



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)(2)(ii)

March 10, 1994
MP-94-161

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

Reference: Facility Operating License No. DPR-21
Docket No. 50-245
Licensee Event Report 94-007-00

Gentlemen:

This letter forwards Licensee Event Report 94-007-00 required to be submitted within thirty (30) days pursuant to 10CFR50.73(a)(2)(ii).

Very truly yours,

NORTHEAST NUCLEAR ENERGY COMPANY

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


BY: Frank C. Rothen
Director, Maintenance Services

DBM/TT:ljs

Attachment: LER 94-007-00

cc: T. T. Martin, Region I Administrator
P. D. Swetland, Senior Resident Inspector, Millstone Unit Nos. 1, 2 and 3
J. W. Andersen, NRC Acting Project Manager, Millstone Unit No. 1

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LICENSEE EVENT REPORT (LER)

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

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (MNBB 7714), 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 03
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TITLE (4)
Reactor Water Cleanup Break Isolation on Reactor Low Low Water Level

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
02	08	94	94	007	00	03	10	94		05000
									FACILITY NAME	DOCKET NUMBER
										05000

OPERATING MODE (9) R	THIS REPORT IS BEING SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)											
	20.402(b)			20.405(c)			50.73(a)(2)(iv)			73.71(b)		
POWER LEVEL (10) 000	20.405(a)(1)(i)			50.36(c)(1)			50.73(a)(2)(v)			73.71(c)		
	20.405(a)(1)(ii)			50.36(c)(2)			50.73(a)(2)(vi)			OTHER		
			20.405(a)(1)(iii)			50.73(a)(2)(i)			50.73(a)(2)(vii)(A)			(Specify in Abstract below and in Text, NRC Form 366A)
			20.405(a)(1)(iv)			X 50.73(a)(2)(ii)			50.73(a)(2)(vii)(B)			
			20.405(a)(1)(v)			50.73(a)(2)(iii)			50.73(a)(2)(viii)			

LICENSEE CONTACT FOR THIS LER (12)									
NAME Drexel N. Harris, Site Licensing								TELEPHONE NUMBER (include Area Code) (203) 437-5903	

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)										
CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRPDS		CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRPDS

SUPPLEMENTAL REPORT EXPECTED (14)						EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
X YES (If yes, complete EXPECTED SUBMISSION DATE)	NO						06	01	94

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

On February 8, 1994, at 1400 hours, with the plant shutdown for a refueling outage, a discrepancy was noted in the original Reactor Water Cleanup (RWCU) system break analysis. Specifically, it was determined that a RWCU system isolation at reactor low low water level, with offsite power available, would not occur until the feedwater makeup source from the condenser hotwell is depleted. The mass/energy release from this event could potentially result in an increase in offsite dose as described in the Millstone Unit 1 Updated Final Safety Analysis Report (UFSAR) Chapter 15, "Accident Analyses." In addition, the affects of the mass/energy release on the current Reactor Building temperature profile and the ensuing water release to the Reactor Building are unknown.

No safety consequences resulted from the event. Although the break scenario may result in dose consequences outside the UFSAR Chapter 15 analysis, it is believed offsite dose consequences would remain within 10CFR100 limits. No safety equipment was required to function as a result of this event. A plant design change is being installed during the current refueling outage to detect line breaks in the RWCU system and isolate the system. The modification will be complete prior to plant startup.

The cause of this event remains under investigation. The results will be provided in a supplemental LER.

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

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (MNB 7714), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20535-0001, 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	LER NUMBER (5)			PAGE (3) 02 OF 03
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
		94	- 007 -	00	

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

I. Description of Event

On February 8, 1994, at 1400 hours, with the plant shutdown for a refueling outage, a discussion of the Reactor Water Cleanup Line Break reanalysis to support increasing motor operated valve closure times, revealed a discrepancy in the original 1984 Reactor Water Cleanup (RWCU) system break analysis. Specifically, it was determined that a RWCU system isolation at reactor low low water level, with offsite power available, would not occur until the feedwater makeup source from the condenser hotwell is depleted. The mass/energy release from this event could potentially result in an increase in offsite dose as described in the Millstone Unit 1 Updated Final Safety Analysis Report (UFSAR) Chapter 15, "Accident Analyses." In addition, the affects of the mass/energy release on the current Reactor Building temperature profile and the ensuing water release to the Reactor Building are unknown.

The 1984 analysis was performed to determine the mass/energy release from a postulated RWCU line break outside the primary containment at Millstone Unit One. A RWCU system break represents a large high energy line break that has the potential for direct release of energy and radioactive materials from the reactor to the environment. For the RWCU break, two cases were analyzed. One case assumed a loss of offsite power resulting in a loss of feedwater during the event. The second case assumed offsite power available and feedwater remaining available through the event. The resulting mass/energy released for both cases were found to be within the limiting break outside primary containment, as described in the FSAR. Based on the results of the analysis, the RWCU isolation was reduced from reactor low water level to reactor low low water level in 1987.

II. Cause of Event

A detailed review of this event is on-going, however, preliminary investigation indicates the root cause of this event to be an input error in the 1984 Reactor Water Cleanup Line Break analysis. The input error caused the inappropriate termination of feedwater flow early into the case that analyzed the event with feedwater available. Consequently, the analysis concluded an earlier isolation of the RWCU system following a postulated break, and less mass/energy release to the environment.

Additional information will be provided in the supplemental LER.

III. Analysis of Event

This event is being reported pursuant to 10CFR50.73(a)(2)(ii)(B) which requires the reporting of any event or condition that results in the condition of the nuclear power plant being in a condition that was outside the design basis of the plant. In this event, the resulting offsite dose calculation from a RWCU break with feedwater available may not be within the bounds of the Millstone Unit One UFSAR.

This event could potentially result in an increase in offsite dose as described in the Millstone Unit 1 UFSAR Chapter 15, "Accident Analyses." In addition, the affects of the mass/energy release on the current Reactor Building temperature profile and the ensuing water release to the Reactor Building are unknown. Further evaluation of the event to estimate the potential consequences of this event are on-going. The results of this evaluation, including the impact on plant equipment, will be forwarded in the supplemental LER. In addition, General Electric (GE) is currently evaluating the implications of high energy line break isolation at power levels other than 100% with a reactor low water level setpoint.

Although the RWCU system automatic isolation may have been delayed by this event, it is believed the control room operators would have taken action prior to depleting the hotwell inventory. The control room operators would have followed the Emergency Operating Procedures and mitigated this event by remotely closing the RWCU containment isolation valves from the control room. Numerous indications, including the Reactor Building area temperature monitoring alarms, fire detection alarms and area radiation alarms would have been available to the control room operators.

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

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FACILITY NAME (1) Millstone Nuclear Power Station Unit 1	DOCKET NUMBER (2) 05000245	LER NUMBER (6)			PAGE (3) 03 OF 03
		YEAR 94	SEQUENTIAL NUMBER - 007 -	REVISION NUMBER 00	

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

IV. Corrective Action

As a result of the on-going GE evaluation to determine the implications of the RWCU system isolation at reactor low level setpoint, NU does not consider returning to the original reactor water low setpoint an option. Therefore, during the present refueling outage, an area temperature monitoring system is being installed which will automatically isolate the RWCU system on high temperature in those areas influenced by the RWCU system piping. This design will be consistent with the Millstone Unit 1 design basis for break detection. The conceptual design change has been reviewed by General Electric and they have concurred with the approach.

NU has reviewed the Isolation Condenser system and Main Steam system line breaks to ensure proper break detection and isolation exists consistent with the original plant design. The review confirmed the existing system isolations are the original design and have not been altered.

Currently both NU and General Electric are investigating the input error that occurred approximately 10 years ago. Any corrective actions to prevent recurrence will be provided in the supplemental LER.

V. Additional Information

LER 93-010-00, "Generator Load Reject Analysis Inconsistencies," previously reported a Chapter 15 analysis input discrepancy. Although the event being reported was an input error and the Generator Load Reject event incorrectly assumed a plant feature which was not installed on Millstone Unit 1, both of these events involve errors in the Millstone Unit 1 Chapter 15 analyses.