*HORTHEAST UTILITIES* 



General Offices Selden Street, Berlin Connecticut

P.O. BOX 270 HARTFORD CONNECTICUT 06141-0270 (203)565-5000

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

June 1, 1992 MP-92-579

U.S. Nuclear Regulatory Commission Document Control Desk Washington, D.C. 20355

Reference:

Facility Operating License No. DPR-65

Docket No. 50-336 Licensee Event Report 89-010-02

Gentlemen:

This letter forwards Licensee Event Report 89-010-02 pursuant to paragraph 50.73(a)(2)(ii), reporting any event or condition that resulted in the nuclear power plant being in a condition that was outside the design basis of the plant

Very truly yours,

NORTHEAST NUCLEAR ENERGY COMPANY

Director, Millstone Station

SES/GEK:lis

Attachment: LER 89-010-02

"cc: T. T. Martin. Region I Administrator

W. J. Raymond, Senior Resident Inspector, Millstone Unit Nos. 1, 2 and 3, 46 G. S. Vissing, NRC Project Manager, Millstone Unit No. 2

NAC Form 366 (6-89)	N.	APPROVED OMB NO 3150-0104 EXPIRES: 4/30/92 Estimated burden per response to comply with this information collection request: 50.0 hrs. Forward comments regarding burden estimate to the Repords and Reports Management Branch (p-530), U.S. Nuclear Requisitory Commission, Washington, DC 20558, and so the Paperwork Reduction Project (3150-0104), Office of Management and Budget, Washington, DC 20503														
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terminated on November 14, 1989, at 0310 hours.

NRC+Form 366A (6-89) U.S. NUCLEAR REGULATORY COMMISSION

# LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

APPROVED OMB NO. 3150-0104 EXPIRES: 4/30/92

Estimated burden per response to comply with this information collection request 50.0 hrs. Forward comments regarding burden estimate to the Redords and Reports Management Branch (5-530). U.S. Nuclear Regulatory Commission, Washington, DC 20555, and to the Paperwork Reduction Project (3150-0104). Office of Management and Budget, Washington, DC 20503.

| PAGE (3) | PAGE (3)

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

## Description of Event

On November 9, 1989 at approximately 1845 hours with the reactor plant in Mode 5 (0% power, 91°F, 0 psig), it was analytically determined that all three Service Water pump discharge strainers were not qualified to the appropriate seismic criteria. As a result of this condition, both Service Water headers, and hence both Emergency Diesel Generators and both Shutdown Cooling loops, were declared inoperable. An Unusual Event was declared at 1845 hours.

While conducting an internal audit of design calculations, an irregularity was identified with the original vendor design calculations for the strainer anchorage. Upon further review, it was speculated that a miscommunication took place between the Architect/Engineer and the strainer vendor that resulted in a strainer anchorage design that was inadequate. In addition, the hilti bolts used to supplement the imbedded anchors for the strainers were not reviewed under the I & E Bulletin 79-02 re-analysis effort at Millstone Unit 2. A re-analysis of the anchor bolts was then performed and it indicated that they did not meet the operability acceptance criteria for 79-02, i.e., their safety factor was less than two. Based on this information, it was decided that the anchorage was inadequate and new supports were required.

Operations personnel complied with the required Technical Specifications: all operations involving core alterations or positive reactivity changes were suspended. Action Statements entered were 3.1.2.1. 3.1.2.3, 3.4.1.3, 3.7.6.1b, 3.8.1.2, 3.8.2.2, and 3.9.15.

There were no automatic system responses as a result of this event.

### II. Cause of Event

The root cause of this event is a design deficiency for the original installation. A contributing factor was the failure to include the strainer hilti bolts in the support anchorage review per I&E Bulletin 79-02.

For the design deficiency, it appears that the Architect/Engineer was not aware that the strainer vendor had modeled the section of the Service Water system that included his strainers in order to develop the loading on the strainer. When the system configuration was changed during construction the strainer vendor was not informed and consequently the structural analysis of the strainer was not reviewed to evaluate the resultant impact on the strainers due to these changes.

For the failure associated with the strainer hilti bolts in accordance with I & E Bulletin 79-02 program, the assumption was made that component anchorage utilized embedded anchors as this was the normal practice. In the case of the strainer anchorage, hilti bolts were utilized in combination with embedded anchors.

### III. Analysis of Event

This event is reportable in accordance with 10CFR50.73 (a)(2)(ii)(B), reporting any event or condition that resulted in the nuclear power plant being in a condition that was outside the design basis of the plant.

As a result of this condition, both Service Water headers, hence both Emergency Diesel Generators and both Shutdown Cooling loops, were declared inoperable. All operations involving core alterations or positive reactivity changes were suspended as required by the plant's Technical Specifications. This condition resulted in entering a total of seven Technical Specification Limiting Conditions for Operation. A Request For Enforcement Discretion was requested and approved in order to take exception to the Technical Specification requirement to establish Containment Integrity in accordance with Action Statement 3.8.2.2. Application for this request was made so that the containment equipment hatch could be positioned over the containment opening without latching it in place. Positioning the hatch in this manner permitted the services passing through the equipment hatch to remain intact thereby allowing the shut-down work to continue. Credit has been taken for this hatch positioning scenario for containment closure controls following a loss of Shutdown Cooling in response to Generic Letter 88-17.

URC\*Form 366A

U.S. NUCLEAR REGULATORY COMMISSION

LICENSEE EVENT REPORT (LER)

APPROVED OMB NO. 3150-0104 EXPIRES 4/30/92

Estimated burden per response to pomply with this information collection request 50.0 hrs. Forward comments regarding burden estimate to the Records and Reports Management Branch (p+530). U.S. Nuclea: Regulatory Commission, Washington, DC 20555, and to the Paperwork Redulation Project (3180–014). Office of Management and Budget. Washington, DC 20503.

FACILITY NAME (1)

DOCKET NUMBER (2)

LER NUMBER (6) PAI
SEQUENTIAL REVISION
NUMBER NUMBER

Millstone Nuclear Power Station Unit 2

TEXT (If more space is required use additional NRC Form 366% s) [17]

It was felt that the seismic disqualification of the Service Water system condition was no more limiting than the loss of Shutdown Croling condition. The installation of the new supports was accomplished with the Service Water system physically operating.

There were no Safety Consequences as a result of this event since the plant experienced no seismic events. By engineering judgement, the original supports would have performed their intended function even though the anchor bolt safety factor did not meet the criteria of 1&E Bulletin 79-02.

The Unusual Event was declared on November 9, 1989 at 1845 hours and was terminated on November 14, 1989, at 0310 hours or a total time of four days, nine hours, and twenty-five minutes.

### IV. Corrective Action

A new pipe support was designed, fabricated, and installed at the outlet flange of each of the three Service Water Strainers which provides the required support for all Design Basis Events.

To ensure that all other safety related components within the plant were not anchored with an improperly documented combination of embedded anchors and hilti bolts, a review has been completed which verified the existing anchorage. This review was performed on safety related pumps, heat exchangers, and tanks. Based on the review of the drawings, Bechtel seismic calculations and a plant walkdown, the anchorage has been verified to be in accordance with the original design documentation. There were no addition discrepancies found between components' anchorage and design requirements.

The review has confirmed our belief that the strainer anchorage problem was an isolated case as the use of hill bolts in this manner is not common engineering practice; the common practice is to anchor components of this type exclusively with embedded anchors.

### V. Additional Information

RP Adams Co. Model No. VDWS-80 strainer

Similar LER's: None

EIIS Code Identifiers:

Strainer: BS-STR-A060

**NORTHEAST UTILITIES** General Offices Selden Street. Berlin Connecticut P O BOX 270 HARTFORD, CONNECTICUT 06141-0270 (203)665-5000 Re: 10CFR50.73(a)(2)(ii) June 1, 1992 MP-92-579 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 89-010-02 Gentlemen: This letter forwards Licensee Event Report 89-010-02 pursuant to paragraph 50.73(a)(2)(ii), reporting any event or condition that resulted in the nuclear power plant being in a condition that was outside the design basis of the plant Very truly yours, NORTHEAST NUCLEAR ENERGY COMPANY Director, Millstone Station SES/GEK:lis Attachment: LER 89-010-02 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 Cent # 828 873 630

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U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OMB NO. 3150-0104 EXPIRES: 4/30/92

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# LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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

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For the failure associated with the strainer hilti bolts in accordance with 1 & E Bulletin 79-03 program, the assumption was made that component anchorage utilized embedded anchors as this was the normal practice. In the case of the strainer anchorage, hilti bolts were utilized in combination with embedded anchors.

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NRC Form 366A (6-89)

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OMB NO 3150+0104 EXPIRES 4/30/92

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

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TEXT (if many space is required use additional NRC Form 3664 s) (17)

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### V. Additional Information

RP Adams Co. Model No. VDWS-80 strainer

Similar LER's: None

EIIS Code Identifiers:

Stromer: BS-STR-A060