

NORTHEAST UTILITIES



The Connecticut Light And Power Company
Western Massachusetts Electric Company
Holyoke Water Power Company
Northeast Utilities Service Company
Northeast Nuclear Energy Company

General Offices: Selden Street, Berlin Connecticut

P.O. BOX 270
HARTFORD, CONNECTICUT 06414-0270
(203)665-5000

April 18, 1990
MP-90-371

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

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

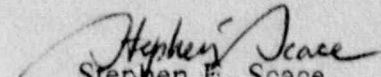
Reference: Facility Operating License No. DPR-65
Docket No. 50-336
Licensee Event Report 89-011-01

Gentlemen:

This letter forwards Licensee Event Report 89-011-01 as required upon the completion of the corrective action to prevent recurrence. This revision also includes some changes for clarification.

Very truly yours,

NORTHEAST NUCLEAR ENERGY COMPANY


Stephen E. Scace
Director, Millstone Station

SES/ERF:mo

Attachment: LER 89-011-01

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

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LICENSEE EVENT REPORT (LER)

Estimated burden per response: to comply with this information collection request: 30.0 hrs. Forward comments regarding burden estimate to the Reports and Reports Management Branch (p-5330), U.S. Nuclear Regulatory Commission, Washington, DC 20555, and to the Paperwork Reduction Project (1510-0104), Office of Management and Budget, Washington, DC 20503.

FACILITY NAME

Malden Nuclear Power Station Unit 2

DOCKE, NOLAN JR.

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| 01 | 61 | 01 | 01 | 01 | 31 | 31 | 61 | 1 | OF | 01 | 3 |
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TYPE (4)

Service Water Isolation Valve - Incorrect Air Supply Check Valve Location

| EVENT DATE (5) | | | | | | SER NUMBER (6) | | | | REPORT DATE (7) | | | OTHER FACILITIES INVOLVED (8) | | | | | | | | | | | | | | | |
|-----------------------------------|-----|-------------------|------|---|---|--|--|--------------------|---|----------------------|-------------------|-----|-------------------------------|---|---|---|---|---|---|---|--|--|--|--|--|--|--|--|
| MONTH | DAY | YEAR | YEAR | | | SEQUENTIAL NUMBER | | REVISION NUMBER | | | MONTH | DAY | YEAR | FACILITY NAMES | | | | | | | | | | | | | | |
| 0 | 9 | 0 | 6 | 8 | 9 | - | | 0 | 1 | 1 | - | | 0 | 1 | 0 | 4 | 1 | 8 | 9 | 0 | | | | | | | | |
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| OPERATING MODE (9) | | 1 | | THIS REPORT IS BEING SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR § . (Check one or more of the following) (11) | | | | | | | | | | | | | | | | | | | | | | | | |
| POWER LEVEL (10) 1 0 0 | | 20.402(b) | | | | 30.402(a) | | | | 30.73(a)(2)(iv) | | | | 73.71(b) | | | | | | | | | | | | | | |
| | | 20.405(a)(1)(i) | | | | 50.35(c)(f) | | | | 50.73(a)(2)(j) | | | | 73.71(d) | | | | | | | | | | | | | | |
| | | 20.405(a)(1)(ii) | | | | 50.36(c)(2) | | | | 50.73(a)(2)(vi) | | | | OTHER (Specify in Abstract below and in Text, NRC Form 366A.) | | | | | | | | | | | | | | |
| | | 20.405(a)(1)(iii) | | | | <input checked="" type="checkbox"/> 50.73(a)(2)(i) | | | | 50.73(a)(2)(viii)(A) | | | | | | | | | | | | | | | | | | |
| | | 20.405(a)(1)(iv) | | | | 50.73(m)(2)(II) | | | | 50.73(a)(2)(viii)(B) | | | | | | | | | | | | | | | | | | |
| | | 20.405(a)(1)(iv) | | | | 50.73(a)(2)(iii) | | | | 50.73(a)(2)(k) | | | | | | | | | | | | | | | | | | |

LICENSEE CONTACT FOR THIS LER (12)

NAME _____

Edwin R. Foster, Station Engineering Specialist

TELEPHONE NUMBER

AREA CODE

$$\begin{bmatrix} 2 & 0 & 3 \\ 4 & 4 & 7 \end{bmatrix} - \begin{bmatrix} 1 & 7 & 9 \\ 1 & 1 & 1 \end{bmatrix}$$

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (10)

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

EXPECTED
SUBMISSION
DATE (15)

| | | |
|-------|-----|------|
| MONTH | DAY | YEAR |
|-------|-----|------|

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YES (If yes, complete EXPECTED SUBMISSION DATE) ☒ NO

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

On September 6, 1989 at 1445 hours while operating in Mode 1 at 100% power, the check valve (BFP) for the instrument air supply to 2-SW-3.2A (ISV) the service water supply isolation valve to one of two Turbine Building Closed Cooling Water headers, was discovered to be incorrectly located. Although the service water valve remained in service in the as-found configuration, upon a loss of instrument air, the associated instrument air accumulator (ACC) could have discharged. The valve is designed to fail as-is on a loss of Instrument Air. However, on a Safety Injection Actuation Signal (SIAS) the valve is required to close. An evaluation has determined that a Loss of Coolant Accident (LOCA), concurrent with a Loss of Normal Power (LNP), could have resulted in a significant diversion of service water flow from safety related components cooled by this service water header. The evaluation assumes no credit for the non-safety related instrument air or for operator action to manually re-position the valve.

The cause of this condition was the incorrect re-assembly of the instrument air line to the solenoid valves and accumulator during the February 1989 service water pipe replacement effort. The header was placed in service on March 1, 1989.

The instrument air check valve location was corrected by 1645 hours on September 6, 1989. The service water header was not out of service before, during or after the check valve relocation.

This is considered to be an isolated case of lack of attention to detail during re-assembly and system acceptance walkdown. Recurrence is prevented by departmental training of project supervisors and engineers to be aware of details such as check valve location and orientation during post work walkdowns.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

Estimated burden per response to comply with this information collection request: 50.0 hrs. Forward comments regarding burden estimate to the Records and Reports Management Branch (p-530), U.S. Nuclear Regulatory Commission, Washington, DC 20555, and to the Paperwork Reduction Project (3150-0104), Office of Management and Budget, Washington, DC 20503.

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|--|--|----------------|-------------------|-----------------|----------------------------|
| FACILITY NAME (1) Millstone Nuclear Power Station Unit 2 | DOCKET NUMBER (2) 0 5 0 0 0 3 3 6 8 9 - | LER NUMBER (6) | | | PAGE (3) 0 2 OF 0 3 |
| | | YEAR | SEQUENTIAL NUMBER | REVISION NUMBER | |
| | | | 0 1 1 | 0 1 | |

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

I. Description of Event

On September 6, 1989 at 1445 hours, while operating in Mode 1 at 100% power, an instrument air check valve (BFP) in the air supply to 2-SW-3.2A (ISV), the service water supply isolation to one of two Turbine Building Closed Cooling Water headers, was found incorrectly located. The location of the check valve would have caused the accumulator air supply to bleed down on a loss of the normal instrument air supply. A reportability evaluation of this event was completed on December 8, 1989.

II. Cause of Event

The root cause of the condition was the incorrect re-assembly of the instrument air lines to the solenoid valves and the accumulator. It is assumed that the check valve has remained incorrectly located since the disassembly and re-assembly of this air line for service water piping replacement in February 1989. Plant records indicate this service water header was returned to service on March 1, 1989.

III. Analysis of Event

This report is submitted pursuant to the requirements of paragraph 50.73 (a)(2)(i)(b) due to an operation prohibited by the plant's Technical Specifications. During the period this check valve remained incorrectly installed, the service water valve and associated header remained in service, and no safety systems were required to operate.

The 'as-found' location of the instrument air supply check valve would have allowed the discharge of the air accumulator, upon a loss of the instrument air system. The service water valve is designed to fail as-is on a loss of Instrument Air. However, the valve is required to close on a Safety Injection Actuation Signal (SIAS). On a SIAS signal, concurrent with a total loss of instrument air, the valve may not have closed. An evaluation of this event has determined that an associated safety consequence exists, in that a Loss of Coolant Accident (LOCA), concurrent with a Loss of Normal Power (LNP), could have resulted in a significant diversion of service water flow from those safety related components cooled by this service water header. The evaluation shows that the flowrate to these components would have been lower than the required design flows for accident conditions. The evaluation assumes no credit for procedure required operator action to manually close the valve upon its failure to close on a Safety Injection Actuation Signal (SIAS). By procedure all SIAS actuated valves are checked for position following a SIAS signal. As the valve is in a post accident accessible area, an operator would be dispatched to close the valve by taking local manual control. Additionally, no credit is taken for the non-safety related instrument air system to be functional. This air system is powered from a vital power supply.

IV. Corrective Action

The check valve was relocated by 1645 hours on September 6, 1989. During this change the service water valve remained in service in operator manual control. This is considered to be an isolated case of lack of close attention to detail during re-assembly and the acceptance walkdown for the system. To prevent a recurrence, departmental training of project/work supervisors and engineers was implemented to make them aware of this incident and the affect that attention to details, such as check valve location and orientation, can have on the operation of the system. This training was completed on March 5, 1990 at training sessions for the affected departments.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

Estimated burden per response to comply with this information collection request: 60.0 hrs. Forward comments regarding burden estimate to the Records and Reports Management Branch (p-530), U.S. Nuclear Regulatory Commission, Washington, DC 20555, and to the Paperwork Reduction Project (3150-0104), Office of Management and Budget, Washington, DC 20503.

FACILITY NAME (1)

DOCKET NUMBER (2)

LER NUMBER (6)

PAGE (3)

Millstone Nuclear Power Station
Unit 2

| YEAR | SEQUENTIAL NUMBER | REVISION NUMBER |
|----------|-------------------|-----------------|
| 06000336 | 89 | 0111 |

03 OF 03

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

V. Additional Information

Service Water Valve: 2-SW-3.2A
Manufacturer: Fisher
Model: 9111 butterfly
Size: 16"
Actuator: Fisher model 486L-1 size 80 with Limitorque H size 1BC handwheel.
EHS Code: BI - ISV - F130
Instrument Air Check Valve:
Manufacturer: NUPRO
Model: B6C
Size: 3/8"
EHS Code: LD - BFP - N425
No previous similar events.