NORTHEAST UTILITIES

THE CONNECTICUT LIGHT AND POWER COMPANY
WESTERN MASSACHUSETTS ELECTRIC COMPANY
HOLYOKE WATER POWER COMPANY
NORTHEAST UTILITIES SERVICE COMPANY
NORTHEAST NUCLEAR ENERGY COMPANY

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October 9, 1985

Docket No. 50-423
B11798

Director of Nuclear Reactor Regulation
Mr. B. J. Youngblood, Chief
Licensing Branch No. 1
Division of Licensing
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

References:

(1) J. F. Opeka letter to B. J. Youngblood, Technical Specifications - Proof and Review, dated September 19, 1985.

(2) J. F. Opeka letter to B. J. Youngblood, Technical Specifications - Proof and Review, dated September 20, 1985.

(3) J. F. Opeka letter to B. J. Youngblood, Technical Specifications - Proof and Review, dated September 23, 1985.

(4) J. F. Opeka letter to B. J. Youngblood, Technical Specifications - Proof and Review, dated September 24, 1985.

(5) J. F. Opeka letter to B. J. Youngblood, Technical Specifications - Proof and Review, dated September 25, 1985.

(6) J. F. Opeka letter to B. J. Youngblood, Technical Specifications - Proof and Review, dated September 26, 1985.

(7) J. F. Opeka letter to B. J. Youngblood, Technical Specifications - Proof and Review, dated September 30, 1985.

(8) J. F. Opeka letter to B. J. Youngblood, Technical Specifications - Proof and Review, dated October 4, 1985.

(9) J. F. Opeka letter to B. J. Youngblood, Technical Specifications - Proof and Review, dated October 4, 1985.

(10) J. F. Opeka, letter to B. J. Youngblood, Technical Specifications - Proof and Review, dated October 7, 1985.

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Dear Mr. Youngblood:

Millstone Nuclear Power Station, Unit No. 3
Technical Specifications - Proof and Review

In the above references, Northeast Nuclear Energy Company (NNECO), submitted information requested by the Staff concerning certain draft technical specifications for Millstone Unit No. 3. Enclosed please find additional NNECO responses to questions raised.

We trust the attached will resolve the Staff's concerns. If there are additional questions, please contact our licensing representative directly.

Very truly yours,

NORTHEAST NUCLEAR ENERGY COMPANY
et. al.
BY NORTHEAST NUCLEAR ENERGY COMPANY
Their Agent

J. F. Opeka
Senior Vice President

STATE OF CONNECTICUT)
) ss. Berlin
COUNTY OF HARTFORD)

Then personally appeared before me J. F. Opeka, who being duly sworn, did state that he is Senior Vice President of Northeast Nuclear Energy Company, an Applicant herein, that he is authorized to execute and file the foregoing information in the name and on behalf of the Applicants herein and that the statements contained in said information are true and correct to the best of his knowledge and belief.

Notary Public

My Commission Expires March 31, 1988

Item: T/S 3.4.1.6 Reactor Coolant System, Isolated Loop Startup

This specification is to be revised at the request of the Staff.

NNECO's Response:

The standard specification would require that a Reactor Coolant Pump (RCP) be operated for at least 90 minutes. This is not possible for the following reasons:

1. With an RCP running in an isolated loop, there is no adequate method to control the heatup of that loop. The steam generator is not effective until the temperature exceeds 212°F and the Residual Heat Removal system suction/discharge is on the reactor vessel side of the loop stops.

2. Venting of an isolated loop that had been drained would be difficult if it could be done. Operating the RCPs would not effectively sweep the steam generator due to the low flow. At the very best, this would result in a large number of start/stop cycles on the RCP and could result in more severe equipment damage.

The specification is being changed to incorporate a provision to address stratification concerns raised by the deletion of recirculation requirement. The drain and refill of a loop with a boric acid blend greater than that of the operating portion of the reactor coolant system ensures that there will be no reactivity transient due to the restoration. By requiring that the loop stops be opened within four hours of completing the fill, stratification will be of no concern.

See the attached copy of the proposed specification and the respective bases.

ISOLATED LOOP STARTUP

LIMITING CONDITION FOR OPERATION

3.4.1.6 A reactor coolant loop shall remain isolated until:

a. The ~~isolated loop has been operating on a recirculation flow of greater than or equal to ___ gpm for at least 90 minutes and the~~ temperature at the cold leg of the isolated loop is within 20°F of the highest cold leg temperature of the operating loops, and

INSERT A

d. The reactor is subcritical by at least ~~2%~~ 1.6% Δk/k.

APPLICABILITY: All MODES.

ACTION:

a. With the requirements of the above specification not satisfied, ~~suspend startup of the isolated loop~~ do not open the isolated loop stop valves

b. The provisions of Specification 3.04 are not applicable.

SURVEILLANCE REQUIREMENTS

4.4.1.6.1 The isolated loop cold leg temperature shall be determined to be within 20°F of the highest cold leg temperature of the operating loops within 30 minutes prior to opening the cold leg stop valve.

4.4.1.6.2 The reactor shall be determined to be subcritical by at least ~~2%~~ 1.6% Δk/k within 30 minutes prior to opening the cold leg stop valve.

THIS PAGE OPEN PENDING RECEIPT OF INFORMATION FROM THE APPLICANT

INSERT B

INSERT A

b. The boron concentration of the isolated loop is greater than or equal to the boron concentration of the operating loops, and

c. The isolated portion of the loop has been drained and is refilled, and

INSERT B

4.4.1.6.3 Within 4 hours of opening both loop stop valves, the isolated loop shall be:

a.) determined to have been drained and refilled, and

b.) determined to have a boron concentration greater than or equal to the boron concentration of the operating loops.

3/4.4.1 REACTOR COOLANT LOOPS AND COOLANT CIRCULATION

The plant is designed to operate with all reactor coolant loops in operation and maintain DNBR above 1.30 during all normal operations and anticipated transients. In MODES 1 and 2 with one reactor coolant loop not in operation this specification requires that the plant be in at least HOT STANDBY within 6 hours.

In MODE 3, two reactor coolant loops provide sufficient heat removal capability for removing core decay heat even in the event of a bank withdrawal accident; however, a single reactor coolant loop provides sufficient heat removal capacity if a bank withdrawal accident can be prevented, i.e., by opening the Reactor Trip System breakers. Single failure considerations require that two loops be OPERABLE at all times.

In MODE 4, and in MODE 5 with reactor coolant loops filled, a single reactor coolant loop or RHR loop provides sufficient heat removal capability for removing decay heat; but single failure considerations require that at least two loops (either RHR or RCS) be OPERABLE.

In MODE 5 with reactor coolant loops not filled, a single RHR loop provides sufficient heat removal capability for removing decay heat; but single failure considerations, and the unavailability of the steam generators as a heat removing component, require that at least two RHR loops be OPERABLE.

The operation of one reactor coolant pump (RCP) or one RHR pump provides adequate flow to ensure mixing, prevent stratification and produce gradual reactivity changes during boron concentration reductions in the Reactor Coolant System. The reactivity change rate associated with boron reduction will, therefore, be within the capability of operator recognition and control.

The restrictions on starting an RCP with one or more RCS cold legs less than or equal to 350°F are provided to prevent RCS pressure transients, caused by energy additions from the Secondary Coolant System, which could exceed the limits of Appendix G to 10 CFR Part 50. The RCS will be protected against overpressure transients and will not exceed the limits of Appendix G by either: (1) restricting the water volume in the pressurizer and thereby providing a volume for the reactor coolant to expand into, or (2) by restricting starting of the RCPs to when the secondary water temperature of each steam generator is less than 50°F above each of the RCS cold leg temperatures.

power removed

The requirement to maintain the ~~boron concentration of an isolated loop greater than or equal to the boron concentration of the operating loops~~ isolated loop stop valves shut with that no reactivity addition to the core could occur ~~during~~ due to the startup of an isolated loop. Verification of the boron concentration in an idle loop prior to opening the stop valves provides a reassurance of the adequacy of the boron concentration in the isolated loop. ~~Operating the isolated loop on recirculating flow for at~~ least ~~60 minutes~~ 4 hours prior to opening its stop valves ensures adequate mixing of the coolant in this loop and prevents any reactivity effects due to boron concentration stratifications.

Draining and refilling the isolated loop at