Northeast
Nuclear Energy

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The Northeast Utilities System

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

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

February 27, 1995
MP-95-071

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

Reference: Facility Operating License No. DPR-65
Docket No. 50-336
Licensee Event Report 95-003-00

This letter forwards Licensee Event Report 95-003-00 required to be submitted within thirty (30) days pursuant to 10CFR50.73(a)(2)(v).

Very truly yours,

NORTHEAST NUCLEAR ENERGY COMPANY

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

DBM/MR:ljs

Attachment: LER 95-003-00

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



IE22
1/1

NRC Form 366 (5-92) U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB NO. 3150-0104
EXPIRES: 5/31/95

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.

# LICENSEE EVENT REPORT (LER)

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

| FACILITY NAME (1) | DOCKET NUMBER (2) | PAGE (3) |
|---|---|---|
| Millstone Nuclear Power Station Unit 2 | 05000336 | 1 OF 3 |

TITLE (4) Intake Structure Ventilation System Deficiencies

| 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 |
| | | | | | | | | | | 05000 |
| 01 | 30 | 95 | 95 | - 003 - | 00 | 02 | 27 | 95 | FACILITY NAME | DOCKET NUMBER 05000 |

| OPERATING MODE (9) | defueled | THIS REPORT IS BEING SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11) | | | | | |
|---|---|---|---|---|---|---|---|
| POWER LEVEL (10) | 000 | 20.402(b) | 20.405(c) | | 50.73(a)(2)(iv) | | 73.71(b) |
| | | 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)(vii) | | OTHER |
| | | 20.405(a)(1)(iii) | 50.73(a)(2)(i) | | 50.73(a)(2)(viii)(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)(viii)(B) | | |
| | | 20.405(a)(1)(v) | 50.73(a)(2)(iii) | | 50.73(a)(2)(x) | | |

LICENSEE CONTACT FOR THIS LER (12)

| NAME | TELEPHONE NUMBER (Include Area Code) |
|---|---|
| Philip J. Lutzi, Nuclear Licensing | (203) 440-2072 |

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 |
|---|---|---|---|---|---|---|---|---|---|---|
| E | UA | FAN | M393 | N | | | | | | |
| | | | | | | | | | | |

| SUPPLEMENTAL REPORT EXPECTED (14) | | | EXPECTED SUBMISSION DATE (15) | MONTH | DAY | YEAR |
|---|---|---|---|---|---|---|
| YES (If yes, complete EXPECTED SUBMISSION DATE) | X | NO | | | | |


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

On January 30, 1995, at 1500 hours, with the plant defueled (all fuel in the spent fuel pool) preliminary results of calculations performed for the MP2 Intake Structure Ventilation System were reviewed. These preliminary results showed that for a design basis outside air temperature of 95 degrees Fahrenheit, under certain postulated scenarios, the Intake Structure design basis air temperature of 115 degrees Fahrenheit could be exceeded. The Intake Structure design temperature is based on service water pump motor insulation concerns. There are three service water pump (P-5A, B, and C) motors in the MP2 Intake Structure. They are required for safe shutdown and accident mitigation.

There were no safety implications as a result of this event. The plant is in a refueling outage and the heat loads in the intake structure are low. Also it is winter and outside air temperatures are low. Therefore it is not likely that the Intake Structure temperature will exceed the 115 degree Fahrenheit design temperature at this time.

I. Description of Event

On January 30, 1995, at 1500 hours, with the plant defueled (all fuel in the spent fuel pool) preliminary results of calculations performed for the MP2 Intake Structure Ventilation System were reviewed. These preliminary results showed that for a design basis outside air temperature of 95 degrees Fahrenheit, under certain postulated scenarios, the Intake Structure design basis temperature of 115 degrees Fahrenheit could be exceeded.

On September 13, 1994, with the plant operating at 100% power in Mode 1, air flow testing was performed on non-Category 1 exhaust fans F-114A, B and C which provide ventilation for the MP2 Intake Structure. Results showed that all three exhaust fans were operating in a degraded condition, but were still maintaining the Intake Structure temperature below 115 degrees Fahrenheit. A review of plant records to determine original design basis requirements and to evaluate previous testing results was begun. This review showed that the only previous testing had been performed during initial plant start-up and that original design basis calculations were ambiguous as to required air flows and assumptions made. Prior to the completion of this review, the plant was shut down on October 1, 1994, to commence a planned refueling outage. Further review of the available data and discussions with MP1 personnel who were involved with a similar event determined that more detailed analysis was needed on the Intake Structure ventilation system to determine the necessary corrective actions. On November 8, 1994, Yankee Atomic Electric Company was contracted to perform this analysis.

There were no automatic or manually initiated safety systems actuated as a result of this event.

II. Cause of Event

The root cause of this event is due to programatic deficiencies allowing non-Category 1 exhaust fans to provide the cooling for Category 1 service water pump motors, but not required to be incorporated into a surveillance program.

III. Analysis of Event

Based on event investigation, this event is reportable under the criteria of 10CFR50.73(a)(2)(v), "Any event or condition that alone could have prevented the fulfillment of the safety function of structures or systems that are needed to mitigate the consequences of an accident."

A review of the preliminary calculations performed on the MP2 Intake Structure ventilation system showed that for various scenarios, the room temperature could rise above the design basis temperature of 115 degrees Fahrenheit. The 115 degree Fahrenheit temperature is based on the service life of the Category 1 service water pump motors housed inside the Intake Structure. The service water pumps are required for safe plant shutdowns and accident mitigation. Operation of the service water pump motors in an environment greater than 115 degrees Fahrenheit for an extended period of time could shorten the service life of the motors.

The scenarios evaluated assumed partial or total loss of the Intake Structure non category 1 exhaust fans but did not assume loss of any non category 1 circulating water pumps (P-6A,B,C and D) which are the primary heat source in the room. The worst case evaluated was loss of all three exhaust fans (during normal operation or LOCA without LNP) with a 95 degree Fahrenheit outside air temperature which could cause the Intake Structure temperature to reach a maximum of 176 degrees Fahrenheit. A case was also evaluated based on the degraded condition of the exhaust fans. With the loss of the best operating fan, leaving the worst two running, and a 95 degree Fahrenheit outside air temperature, the Intake Structure Temperature could have risen to 125 degrees Fahrenheit. An LNP case was also evaluated which would cause the loss of all circulating water pumps, leaving just two service water pumps running. The Intake Structure temperature could rise to 108 degrees Fahrenheit, which is inconsequential.

In parallel with the Intake Structure temperature evaluations, MP2 Electrical Design Engineering evaluated the service water pump motors for operation above 115 degrees Fahrenheit. Their preliminary findings show that for short durations (less than 24 hours) the service water pump motors could operate above 115 degrees Fahrenheit, up to a temperature of 176 degrees Fahrenheit, with negligible service life degradation. They are in the process of finalizing their review.

IV. Corrective Action

Since the plant was in a defueled mode with less than half the normal heat load in the Intake Structure, with seasonally low outside air temperatures and the exhaust fans already off due to the low outside air temperatures, there was no immediate corrective action taken.

Prior to plant start-up all three exhaust fans will be restored to required flow, and a periodic measurement of flow rate will be established.

V. Additional Information

Similar LERS - None

EIIS Codes

| | |
|---|---|
| Essential Service Water System | BI |
| Pumping Station Environmental Control System | UA |
| Heat Rejection System | KE |