



**Northeast
Nuclear Energy**

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The Northeast Utilities System

JUN 30 2000

Docket No. 50-336
B18148

Re: 10 CFR 50.72(b)(2)(ii)
10 CFR 50.73(a)(2)(iv)

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

Millstone Nuclear Power Station, Unit No. 2
Licensee Event Report 2000-010-00
Reactor Trip During Testing Of Turbine Power-Load Unbalance Circuit

This letter forwards Licensee Event Report (LER) 2000-010-00 (Attachment 1), documenting an event that was determined reportable at Millstone Unit No. 2 on June 4, 2000, pursuant to 10 CFR 50.73(a)(2)(iv).

There are no regulatory commitments contained within this letter.

Should you have any questions regarding this submittal, please contact Mr. Ravi G. Joshi at (860) 440-2080.

Very truly yours,

NORTHEAST NUCLEAR ENERGY COMPANY


C. J. Schwarz
Station Director

Attachment (1): LER 2000-010-00

cc: H. J. Miller, Region I Administrator
J. I. Zimmerman, NRC Project Manager, Millstone Unit No. 2
D. P. Beaulieu, Senior Resident Inspector, Millstone Unit No. 2

IE22

Docket No. 50-336
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Attachment 1

Millstone Nuclear Power Station, Unit No. 2

LER 2000-010-00

LICENSEE EVENT REPORT (LER)

(See reverse for required number of digits/characters for each block)

Estimated burden per response to comply with this mandatory information collection request: 50 hrs. Reported lessons learned are incorporated into the licensing process and fed back to industry. Forward comments regarding burden estimate to the 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. If an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

FACILITY NAME (1) Millstone Nuclear Power Station Unit 2		DOCKET NUMBER (2) 05000336	PAGE (3) 1 OF 3
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TITLE (4)
Reactor Trip During Testing Of Turbine Power-Load Unbalance Circuit

EVENT DATE (5)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	MONTH	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
06	04	2000	2000	-- 010 --	00	06	30	2000	FACILITY NAME	DOCKET NUMBER
OPERATING MODE (9)		1	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)							
POWER LEVEL (10)		65	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)			X 50.73(a)(2)(iv)	OTHER
			20.2203(a)(2)(iii)			50.36(c)(1)			50.73(a)(2)(v)	Specify in Abstract below ¶f 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 R. Joshi, MP2 Acting Regulatory Compliance Supervisor	TELEPHONE NUMBER (Include Area Code) (860) 440-2080
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COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX

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)

At 0012 on June 4, 2000 with the plant in Mode 1 at 65 percent (%) power, a reactor trip occurred during the performance of the weekly test of the Main Turbine Generator Power-Load Unbalance (PLU) circuit by operations personnel. This test was being performed in accordance with the applicable plant procedure (SP-2651T, "Power to Load Unbalance (PLU) Circuitry Test"). In accordance with this procedure, the power load unbalance pushbutton was pressed to initiate the test. However, the turbine control valves were not disabled and as a result the turbine control valves received a fast closure signal. The fast closure signal dumped disk pressure from the control valves which in turn processed a reactor protection trip from the low turbine trip fluid pressure switches.

This event resulted in the Control room receiving annunciation of a turbine trouble followed by a reactor trip and plant equipment responded as expected following the initiation of the turbine control valves fast closure signal.

This event was reported in accordance with 10CFR50.72(b)(2)(ii) on June 4, 2000 and is being reported in accordance with 10CFR50.73(a)(2)(iv) as an event or condition that resulted in a manual or automatic actuation of an engineered safety feature (ESF), including the reactor protection system (RPS).

The root cause for this event was determined to be an inadequate circuit design which, along with other corrective actions, is being addressed via the Millstone Corrective Action Program.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

FACILITY NAME (1)	DOCKET	LER NUMBER (6)			PAGE (3)
Millstone Nuclear Power Station Unit 2	05000336	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	2 OF 3
		2000	-- 010	-- 00	

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

I. Description of Event

At 0012 on June 4, 2000 with the plant in Mode 1 at 65 percent (%)power, a reactor trip occurred during the performance of the weekly test of the Main Turbine Generator Power-Load Unbalance (PLU) circuit by operations personnel. This test was being performed in accordance with the applicable plant procedure (SP-2651T, "Power to Load Unbalance (PLU) Circuitry Test"). In accordance with this procedure, the power load unbalance pushbutton was pressed to initiate the test. This action resulted in the Control room receiving annunciation of a turbine trouble followed by a reactor trip.

By design the PLU test pushbutton opens contacts which disable the turbine control valves fast closure signal. The PLU test pushbutton also initiates a test signal to electronically test the PLU circuitry and picks up a time delay drop out (TDDO) relay. The test is satisfactory when the PLU test pushbutton illuminates. The PLU test pushbutton is then released and the TDDO contacts keep the turbine control valve fast closure signal disabled for 5 seconds, allowing time for the circuit to reset before being enabled.

Contrary to this, during the June 4th PLU test the turbine control valves were not disabled and as a result, when the test signal was processed, the turbine control valves received a fast closure signal. The fast closure signal dumped disk pressure from the control valves which in turn processed a reactor protection trip from the low turbine trip fluid pressure switches.

The plant equipment responded as expected following the reactor trip and the plant was restored to a stable condition in Mode 3.

Notification of this event was made to the Nuclear Regulatory Commission (NRC) at 0128 on June 4, 2000 pursuant to 10CFR50.72(b)(2)(ii) as an event or condition that resulted in a manual or automatic actuation of an engineered safety feature (ESF), including the reactor protection system (RPS).

This event is being reported in accordance with 10CFR50.73(a)(2)(iv) as an event or condition that resulted in a manual or automatic actuation of an engineered safety feature (ESF), including the reactor protection system (RPS).

II. Cause of Event

The cause for the reactor trip was determined to be a component failure related to the Power Load unbalance test pushbutton. The root cause for this event was determined to be an inadequate circuit design for the turbine control systems in that the current design allows a failure of the PLU test switch or TDDO relay to result in a reactor trip.

III. Analysis of Event

The plant equipment responded as expected following the initiation of the turbine control valves fast closure signal. Therefore, this event is not considered to be safety significant.

IV. Corrective Action

As a result of this event the Power Load Unbalance Test Pushbutton was replaced with an identical spare and after successful testing the unit was returned to service.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

FACILITY NAME (1)	DOCKET	LER NUMBER (6)			PAGE (3)
Millstone Nuclear Power Station Unit 2	05000336	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	3 OF 3
		2000	- 010	- 00	

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

A Design Change has been developed to remove the potential that a single failure in the Main Turbine Generator Power-Load Unbalance (PLU) circuit will result in a reactor trip. This design change and other corrective actions are being addressed via the Millstone Corrective Action Program.

V. Additional Information

GE Power Generation issued TIL 1212-2 "Plant Scram Frequency Reduction Features for BWR and PWR Nuclear Turbines with MK I or MK II EHC Controls" on January 27, 1997. Attachment 1, item A3 to this notice addressed replacement of the push button with a manual key switch for Power Load Unbalance (PLU) test.

Energy Industry Identification System (EIIS) code:

Main Turbine Control Fluid System	TG
Control Device, Permissive	69

Similar Events

No previous similar events involving failure of the Main Turbine Generator Power-Load Unbalance (PLU) circuit were identified.