Northeast
Utilities System

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December 16, 1996

Docket No. 50-336
B16089

Re: 10 CFR 50.73(a)(2)(ii)

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

This letter forwards Licensee Event Report (LER) 96-036-00, documenting an event that occurred at Millstone Nuclear Power Station, Unit No. 2 on November 8, 1996. This LER is being submitted pursuant to 10 CFR 50.73(a)(2)(ii). There are no commitments contained within this letter.

Very truly yours,

NORTHEAST NUCLEAR ENERGY COMPANY

J. A. Price
Director, Millstone Unit No. 2

Attachment: LER 96-036-00

cc: W. D. Travers, Director of Special Projects
H. J. Miller, Region I Administrator
D. P. Beaulieu, Resident Inspector, Millstone Unit No. 2
D. G. McDonald, Jr., NRC Project Manager, Millstone Unit No. 2

IE22 1/1

NRC FORM 366 (4-95) U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB NO. 3150-0104
EXPIRES 04/30/98

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.

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)

Inadequate Seismic Qualification of 4160 Volt Switchgear due to Circuit Breakers in the Racked Down Position

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
11	08	96	96	--	036	--	00	12	16	96	FACILITY NAME	DOCKET NUMBER

OPERATING MODE (9)	5	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (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)	[X] 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	TELEPHONE NUMBER (Include Area Code)
R. T. Lauderat, MP2 Nuclear Licensing Manager	(860) 444-5248

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)		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 November 8, 1996, a concern with the seismic qualification of switchgear in the Class 1E 4160 volt (V) system due to racked down circuit breakers was identified based on a review of an event at the Susquehanna Steam Electric Station. Based on continuing evaluation of this condition, on November 15, 1996, it was determined that this condition had resulted in an unanalyzed condition. In the racked down position, the movement of the circuit breaker would not be restrained during a seismic event and could result in the tripping of other circuit breakers.

The cause of this event was a lack of understanding within the industry to address the seismic qualification of the 4160 V switchgear when the circuit breaker is in the racked down position.

Upon identification of this condition, the affected racked down circuit breakers were either removed from the 4160V switchgear units or their movement within the switchgear units was restricted. Based upon an evaluation of the circuit breakers, the applicable operating procedure has been revised to ensure that the 4160 V circuit breakers are placed in a qualified position when racked down.

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

I. Description of Event

On November 8, 1996, a concern with the seismic qualification of switchgear in the Class 1E 4160 volt (V) system [EB] due to racked down circuit breakers [52] was identified based on a review of an event at the Susquehanna Steam Electric Station. Immediate actions were taken to either remove racked down circuit breakers from the affected 4160V switchgear units or restrict their movement within the switchgear units. Based on continuing evaluation of this condition, on November 15, 1996 it was determined that this condition had resulted in an unanalyzed condition. At the time of discovery of this event, the unit was in Mode 5 at 0 percent power.

The Class 1E 4160 V system consists of metal-clad switchgear assemblies with vertical lift air circuit breakers. The circuit breakers involved in this event are 4160 V circuit breakers manufactured by General Electric. The circuit breakers are moved up (engaged position) or down (racked down position) by an elevator mechanism. The original seismically qualified configuration of the switchgear is with the circuit breaker lifted and engaged in its operating position. In this position, the circuit breakers are carried by the elevator mechanism edge and lug. Movement is restrained in the front to back direction by the lug and in the side to side direction by the elevator mechanism. When the circuit breaker is fully racked down, the lug is no longer engaged and the circuit breaker rests on wheels to allow removal of the circuit breaker from the switchgear. In this position, the movement of the circuit breaker would not be restrained during a seismic event and could result in the tripping of other circuit breakers.

An evaluation of the circuit breakers was conducted which determined acceptable positions for the circuit breakers when they are racked down. Based on this evaluation, the applicable operating procedure has been revised to ensure that the circuit breakers are placed in a qualified position when racked down.

During the electrical distribution system function inspection (EDSFI) Audit, the question was asked specifically regarding the seismic qualification of the 4160 V switchgear breakers in the racked down position. Even though the response was accepted for the EDSFI Audit, a subsequent review concluded that the response did not satisfactorily address the issue.

This event is being reported in accordance with 10 CFR 50.73(a)(2)(ii)(A) as an unanalyzed condition that significantly compromised plant safety. This event was reported in accordance with 10 CFR 50.72(b)(2)(i) on November 15, 1996.

II. Cause of Event

The cause of this event was a lack of understanding within the industry to address the seismic qualification of the 4160 V switchgear when the circuit breaker is in the racked down position.

III. Analysis of Event

The Class 1E 4160 V system provides a source of power for safety related equipment including large AC motors and 480 V load centers. As required to support plant maintenance activities, 4160 V circuit breakers are racked down and tagged to isolate electrical power to subcomponents. These activities can occur during normal plant operation as well as plant outages. Additionally, there is a small population of circuit breakers which are normally racked down during plant operation. With the circuit breakers in the racked down position, the operability of the safety related switchgear could not be assured during a seismic event.

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

The affected switchgear supply Class 1E power to safety related equipment that is required to operate during an analyzed accident. Additionally, this equipment is required to withstand the effects of earthquakes. Based upon the potential for racked down circuit breakers to affect safety related switchgear during a seismic event, this event is considered to have potential safety significance.

IV. Corrective Action

As a result of this event, the following corrective actions have been performed.

1. Upon identification of this condition, the affected racked down circuit breakers were either removed from the 4160V switchgear units or their movement within the switchgear units was restricted.

2. Based upon an evaluation of the circuit breakers, the applicable operating procedure has been revised to ensure that the 4160 V circuit breakers are placed in a qualified position when racked down.

V. Additional Information

Similar Events

No previous similar events involving the seismic qualification of electrical switchgear was identified.

Energy Industry Identification System (EIIS) codes are identified in the text as [XX].