



Northeast
Nuclear Energy

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The Northeast Utilities System

Donald B. Miller Jr.,
Senior Vice President - Millstone

Re: 10CFR50.73(a)(2)(i)(B)

January 5, 1996

MP-95-3

U.S. Nuclear Regulatory Commission
Document Control Desk
Washington, D.C. 20555

Reference: Facility Operating License No. NPF-49
Docket No. 50-423
Licensee Event Report 95-021-00

This letter forwards Licensee Event Report 95-021-00 required to be submitted within thirty (30) days pursuant to 10CFR50.73(a)(2)(i)(B).

Very truly yours,

NORTHEAST NUCLEAR ENERGY COMPANY

Donald B. Miller, Jr.
Senior Vice President - Millstone Station

DBM/JC:ljs

Attachment: LER 95-021-00

cc: T. T. Martin, Region I Administrator
P. D. Swetland, Senior Resident Inspector, Millstone Unit Nos. 1, 2, and 3
V. L. Rooney, NRC Project Manager, Millstone Unit No. 3

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LICENSEE EVENT REPORT (LER)

(See reverse for required number of digits/characters for each block)

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS MANDATORY INFORMATION COLLECTION REQUEST: 50.0 HRS. REPORTED LESSONS LEARNED ARE INCORPORATED INTO THE LICENSING PROCESS AND FED BACK TO INDUSTRY. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (T-6 F33), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555-0001, AND TO THE PAPERWORK REDUCTION PROJECT

| | | |
|--|--------------------------------------|---------------------------|
| FACILITY NAME (1) Millstone Nuclear Power Station Unit 3 | DOCKET NUMBER (2) 05000423 | PAGE (3) 1 OF 3 |
|--|--------------------------------------|---------------------------|

TITLE (4) **Inadequate Surveillance for Unisolating a Reactor Coolant Loop When All Four Loops Were Isolated in Cold Shutdown, Due to Procedure Inadequacy**

| EVENT DATE (5) | | | LER NUMBER (6) | | | REPORT DATE (7) | | | OTHER FACILITIES INVOLVED (8) | |
|----------------|-----|------|----------------|-------------------|-----------------|-----------------|-----|------|-------------------------------|---------------|
| MONTH | DAY | YEAR | YEAR | SEQUENTIAL NUMBER | REVISION NUMBER | MONTH | DAY | YEAR | FACILITY NAME | DOCKET NUMBER |
| 12 | 07 | 95 | 95 | 021 | 00 | 01 | 05 | 96 | | 05000 |
| | | | | | | | | | | 05000 |

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|--------------------------------|---|--|-------------|-------------------|--|--|-------------------------------------|-----------------|------------------|--|---|
| OPERATING MODE (9) 5 | THIS REPORT IS BEING SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11) | | | | | | | | | | |
| | 20.2201(b) | | | 20.2203(a)(2)(v) | | | <input checked="" type="checkbox"/> | | 50.73(a)(2)(i) | | 50.73(a)(2)(vii) |
| POWER LEVEL (10) 0 | 20.2203(a)(1) | | | 20.2203(a)(3)(i) | | | | | 50.73(a)(2)(ii) | | 50.73(a)(2)(x) |
| | 20.2203(a)(2)(i) | | | 20.2203(a)(3)(ii) | | | | | 50.73(a)(2)(iii) | | 73.71 |
| | 20.2203(a)(2)(ii) | | | 20.2203(a)(4) | | | | | 50.73(a)(2)(iv) | | OTHER |
| | 20.2203(a)(2)(iii) | | | 50.36(c)(1) | | | | | 50.73(a)(2)(v) | | Specify in Abstract below or in NRC Form 365A |
| 20.2203(a)(2)(iv) | | | 50.36(c)(2) | | | | | 50.73(a)(2)(vi) | | | |

LICENSEE CONTACT FOR THIS LER (12)

| | |
|--|---|
| NAME Robert L. McGuinness, Senior Engineer | TELEPHONE NUMBER (Include Area Code) (203) 447-1791 Ext. 6855 |
|--|---|

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

| CAUSE | SYSTEM | COMPONENT | MANUFACTURER | REPORTABLE TO NPRDS | CAUSE | SYSTEM | COMPONENT | MANUFACTURER | REPORTABLE TO NPRDS |
|-------|--------|-----------|--------------|---------------------|-------|--------|-----------|--------------|---------------------|
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SUPPLEMENTAL REPORT EXPECTED (14)

| | | | | | | |
|--|-------------------------------------|----|-------------------------------|-------|-----|------|
| YES (If yes, complete EXPECTED SUBMISSION DATE) | <input checked="" type="checkbox"/> | NO | EXPECTED SUBMISSION DATE (15) | MONTH | DAY | YEAR |
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ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines) (16)

On December 7, 1995, with the plant in Mode 5 at 0-percent power, and all four Reactor Coolant System (RCS) loops isolated, the loop stop valves on one loop were opened without performing a Technical Specification surveillance.

The condition is reported in accordance with 10CFR50.73(a)(2)(i)(B) as a condition prohibited by Technical Specifications. Technical Specification 4.4.1.6 requires that, "the isolated cold leg loop 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 valves." Because there were no operating loop cold leg temperature indications, this requirement was thought to be not applicable.

There was no safety significance to returning the isolated RCS loop to service because no reactivity addition could have occurred. The surveillance that was performed had verified that the boron concentration in the isolated loop was greater than the RCS concentration, and both were greater than 2600 ppm, as required by procedure. A subsequent evaluation has determined that the 20°F limit was exceeded by 0.1°F. At the temperature and boron concentration which existed at the time, the moderator temperature coefficient was very close to zero (0 pcm per °F) or was slightly positive. Additionally, the reactor was shutdown by more than 5-percent.

A clarification of the procedure, as to how to restore an isolated loop when all of the loops are isolated, will be made in the Technical Requirements Manual.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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| | | YEAR | SEQUENTIAL NUMBER | REVISION NUMBER | |
| | | 95 | — 021 — | 00 | |

TEXT (If more space is required, use additional copies of NRC Form 366A) (17)

I. Description of Event

On December 7, 1995, at 0700 hours, with the plant in Mode 5 at 0-percent power, the loop stop valves on loop 3 of the Reactor Coolant System (RCS) were opened without performing a surveillance to verify there was no more than 20 degrees Fahrenheit difference between the loop to be opened and the RCS. This was in violation of Technical Specification 4.4.1.6.1. Technical Specification 4.4.1.6.1 requires that, "the isolated cold leg loop 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 valves."

At the time of the event the RCS was being cooled by the Residual Heat Removal (RHR) system. Three of the RCS loops were isolated and drained. The boron concentration in the RCS and in Loop 3, which was to be restored, was greater than 2600 ppm. The core exit temperature (RHR inlet) was 134°F and the core inlet (RHR outlet) temperature was 120.1°F. The temperature of the loop to be unisolated, loop 3, was 100°F. There were no reactor coolant pumps in operation.

II. Cause of Event

The procedure for implementing the Technical Specification was not clear as to how to determine the temperature difference between the isolated loop and the RCS, when all of the RCS loops are isolated. With all four loops isolated, there were no operating RCS loop temperature indications to compare against the first RCS loop to be unisolated. Operations personnel thought that technical specification 3.4.1.6.a and its associated surveillance was not applicable, due the fact that there were no RCS loop temperature indications to compare against because the other three RCS loops were isolated.

An appropriate measure would have been to compare the temperature of the loop being unisolated to the outlet temperature of the RHR heat exchanger. This is consistent with the intent of the technical specification, which is to prevent a reactivity insertion transient being caused by introducing a source of cold water to the core. By comparing the temperature of the loop being restored to the outlet of the RHR heat exchanger, which is the core inlet temperature, an equivalent comparison of the delta T between the loop and the RCS inlet conditions can be made for the condition being evaluated.

As a result of the procedure not being clear, there was no surveillance check of the loop 3 cold leg temperature made against the core inlet temperature at the time of the event. A subsequent evaluation determined that the difference between the temperature of the loop being restored to service and the RHR heat exchanger outlet temperature was 20.1°F.

III. Analysis of Event

A subsequent evaluation determined that the 20°F limit was exceeded by 0.1°F. There was no safety significance to returning the isolated RCS loop to service because no reactivity addition could have occurred. The surveillance that was performed had verified that the boron concentration in the isolated loop was greater than the RCS concentration, and both were greater than 2600 ppm, as required by procedure. At the temperature and boron concentration which existed at the time, the moderator temperature coefficient was very close to zero (0 pcm per °F) or was slightly positive. Additionally, the reactor was shutdown in excess of 5-percent, and the reactor SHUTDOWN MARGIN was being maintained at a condition acceptable down to 68°F.

IV. Corrective Action

A clarification of the procedure, as to how to restore an isolated loop when all of the loops are isolated, will be made in the Technical Requirements Manual. Also, NNECO will evaluate whether a change is needed to clarify the Technical Specifications.

**LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION**

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TEXT (If more space is required, use additional copies of NRC Form 366A) (17)

V. Additional Information

There have been no similar reportable events.

EIIS Codes

Systems

Reactor Coolant System – AB

Residual Heat Removal System – BP

Equipment

Temperature Indication – TI