



**Northeast
Nuclear Energy**

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The Northeast Utilities System

APR 11 1996

Docket No. 50-336
B15645

Re: 10 CFR 50.73

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

This letter forwards Licensee Event Report (LER) 96-016-00 documenting an event that occurred at Millstone Nuclear Power Station, Unit No. 2 on March 12, 1996. This LER is being submitted pursuant to 10 CFR 50.73(a)(2)(v).

Very truly yours,

NORTHEAST NUCLEAR ENERGY COMPANY

P. M. Richardson
Director - Millstone Unit No. 2

Attachment: LER 96-016-00

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

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LICENSEE EVENT REPORT (LER)

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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-8 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 2		DOCKET NUMBER (2) 05000336	PAGE (3) 1 of 3
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TITLE (4)
Non-Functional Circulating Water Pump Trip Function of the Condenser Pit Level Switches

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	
03	12	96	96	016	00	04	11	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)		0%	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)			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)			<input checked="" type="checkbox"/> 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 G. P. van Noordennen, Nuclear Licensing Supervisor	TELEPHONE NUMBER (include Area Code) (860)440-2084
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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
B	KE	LS	M040	N/A					

SUPPLEMENTAL REPORT EXPECTED (14)				EXPECTED SUBMISSION		MONTH	DAY	YEAR
<input type="checkbox"/> YES (If yes, complete EXPECTED SUBMISSION DATE).	<input checked="" type="checkbox"/> NO							

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

On March 12, 1996, at 1100 hours with the plant in Mode 5 at 0% power, it was discovered that the common power supply cable to the 4 condenser pit level switches was improperly connected. This discovery was made during implementation of a plant modification to the circulating water system (CWS). Final Safety Analysis Report (FSAR) Section 9.7.1.2.1 states that the condenser pit will contain the water from any postulated failures in the CWS without affecting any safety related systems. An investigation concluded that the level switches could not perform their function as described in the FSAR. This event is being reported pursuant to the requirements of 10 CFR 50.73(a)(2)(v)(D).

The cause of this event was improper work control. A contributing cause was that the improper connection of the level switch power cable was not detected by post maintenance retest. Additionally, the trip circuit was not verified functional on a periodic basis.

Corrective actions include properly connecting the cable to the level switches, performing a retest to ensure the trip circuit functions properly, reviewing existing work control procedures to ensure an adequate retest will be specified for any future work on the switches, and developing a periodic functional testing procedure for the trip circuit.

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

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TEXT CONTINUATION

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		96	-- 016 --	00	

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

I. Description of Event

On March 12, 1996, at 1100 hours with the plant in Mode 5 at 0% power, it was discovered that the common power supply cable to the 4 condenser pit level switches was improperly connected. This discovery was made during implementation of a plant modification to the circulating water system (CWS). FSAR Section 9.7.1.2.1 states that "the condenser pit will contain the water from any postulated failures in the circulating water system without affecting any safety related systems." An investigation concluded that the level switches could not perform their function, of tripping the circulating water pumps (CWPs), to prevent the condenser pit from overflowing.

On March 13, 1996, at 0739 hours with the plant in Mode 5 at 0% power, this event was reported pursuant to the requirements of 10 CFR 50.72(b)(2)(iii)(D), "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."

There were no automatic or manually initiated safety systems activated as a result of this event. Additionally, there were no operator actions required in response to this event.

II. Cause of Event

The cause of this event was inadequate work control measures, which resulted in an improper wiring configuration, during a maintenance evolution. A review of the level switch maintenance history did not reveal the particular maintenance event that resulted in the improper cable connection.

A contributing cause was that the improper cable connection was not detected by post maintenance retest or a periodic functional test. Performance of an adequate retest or periodic functional retest, inclusive of level switch operation and CWP trip circuit actuation, would have identified the improperly connected cable.

III. Analysis of Event

This event is being reported pursuant to the requirements of 10 CFR 50.73(a)(2)(v)(D), "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."

It was discovered that the common power supply cable to the 4 condenser pit level switches was improperly connected. This configuration would have prevented the level switches from performing their function as stated in the FSAR.

In 1976 the level switches were functionally tested to verify that all CWPs would trip. Subsequent to their initial testing, the level switches were calibrated on a 36 month frequency. The level switch calibrations verified proper level switch actuation, however, the CWP trip circuit was not tested.

The worst case failure of a complete rupture of all CWS piping to both condensers is mitigated by actuation of the condenser pit level switches. The 4 level switches actuate on a high-high level in the pit with a 2 out of 4 logic matrix causing all operating CWPs to trip within 6 seconds of the pipe rupture. The condenser pit is sized to contain the residual water resulting from the postulated CW pipe rupture, initiation of a trip of the CWPs within 6 seconds, and the subsequent CWP coastdown. Safety related equipment is not located in the

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Millstone Nuclear Power Station Unit 2

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

condenser pit and, therefore, flooding contained to the condenser pit would not affect any safety related systems. If the CWPs were not tripped upon a high condenser pit level, overfilling of the condenser pit could result in flooding of the turbine building and would potentially affect safety related equipment (i.e., the auxiliary feedwater pumps).

The actual safety consequences of this event are low since there has never been an event requiring the CWP trip function. The potential consequences of this event are low since, in addition to the level switches, other equipment is available to mitigate potential CWS flooding. The condenser pit sump pumps remove leakage up to a 200 gpm capacity. Larger leaks due to pipe and expansion joint ruptures would be annunciated in the control room by an increase in the condenser sump level. The CWPs can be manually tripped in the control room. Additionally, the design basis accident scenarios do not credit the CWP trip function.

IV. Corrective Action

Following the discovery, action was taken to properly connect the power cable.

Existing Work Planning procedures have been reviewed to ensure that appropriate, post maintenance, retesting is identified in the work control process.

Testing will be performed prior to entry into Mode 3 to ensure the trip circuit functions properly.

The Production Maintenance Management System (PMMS) component identification information will be revised to add a note requiring post-maintenance testing of the CWP trip function.

A new procedure will be developed to perform periodic functional testing of the CWP trip circuit on a 36 month frequency.

V. Additional Information

Similar Events

None

Manufacturer Data

Condenser Pit Level Switch: LS-6901A, LS-6901B, LS-6901C, LS-6901D
Magnetrol, Model No. TF201F-C-S1D4