

Northeast  
Nuclear Energy

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Northeast Nuclear Energy Company  
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The Northeast Utilities System

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

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

May 22, 1995  
MP-95-164

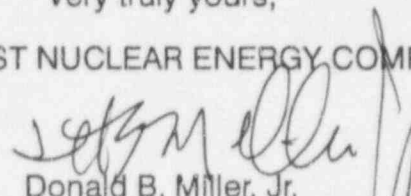
U.S. Nuclear Regulatory Commission  
Document Control Desk  
Washington, D.C. 20555

Reference: Facility Operating License No. NPF-49  
Docket No. 50-423  
Licensee Event Report 95-004-01

This letter forwards Licensee Event Report 95-004-01 which supplements Licensee Event Report 95-004-00. The supplement amplifies the cause and corrective action that was provided in the original LER.

Very truly yours,

NORTHEAST NUCLEAR ENERGY COMPANY



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

DBM/RLM:lfg

Attachment: LER 95-004-01

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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PDR ADOCK 05000423  
S PDR

IF22  
11

EXPIRES: 5/31/95

## LICENSEE EVENT REPORT (LER)

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

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (MNBB 7714), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555-0001, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

|  |                   |          |
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| FACILITY NAME (1)                      | DOCKET NUMBER (2) | PAGE (3) |
| Millstone Nuclear Power Station Unit 3 | 05000423          | 1 OF 5   |

|  |
|--|
| TITLE (4)  |
| Historical Breaches Affecting Control Room Pressurization and Secondary Containment Vacuum, due to Misinterpretation of Technical Specifications |

| 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 |
| 03             | 22  | 95   | 95             | 004               | 01              | 05              | 22  | 95   |                               |               |
|                |     |      |                |                   |                 |                 |     |      | FACILITY NAME                 | DOCKET NUMBER |
|                |     |      |                |                   |                 |                 |     |      |                               | 05000         |
|                |     |      |                |                   |                 |                 |     |      | FACILITY NAME                 | DOCKET NUMBER |
|                |     |      |                |                   |                 |                 |     |      |                               | 05000         |

|                    |      |   |  |             |                  |                     |  |  |  |
|--------------------|------|---|--|-------------|------------------|---------------------|--|--|--|
| OPERATING MODE (9) | 1    | THIS REPORT IS BEING SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11) |  |             |                  |                     |  |  |  |
|                    |      | 20.402(b)   |  | 20.405(c)   |                  | 50.73(a)(2)(iv)     |  | 73.71(b)   |  |
| POWER LEVEL (10)   | 100% | 20.405(a)(1)(i)   |  | 50.36(c)(1) | X                | 50.73(a)(2)(v)      |  | 73.71(c)   |  |
|                    |      | 20.405(a)(1)(ii)  |  | 50.36(c)(2) |                  | 50.73(a)(2)(vi)     |  | OTHER  |  |
|                    |      | 20.405(a)(1)(iii)   |  | X           | 50.73(a)(2)(i)   | 50.73(a)(2)(vii)(A) |  | (Specify in Abstract below and in Text, NRC Form 366A) |  |
|                    |      | 20.405(a)(1)(iv)  |  |             | 50.73(a)(2)(ii)  | 50.73(a)(2)(vii)(B) |  |  |  |
|                    |      | 20.405(a)(1)(v)   |  |             | 50.73(a)(2)(iii) | 50.73(a)(2)(ix)     |  |  |  |

## LICENSEE CONTACT FOR THIS LER (12)

|                                       |                                      |
|---------------------------------------|--------------------------------------|
| NAME                                  | TELEPHONE NUMBER (Include Area Code) |
| Robert L. McGuinness, Senior Engineer | (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 |
|-------|--------|-----------|--------------|---------------------|-------|--------|-----------|--------------|---------------------|
|       |        |           |              |                     |       |        |           |              |                     |
|       |        |           |              |                     |       |        |           |              |                     |

## SUPPLEMENTAL REPORT EXPECTED (14)

|  |   |    |                               |       |     |      |
|--|---|----|-------------------------------|-------|-----|------|
| YES<br>(If yes, complete EXPECTED SUBMISSION DATE) | X | NO | EXPECTED SUBMISSION DATE (15) | MONTH | DAY | YEAR |
|  |   |    |                               |       |     |      |

## ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines) (16)

On March 22, 1995, with the plant in MODE 1 at 100% power, a prompt report was made that there were historical breaches of the Control Room pressure boundary and the Secondary Containment pressure boundary. On March 24, 1995, an update and a separate report notified the NRC that the Supplementary Leak Collection and Release System (SLCRS) was inoperable during the Secondary Containment breaches.

Evaluations have subsequently determined that the historical breaches of the Control Room pressure boundary, resulted in noncompliances with Technical Specifications, but did not result in a loss of safety function.

The historical breaches of the Secondary Containment resulted in noncompliances with Technical Specifications, and are also reported as a loss of safety function.

The historical breaches of the Control Room pressure boundary and the Secondary Containment pressure boundary had low safety significance. For both areas, surveillance tests routinely demonstrated that redundant ventilation and pressurization trains were available and capable of operating if required. The breaches of the Secondary Containment would have resulted in the inability of the SLCRS system to drawdown the Secondary Containment within the Technical Specification requirements.

The cause of allowing occasional breaches that existed for short periods of time, was the plant's incomplete interpretation of Technical Specification Action Statements. For both: the Control Room pressure boundary and the Secondary Containment pressure boundary, whenever an unacceptable breach occurred, the plant historically entered the immediately applicable Action Statement. However, the plant should have entered additional Action Statements for supported systems or other systems that were also affected.

The immediate corrective actions involved work controls to minimize the possibility of pressure boundary breaches. The actions to prevent recurrence will include procedure changes; and Technical Specification changes will be proposed for SLCRS and Secondary Containment. In addition, future on-line maintenance jobs that are similar to the events reported in this LER, will include a review of affected Technical Specifications to minimize the potential for a recurrence.

EXPIRES: 5/31/95

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

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION  
COLLECTION REQUEST 50.0 HRS FORWARD COMMENTS REGARDING  
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BRANCH (MNB 7714), U.S. NUCLEAR REGULATORY COMMISSION,  
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| Millstone Nuclear Power Station<br>Unit 3 | 05000423          | 95             | 004                  | 01                 | 02 OF 05 |

**TEXT** (If more space is required, use additional copies of NRC Form 366A) (17)**I. Description of Event**

On March 22, 1995, with the plant in MODE 1 at 100% power, a prompt report was made that there were historical breaches of the Control Room pressure boundary and the Secondary Containment pressure boundary. On March 24, 1995, an update and a separate report notified the NRC that the Supplementary Leak Collection and Release System (SLCRS) was inoperable during the historical breaches of the Secondary Containment.

Evaluations have subsequently determined that the historical breaches of the Control Room pressure boundary resulted in noncompliances with Technical Specifications, but did not result in a loss of safety function.

It was also determined that the historical breaches of the Secondary Containment resulted in noncompliances with Technical Specifications, and are also reported as a loss of safety function.

**Control Room**

The Control Room pressure boundary has had occasional breaches for short periods of time, due to maintenance such as painting doors and pulling cable through penetrations. The plant's action for these breaches was to routinely log into Technical Specification 3.7.8, for Control Room Pressurization. The capability of this system to pressurize the Control Room envelope to 1/8-inch water gauge pressure for 60 minutes has been verified in the 18-month surveillance tests. A breach that would preclude this capability would typically result in an entry into Action Statement 3.7.8.b.1, which requires operation of a Control Room Emergency Air Filtration System in the recirculation mode (filtered recirc). The plant complied with this Technical Specification when this action was done.

However, one of the surveillance requirements for the Control Room Emergency Air Filtration System, 4.7.7.e.2, also requires the plant to verify the capability of this system to pressurize the Control Room envelope to 1/8-inch water gauge pressure during the 18-month surveillance test. It is now determined that this capability could not be assured when the plant complied with 3.7.8.b.1 by entering the filtered recirc mode for some of the historical breaches of the Control Room envelope. Thus, the historical conditions are reported as a noncompliance with Technical Specifications.

**Secondary Containment**

There have been occasional breaches of the Secondary Containment Boundary for short periods of time, due to maintenance such as painting doors, and in a recent case roof plugs were removed to replace several pumps. In each case, the Action Statement for Technical Specification 3.6.6.2 was entered. This Action Statement permits the Secondary Containment Boundary to be breached for up to 24 hours.

During the periods of Secondary Containment Boundary breaches, the effectiveness of the SLCRS system was reduced, and most likely in some instances, the ability to drawdown the Secondary Containment Boundary to a negative pressure of 0.4-inch water gauge within 120 seconds (measured at the 24'-6" elevation of the Auxiliary building) would not have been possible. The once per 18-month surveillance test required to prove operability of the system in accordance with Technical Specification 3.6.6.1 would most likely not have been successful if performed concurrent with the existence of some of the larger breaches over unit life. None-the-less, the system would have been effective, albeit less effective, in reducing the levels of radionuclides released to the environment. As an example, the recent removal of roof plugs to permit removal of the Residual Heat Removal pumps with the unit on line, would most likely have resulted in an inability to meet the test acceptance criteria during the time a plug was removed.

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

Thus, while the plant has historically entered the Secondary Containment Boundary 24-hour Action Statement when there were breaches above and beyond the normal everyday personnel passage through doorways, the presence of these breaches has presented a recently identified conflict relative to meeting one of the SLCRS operability requirements. Specifically, the ability (in conjunction with the Auxiliary Building Ventilation System (ABVS)) to establish and maintain a negative pressure at all points within the Secondary Containment volume except under extreme meteorological conditions, was reduced. A specific interpretation of the SLCRS Technical Specifications would have resulted in an entry into Technical Specification 3.0.3, requiring a plant shutdown for any off-normal breach.

Based on the above, the function of the SLCRS/ABVS drawdown system would have been degraded by not fully meeting the Technical Specification negative pressure requirement, during certain Secondary Containment Boundary breaches. Millstone 3 was licensed with standard technical specifications, similar to most plants, which were misinterpreted to allow such conditions for limited periods. It is noted, however, that the new and improved Standard Technical Specifications (NUREG-1431) for Westinghouse plants have removed the drawdown function (and related surveillance test requirements) from the Filtration Specification (SLCRS Technical Specification 3.6.6.1 in our case) and repositioned it in the Secondary Containment Boundary Specification (3.6.6.2 in our case). This change in the new and improved Standard recognizes the direct impact of boundary integrity on drawdown capability. NNECO has determined that the plant's current Technical Specification conflict, and basis for reporting this issue, is one of not having historically satisfied the most limiting Technical Specification requirement, even though the intent of the overall Secondary Containment Boundary specification has been satisfied. Thus, the historical conditions are reported as a noncompliance with Technical Specifications and reported as a loss of safety function.

**II. Cause of Event**

The cause of the event is a misinterpretation of applicable Technical Specification Action Statements. For both the Control Room pressure boundary and the Secondary Containment pressure boundary, whenever an unacceptable breach occurred, the plant historically entered the immediately applicable Technical Specification Action Statement. However, the plant should have entered additional Action Statements for supported systems or other systems that were also affected.

**III. Analysis of Event**

Evaluations have determined that the historical breaches did not result in a loss of safety function of the Control Room pressure boundary, but did involve noncompliances with Technical Specifications.

It has also been determined that historical breaches of the Secondary Containment resulted in a degradation, but not complete loss of the SLCRS function, and a noncompliance with Technical Specifications.

**Control Room**

The Control Room pressure boundary breaches have generally been of short duration. Some examples are painting door frames, and uncapping a spare penetration to pull new cables before resealing the penetration. For some breaches the filtered recirc system may not have been able to maintain a 1/8-inch water gauge pressure. The safety analysis for control room habitability following an accident assumes that the Control Room envelope is maintained at a positive pressure. No specific pressure is specified. Although the pressurization system was declared inoperable, it would have actuated during a Control Building Isolation, and pressurized the envelope for one hour. One train is normally capable of pressurizing the Control Room to 1/8-inch water gauge with no penetrations. Two trains would pressurize to a greater pressure. With both trains available, the envelope would be at a positive pressure during typical breaches. Also, both trains of filtered recirc are required to be available and capable of maintaining a positive pressure if required.



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| Millstone Nuclear Power Station<br>Unit 3 | 05000423             | <table border="1"><tr><th>YEAR</th><th>SEQUENTIAL<br/>NUMBER</th><th>REVISION<br/>NUMBER</th></tr><tr><td>95</td><td>— 004 —</td><td>01</td></tr></table> | YEAR     | SEQUENTIAL<br>NUMBER | REVISION<br>NUMBER | 95 | — 004 — | 01 | 04 OF 05 |
| YEAR                                      | SEQUENTIAL<br>NUMBER | REVISION<br>NUMBER  |          |                      |                    |    |         |    |          |
| 95  | — 004 —              | 01  |          |                      |                    |    |         |    |          |

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

Secondary Containment

During periods of Secondary Containment Boundary breaches, the effectiveness of the Supplementary Leak Collection and Release System (SLCRS) was reduced, and most likely in some instances, the ability to drawdown the Secondary Containment volume to a negative pressure of 0.4-inch water gauge within 120 seconds (measured at 24'-6" elevation of the Auxiliary Building) would not have been possible. The once per 18-month surveillance test required to prove operability of the system in accordance with Technical Specification 3.6.6.1 would most likely not have been successful if performed concurrent with the existence of some of the larger breaches over unit life. None—the—less, the system would have been effective, albeit less effective, in reducing the levels of radionuclides released to the environment.

Both, the new and improved Standard Technical Specifications and the Unit 3 Technical Specifications for Secondary Containment provide a 24-hour Action Statement which allows for restoration of the Secondary Containment following a breach. The new and improved Standard Technical Specification Bases state that 24 hours is a reasonable time for restoring operability of the shield building (Secondary Containment), considering the limited leakage design of containment and the low probability of a Design Basis Accident occurring during this same time period. Historically, the breaches of the Secondary Containment have not been reported as a loss of safety function, because the integrity of the Secondary Containment has been established within the 24-hour Action Statement of Technical Specification 3.6.6.2.

The plant has historically entered the Secondary Containment Boundary 24-hour Action Statement when there were breaches above and beyond the normal everyday personnel passage through doorways. However, the presence of these breaches presents a recently identified conflict with the SLCRS operability requirements. Specifically, the ability of SLCRS in conjunction with ABVS to establish and maintain a negative pressure at all points within the Secondary Containment volume except under extreme meteorological conditions, was reduced. The function of the SLCRS/ABVS drawdown system would have been degraded by not being capable of meeting the Technical Specification negative pressure requirement, during certain Secondary Containment Boundary breaches. NNECO is reporting the incapability of the SLCRS to drawdown the Secondary Containment within the criteria of Surveillance Requirement 4.6.6.1.d.3 as a loss of safety function.

A specific interpretation of the SLCRS Technical Specifications would have resulted in an entry into Technical Specification 3.0.3, thus requiring a plant shutdown for any off-normal breach. It is noted, however, that the new improved Standard Technical Specifications (NUREG-1431) for Westinghouse plants have removed the drawdown function (and related surveillance test requirements) from the Filtration Specification (SLCRS Technical Specification 3.6.6.1 in our case) and repositioned it in the Secondary Containment Boundary Specification (3.6.6.2 in our case). This change in the new and improved Standard recognizes the direct impact of boundary integrity on drawdown capability. NNECO has determined that the plant's current Technical Specification conflict, and basis for reporting this issue, is one of not having historically satisfied the most limiting Technical Specification requirement, even though the intent of the overall Secondary Containment Boundary specification was satisfied. Thus, the historical conditions are reported as a noncompliance with Technical Specifications, and reported as a loss of safety function.

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

IV. Corrective Action

The immediate corrective actions taken for maintaining pressure boundaries included: disallowing any work that could result in an unacceptable breach, halting work on door repairs, determining an acceptable time for normal access and egress through doors, and determining a maximum allowable penetration size for Secondary Containment and Control Room boundaries.

The actions to prevent recurrence will include procedure changes; and Technical Specification changes will be proposed for SLCRS and Secondary Containment. NNECO intends to submit a Technical Specification change modeled after the guidance of the new and improved Standard Technical Specifications for the issue regarding the SLCRS drawdown function. Until such change is approved by the NRC, NNECO will comply with the most restrictive interpretation of the unit's Technical Specifications, whenever an off-normal breach of the Secondary Containment Boundary occurs.

Following NRC approval of the changes that will be proposed, NNECO will no longer consider the SLCRS to be impaired when the Secondary Containment is breached. With the proposed changes, the precedence (described above) that has been established for the non-reportability of the loss of Secondary Containment due to breaches which last less than 24 hours, will be applied to the SLCRS drawdown function as well.

With respect to Technical Specification improvements, Unit 3 has completed a majority of the line item improvements that are identified in NRC Generic Letters. As an additional action to prevent recurrence, future on-line maintenance program activities, will include a review of affected Technical Specifications with specific attention paid to surveillance acceptance criteria.

V. Additional Information

LER 95-003 reported a related condition involving a SLCRS surveillance test. The surveillance was performed following the Residual Heat Removal A-Train pump replacement discussed above. During the surveillance, an exhaust fan failed to start after the Secondary Containment pressure boundary was restored. The cause of the fan failure was not related to the violation of Technical Specifications discussed in the current LER.

ELIS CodesSystems

Containment Leakage Control System - BD  
Control Building Environmental Control System - VI

Components

none