



Northeast  
Utilities System

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October 11, 1996

Docket No. 50-245  
B15917

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

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

This letter forwards Licensee Event Report (LER) 96-051-00, documenting an event that occurred at Millstone Nuclear Power Station, Unit No. 1 on September 13, 1996. This LER is submitted pursuant to 10CFR50.73(a)(2)(ii).

Very truly yours,

NORTHEAST NUCLEAR ENERGY COMPANY

W. J. Riffer  
Director - Millstone Unit No. 1

Attachment: LER 96-051-00

cc: H. J. Miller, Region I Administrator  
T. A. Easlick, Senior Resident Inspector, Millstone Unit No. 1  
J. W. Andersen, NRC Project Manager, Millstone Unit No. 1

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## LICENSEE EVENT REPORT (LER)

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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 (3150-0104),  
OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1)

Millstone Nuclear Power Station Unit 1

DOCKET NUMBER (2)

05000245

PAGE (3)

1 of 4

TITLE (4)

Seismic Qualification deficiencies found in safety related piping

EVENT DATE (5)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REVISION	MONTH	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
09	13	96	96	051	00	10	11	96	FACILITY NAME	DOCKET NUMBER
OPERATING MODE (9)		N	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 5: (Check one or more) (11)							
POWER LEVEL (10)		000	20.2201(b)		20.2203(a)(2)(v)		50.73(a)(2)(i)		50.73(a)(2)(viii)	
			20.2203(a)(1)		20.2203(a)(3)(i)		<input checked="" type="checkbox"/> 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 366A	
			20.2203(a)(2)(iv)		50.36(c)(2)		50.73(a)(2)(vii)			

## LICENSEE CONTACT FOR THIS LER (12)

NAME	Robert W. Walpole, MP1 Nuclear Licensing Manager	TELEPHONE NUMBER (Includes Area Code)	(860)440-2191
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## 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)

<input checked="" type="checkbox"/> YES (If yes, complete EXPECTED SUBMISSION DATE).	<input type="checkbox"/> NO	EXPECTED SUBMISSION	MONTH	DAY	YEAR
			1	15	97

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

On September 13, 1996, with the plant in the COLD SHUTDOWN condition, it was determined that several piping lines that form part of the Turbine Building Secondary Closed Cooling Water (TBSCCW) system and the Condensate system are not seismically qualified. Most of the associated lines were operable while a small number of the lines in question did not meet the operability guidelines established in Generic Letter 91-18. The lines ranged from 3/4 inch to 4 inches in diameter. On September 13, 1996, it was determined that the lack of seismic qualification for these lines which form part of the TBSCCW and Condensate systems resulted in the plant being outside of its design basis, and a prompt report was made pursuant to 10CFR50.72(b)(2)(i). This event is reportable pursuant to 10CFR50.73(a)(2)(ii) as a condition outside the design basis of the plant.

The cause of this event is an original plant design deficiency. Corrective actions will include modifications to restore these lines to design basis, as well as a review of all safety related piping systems to identify any additional design deficiencies.

There were no safety consequences as a result of this event.

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Millstone Nuclear Power Station Unit 1	05000245					2 of 4

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

I. Description of Event

On September 13, 1996, with the plant in the COLD SHUTDOWN condition, it was determined that several piping lines that form part of the TBSCCW system and the Condensate system are not seismically qualified. Most of the associated lines were operable while a small number of the lines in question did not meet the operability guidelines established in Generic Letter 91-18. The lines ranged from 3/4 inch to 4 inches in diameter. All of these lines were identified under the Northeast Utilities Significant Operating Event Report (NUSOER) 92-02 Program for Millstone Unit No. 1, which is reviewing all safety related piping systems and evaluating any lines that were not previously qualified. The lines addressed by this LER are mostly small bore (2" nominal pipe size and under) branch lines which are connected to large-bore process pipes that have been seismically qualified. The deficiencies noted in the effected lines consist primarily of excessively long spans lacking adequate lateral support, and inadequate capacity in existing supports to resist predicted loads. These configurations result in piping stresses which exceed Code allowable limits for load combinations (deadweight, internal pressure, and seismic inertia) specified by the Millstone Unit No. 1 Updated Final Safety Analysis Report, Chapter 3.

The lack of seismic qualification for these lines which form part of the TBSCCW and Condensate systems resulted in the plant being outside of its design basis. A prompt report was made pursuant to 10CFR50.72(b)(2)(i) on September 13, 1996.

There were no safety consequences as a result of this event.

II. Cause of Event

The cause of this event is twofold, insufficient scope and inadequate design. Insufficient scoping at the time of implementing IEB 79-14 is the result of the lack of a clear definition of seismic class I system boundaries at the time the IEB 79-14 scope was established. This work was initiated prior to the existence of QA boundaries such as are currently depicted in the MEPL for Millstone Unit No. 1. The absence of this information resulted in the IEB 79-14 scope falling short of what we currently define as a QA boundary. In addition to this, the IEB 79-14 specifically excluded most small bore piping thus the field verification conducted on large bore piping was not completed for small bore piping.

Secondly, the inadequate design issue is associated with original plant construction. Most safety-related small bore piping at Millstone Unit No. 1 was "field run" without drawings, using span charts to locate standard support designs. This resulted in the field condition lacking the design and installation controls afforded large bore piping and supports. This method of design, while an accepted industry practice, resulted in installations which were not fully in compliance with the units design basis.

III. Analysis of Event

The lack of seismic qualification for the lines addressed by this LER, which form part of the TBSCCW and Condensate systems, results in the plant being outside of its design basis and is reportable pursuant to 10CFR 50.73(a)(2)(ii). The piping lines addressed by this LER are distributed throughout these systems and could effect their operability, via loss of pressure boundary integrity during a seismic event. Since there have been no seismic events, the safety consequence of this event is low.

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

The Millstone Unit No. 1 TBSCCW system is a closed loop system providing cooling to various equipment located in the reactor and turbine building. The safety significance of the TBSCCW system is related to the dependency of both the plant's ventilation and Feedwater Coolant Injection (FWCI) system on it's operation. Certain turbine building area coolers are required to maintain area temperatures for operability of FWCI components, and the emergency diesel generator. The Condensate system's safety related functions include supply of make-up water to the reactor vessel as part of the FWCI system, and make-up water to the spent fuel pool via the skimmer surge tanks. The lines addressed by this LER are inadequately supported to meet design basis seismic requirements, and in several cases, cannot meet operability requirements. Thus, their loss of function could impair the ability of the TBSCCW and Condensate systems from performing their safety-related functions.

IV. Corrective Action

As committed to in LER 96-040-00, Commitment No. B15757-2, in order to ensure that all safety related piping systems meet design basis seismic requirements, the NUSOER 92-02 program will verify that existing piping evaluation programs such as IEB 79-14 have fully addressed the applicable scope.

Northeast Nuclear Energy Company (NNECO) will implement modifications to restore each identified piping system to design basis requirements prior to startup for operating cycle 16. NNECO will supplement this LER with the results of this ongoing review, and anticipates that the supplement will be forwarded by January 15, 1997.

V. Additional InformationCommitments

The following are NNECO's commitments made within this letter. All other statements made within this letter are for information only.

B15917-1 NNECO commits to implement modifications to restore each identified piping system to design basis requirements prior to startup for operating cycle 16.

B15917-2 NNECO commits to supplement this LER with the results of this ongoing review, and anticipates that the supplement will be forwarded by January 15, 1997.

Similar Events

LER 92-004, "Diesel Generator Air Start and Wall Seismic Modifications," addressed the lack of seismic qualification for the Millstone Unit No. 1 Emergency Diesel Generator Air Start Piping.

LER 93-004, "Improperly Restrained Main Steam Venturi Instrument Lines", discussed inadequate seismic supports on a small bore line inside the drywell. The corrective actions included an inspection of additional pipe supports on similar small bore lines in the drywell.

LER 96-040, "Control Rod Drive System Seismic Inadequacy Caused Plant to be Outside of its Design Basis", discussed the seismic design inadequacy of the Control Rod Drive system insert and withdrawal

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

pipng. Corrective actions included restoration of the system to design basis, and review of all safety related piping under NUSOER 92-02.

Manufacturer Data

None