in conjunction with the safety injection tanks is capable of supplying sufficient core cooling to limit the peak cladding temperatures within acceptable limits for all postulated break sizes ranging from the double ended break of the largest RCS cold leg pipe downward.

The trisodium phosphate dodecahydrate (TSP) stored in dissolving baskets located in the containment basement is provided to minimize the possibility of corrosion cracking of certain metal components during operation of the ECCS following a LOCA. The TSP provides this protection by dissolving in the sump water and causing its final pH to be raised to $\geq$ 7.0. This determination assumes the RCS, the SI tanks, and the RWST is at a maximum boron concentration of 2400 ppm. The requirement to dissolve a representative sample of TSP in a sample of RWST water provides assurance that the stored TSP will dissolve in borated water at the postulated-post LOCA temperatures. The ECCS leak rate surveillance requirements assure that the leakage rates assumed for the system outside containment during the recirculation phase will not be exceeded.

The Surveillance Requirements provided to ensure OPERABILITY of each component ensures that at a minimum, the assumptions used in the accident analyses are met and that subsystem OPERABILITY is maintained. The purpose of the HPSI and LPSI pumps differential pressure test on recirculation ensures that the pump(s) have not degraded to a point where the accident analysis would be adversely impacted. The actual inputs into the safety analysis for HPSI and LPSI pumps differential pressure (discharge-suction) when running on recirculation are 1209 and 150 psi, respectively. The acceptance criteria in the Technical Specifications were adjusted upward to account for instrument uncertainties and drift.

The requirement to dissolve a representative sample of TSP in a sample of RWST water provides assurance that the stored TSP will dissolve in borated water at the postulated post LOCA temperatures. The ECCS leak rate surveillance requirements assure that the leakage rates assumed for the system outside containment during the recirculation phase will not be exceeded.

The purpose of the ECCS throttle valve surveillance requirements is to provide assurance that proper ECCS flows will be maintained in the event of a LOCA. Maintenance of proper flow resistance and pressure drop in the piping system to each injection point is necessary to: (1) prevent total pump flow from exceeding runout conditions when the system is in its minimum resistance configuration, (2) provide the proper flow split between injection points in accordance with the assumptions used in the ECCS-LOCA analyses, and (3) provide an acceptable level of total ECCS flow to all injection points equal to or above that assumed in the ECCS-LOCA analyses.

3/4.5.4 REFUELING WATER STORAGE TANK (RWST)

The OPERABILITY of the RWST as part of the ECCS ensures that a sufficient supply of borated water is available for injection by the ECCS in the event of a LOCA. The limits on RWST minimum volume and boron concentration ensure that 1) sufficient water is available within containment to permit recirculation cooling flow to the core, and 2) the reactor will remain subcritical in the cold condition following mixing of the RWST and the RCS water volumes with all control rods inserted except for the most reactive control assembly. These assumptions are consistent with the LOCA analyses.