



Northeast
Nuclear Energy

Rope Ferry Rd. (Route 156), Waterford, CT 06385

Millstone Nuclear Power Station
Northeast Nuclear Energy Company
P.O. Box 128
Waterford, CT 06385-0128
(203) 444-4300
Fax (203) 444-4277

The Northeast Utilities System
Donald B. Miller Jr.,
Senior Vice President - Millstone

Re: 10CFR50.73(a)

December 13, 1995
MP-95-354

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 95-043-00

This letter forwards Licensee Event Report 95-043-00 required to be submitted within thirty (30) days pursuant to 10CFR50.73(a).

Very truly yours,

NORTHEAST NUCLEAR ENERGY COMPANY

Donald B. Miller, Jr.
Senior Vice President - Millstone Station

DBM/PJL:ljs

Attachment: LER 95-043-00

cc: T. T. Martin, Region I Administrator
P. D. Swetland, Senior Resident Inspector, Millstone Unit Nos. 1, 2, and 3
G. S. Vissing, NRC Project Manager, Millstone Unit No. 2

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LICENSEE EVENT REPORT (LER)

(See reverse for required number of digits/character 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.

FACILITY NAME (1) Millstone Nuclear Power Station Unit 2	DOCKET NUMBER (2) 5000336	PAGE (3) 1 OF 3
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TITLE (4)
Reactor Core Power Exceeded Rated Thermal Power of 2700 MW for a Period of 11 Hours

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
11	15	95	95	043	00	12	13	95		
									FACILITY NAME	DOCKET NUMBER
									FACILITY NAME	DOCKET NUMBER

OPERATING MODE (9) 1	THIS REPORT IS BEING SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)										
POWER LEVEL (10) 100	20.2201(b)			20.2203(a)(2)(v)			<input checked="" type="checkbox"/> 50.73(a)(2)(f)			50.73(a)(2)(vii)	
	20.2203(a)(1)			20.2203(a)(3)(f)			50.73(a)(2)(f)			50.73(a)(2)(x)	
	20.2203(a)(2)(f)			20.2203(a)(3)(f)			50.73(a)(2)(iii)			73.71	
	20.2203(a)(2)(f)			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)(vi)					

LICENSEE CONTACT FOR THIS LER (12)

NAME Philip J. Lutzi, Nuclear Licensing	TELEPHONE NUMBER (Include Area Code) (203) 440-2072
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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)							EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
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 November 15, 1995, at 1045 hours with the plant operating in Mode 1 at 100% power, a review of plant operating parameters identified that the reactor core thermal power level had inadvertently exceeded the maximum power level permitted by the operating license. This event was caused by using an incorrect steam generator blowdown flow rate value in the core heat balance calculation. This caused the calculated core thermal power to be less than the actual core thermal power. The best estimate of the maximum steady-state power level achieved during this period was 2709 megawatts thermal.

This event is being reported in accordance with 10CFR50.73(a)(2)(i)(B), which requires reporting any operation or condition prohibited by the plant's Technical Specifications.

The apparent cause of this event was personnel error which resulted in the use of an invalid blowdown flow rate value in the core balance calculation.

As a corrective action, procedure OP 2316A, "Main Steam System," was changed to specify that the blowdown flow rate curve is only valid for flow rates between 25 and 80 gallons per minute. Additionally, the installation of process instrumentation to measure the blowdown flow rate is being evaluated to ensure that accurate steam generator blowdown flow rates are input to the core heat balance calculation.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

FACILITY NAME (1) Millstone Nuclear Power Station Unit 2	DOCKET NUMBER (2) 05000336	LER NUMBER (6)			PAGE (3) 02 OF 03
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
		95	- 043 -	00	

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

I. Description of Event

On November 15, 1995, at 1045 hours with the plant operating in Mode 1 at 100% power, a review of plant operating parameters identified that the reactor core thermal power level had inadvertently exceeded the maximum power level permitted by the operating license.

Reactor core thermal power level is measured by performing a heat balance calculation around the steam generators (secondary calorimetric) and accounting for various Reactor Coolant System heat inputs and losses. Steam generator blowdown is accounted for as a heat loss in this calculation in order to optimize plant electric output.

At 1805 hours on November 14, 1995, the operators adjusted the blowdown valves to increase the flow rate. There is no installed process instrumentation to measure the flow rate. The operator determines the flow rate value from a curve as a function of the number of handwheel turns that the valve is opened. This value is then entered into the heat balance calculation on the plant process computer.

During this event, the blowdown valves were opened from 7 to 8 handwheel turns. According to the blowdown flow rate curve, 7 handwheel turns is equivalent to 90 gallons per minute and 8 turns is equivalent to 138 gallons per minute. Unknown to the operators, the curve was not considered to be valid for flow rates greater than 80 gallons per minute. When the value of 138 gallons per minute was input into the plant process computer, the resulting core heat balance calculation became non-conservative (i.e., calculated power level was lower than actual power level). After increasing the blowdown flow rate, the reactor power level was increased to approximately 2700 megawatts thermal, the licensed thermal power limit, based upon the incorrect heat balance calculation.

At 0410 hours on November 15, 1995, the operators adjusted the blowdown valves to 7 turns open and changed the input to the heat balance calculation. The measured reactor power level was observed to increase to approximately 2709 megawatts thermal (100.33% of the licensed thermal power limit). Immediate actions were taken to reduce thermal power to less than the licensed thermal power limit. After reactor power was reduced, the Reactor Protection System reactor power inputs were adjusted to agree with the core heat balance calculation.

A post-event review of plant parameters (core differential temperature, main generator output and turbine first stage pressure) indicated that the reactor core thermal power was in excess of 2700 megawatts thermal for approximately 11 hours on November 14 and 15, 1995. The best estimate of the maximum steady-state power level achieved during this period was 2709 megawatts thermal (100.33% of rated thermal power).

II. Cause of Event

The apparent cause of this event was personnel error which resulted in the use of an invalid blowdown flow rate value in the core balance calculation.

An Engineering review in August 1995, documents that the blowdown flow rate curve was valid for flow rates between 25 and 80 gallons per minute based upon observations of blowdown flow made during the previous operating cycle. However, engineering did not address blowdown flow rates greater than 80 gallons per minute. As a result of personnel oversight, it was not recognized that operating procedure OP 2316A, "Main Steam System," required a revision to limit the amount of blowdown used in the core heat balance calculation.

III. Analysis of Event

This event is being reported in accordance with 10CFR50.73(a)(2)(i)(B), which requires reporting any operation or condition prohibited by the plant's Technical Specifications.

**LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION**

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The safety consequences of this event are low, however, the event resulted in a less conservative adjustment of the Reactor Protection System reactor power inputs, and a reduction of thermal margin with respect to the assumptions used in the plant's safety analyses. The adverse effects on the safety consequences were minimized due to the small amount by which the licensed limit was exceeded (100.33% or about 2709 megawatts thermal).

IV. Corrective Action

Procedure OP 2316A, "Main Steam System," was changed to specify that the blowdown flow rate curve is only valid for flow rates between 25 and 80 gallons per minute.

Additionally, the installation of process instrumentation to measure the blowdown flow rate is being evaluated to ensure that accurate steam generator blowdown flow rates are input to the core heat balance calculation.

V. Additional Information

There were no failed components during this event. There are no similar LERS.

EIS Codes:

None