



Northeast
Nuclear Energy

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The Northeast Utilities System

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

Re: 10CFR50.73(a)(2)(i)
10CFR50.73(a)(2)(ii)

May 26, 1995
MP-95-171

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

Reference: Facility Operating License No. NPF-49
Docket No. 50-423
Licensee Event Report 95-009-00

This letter forwards Licensee Event Report 95-009-00 required to be submitted within thirty (30) days pursuant to 10CFR50.73(a)(2)(i) and 10CFR50.73(a)(2)(ii).

Very truly yours,

NORTHEAST NUCLEAR ENERGY COMPANY

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

DBM/RLM:ljs

Attachment: LER 95-009-00

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

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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 (MNB 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 3

DOCKET NUMBER (2)

05000423

PAGE (3)

1 OF 5

TITLE (4)

Containment Leakage in Excess of Technical Specification Limits Due to Valve Leakage

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
04	26	95	95	009	00	05	26	95	FACILITY NAME	DOCKET NUMBER
OPERATING MODE (9)		6	THIS REPORT IS BEING SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)							
POWER LEVEL (10)		000	20.402(b)		20.405(c)		50.73(a)(2)(iv)		73.71(b)	
			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)		X 50.73(a)(2)(i)		50.73(a)(2)(viii)(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)(ix)			

LICENSEE CONTACT FOR THIS LER (12)

NAME

Robert L. McGuinness, Senior Engineer

TELEPHONE NUMBER (Include Area Code)

(203) 447-1791 Ext. 6855

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)

X YES (If yes, complete EXPECTED SUBMISSION DATE)		NO	EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
				06	16	95

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

On April 26, 1995, at 1715 hours, while in Mode 6 (Refueling) during the performance of Local Leak Rate Testing (LLRT), the "as found" leak rate for Containment Isolation Valves exceeded the Technical Specification Bypass Leakage limit of 0.042 L_g. No immediate action was required since the plant was shut down for refueling.

The bypass leakage through containment isolation valves on the containment purge lines, combined with bypass leakage through a containment vacuum isolation valve, exceeded the Technical Specification limit. The initial indications are that the leakage through the purge valves was due to a deterioration of the resilient seat material. The cause of the deterioration is being investigated. As corrective action the seats for the containment purge isolation valves were replaced and adjusted. The valves were subsequently tested satisfactorily. Also, the containment isolation valve on the containment vacuum line is being replaced during the current refueling outage with a butterfly valve, which is a better design for this application, to further reduce bypass leakage.

The event had low safety significance. If a worst-case single failure were assumed, the combined total of these identified bypass leakages would have slightly exceeded the Technical Specification bypass limit.

In addition to the containment isolation valve conditions that are reported in this LER, several additional isolation valves on other systems recently had excess leakage during their LLRT tests. These additional conditions will be reported in a supplement to this LER.

EXPIRES: 5/31/95

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

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION
COLLECTION REQUEST: 60.0 HRS. FORWARD COMMENTS REGARDING
BURDEN ESTIMATES 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)	DOCKET NUMBER (2)	LER NUMBER (6)	PAGE (3)
		YEAR	
		SEQUENTIAL NUMBER	
		REVISION NUMBER	
Millstone Nuclear Power Station Unit 3	05000423	95 — 009 — 00	02 OF 05

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

I. Description of Event

On April 26, 1995, at 1715 hours, in Mode 6 (Refueling) at atmospheric pressure and 100 degrees Fahrenheit, the ~~combined~~ bypass leakage through isolation valves on three containment penetrations was found to exceed the Technical Specification Limit. The containment purge line isolation valves had excessive leakage during a Local Leak Rate Test (LLRT). This "as found" leak rate, when combined with recent "as found" bypass leakage through the isolation valves on the containment exhaust line and containment vacuum line, exceeded the Technical Specification bypass leakage limit of 0.042 L_a . No immediate action was required since the plant was shutdown.

The containment purge supply line (42-inch) penetration (#86) has three isolation valves, one inboard (3HVU*CTV33A), one outboard (3HVU*CTV32A), and an additional outboard valve on a 30-inch branch line (3HVU*V5). The combined "as found" LLRT leakage through these three valves was 7,300 SCCM. The large isolation valves cannot be tested independently. However, the branch valve has been determined to have insignificant leakage. See Figure 1.

The containment purge exhaust line (42-inch) penetration (#85) has one inboard valve (3HVU*CTV33B) and one outboard valve (3HVU*CTV32B). The combined "as found" LLRT leakage through these two valves was 7,820 SCCM. The valves cannot be tested independently. See Figure 2.

The containment vacuum line (8-inch) penetration (#37) has one inboard valve (3CVS*AOV23) and one outboard valve (3CVS*V20). The "as found" LLRT leakage through the inboard valve was 27 SCCM, which maintained penetration integrity, while the outboard valve was found to have 11,970 SCCM leakage. See Figure 3.

The attached Table 1 provides a summary of the leakage rates for the valves that had excess leakage and a comparison of the total to the Technical Specification Limit.

II. Cause of Event

The apparent cause of the excessive leakage through the 42-inch butterfly isolation valves on the purge supply and exhaust lines, was deterioration of the resilient valve seats. The cause of the deterioration is being investigated. It is believed that the cause is isolated to the current event, as this deterioration has not been observed in the past.

The cause of the excessive leakage through the 8-inch outboard vacuum line valve was inadequate design. The valve is a hard-seated gate valve which historically had similar leakage, and, therefore, is being replaced during the current refueling outage.

III. Analysis of Event

This event is reportable under 10CFR50.73(a)(2)(i)(B), as a condition prohibited by the Plant Technical Specifications. The combined leakage past the subject valves in three penetration lines exceeded the bypass limit allowed by plant Technical Specification 3.6.1.2.c. The condition was promptly reported as an event found while the reactor was shutdown, that had it been found while operating, would have resulted in a principal safety barrier being seriously degraded or in an unanalyzed condition that significantly compromises plant safety. Thus, the condition is also reported under 10CFR50.73(a)(2)(ii)(A).

The combined leakage through all of the isolation valves on the 42-inch containment purge supply and exhaust lines was 15,120 SCCM. This total is below the current Technical Specification allowable bypass leakage, L_a of 20,633.9 SCCM. The purge valve leakage had low safety significance. The actual leakage through the penetrations, even assuming a single failure, would be even lower than 15,120 SCCM. This is because the penetration leakage is conservatively assumed to be equal to the sum of the redundant valve leakages, since they cannot be individually tested.

EXPIRES: 5/31/95

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

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FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)		PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER
Millstone Nuclear Power Station Unit 3	05000423	95	- 009 -	00
				03 OF 05

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

The "as found" bypass leakage through the outboard containment vacuum isolation valve was 11,970 SCCM. This would have been limited by the operable inboard valve which was isolated to only 27 SCCM. A single failure of the inboard valve would have resulted in the combined total of these bypass leakages, slightly exceeding the Technical Specification Limit.

IV. Corrective Action

The valve seats for the containment purge supply and exhaust line valves were inspected and two of the four valve seats were found to be somewhat worn. New seats were installed on all four 42-inch valves and they were tested satisfactorily. The valves are large diameter butterfly valves which require precision seating to maintain low leakage rates. These valve seats will continue to be replaced every other refueling or each refueling as needed, to maintain acceptable low leakage.

The containment vacuum line outboard isolation valve is being replaced during the current refueling outage. The 8-inch hard seated gate valve is being replaced with a soft seated butterfly valve, which is a better design for this application.

V. Additional Information

LER 91-004-01 discusses similar events of containment leakage in excess of Technical Specification limits due to containment isolation valve leakage.

In addition to the containment isolation valve conditions that are reported in this LER, several additional isolation valves on other systems recently had excess leakage during their LLRT tests. These additional conditions will be reported in a supplement to this LER.

ELIS CodesSystems

Containment Ventilation System - VA

Components

Isolation Valve - ISV

EXPIRES: 5/31/95

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATIONESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION
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		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
Millstone Nuclear Power Station Unit 3	05000423	95	— 009 —	00	04 OF 05

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

TABLE 1

Containment Unfiltered Leakage Data (in SCCM)

Penetration (No.)	Valve ID	As-Left (RFO4)	As-Found (RFO5)	As-Left (RFO5)
Containment Vacuum (37)	3CVS*V20 ⁽¹⁾	9,000	11,970	(later) ⁽²⁾
Purge Exhaust (85)	3HVU*CTV33B 3HVU*CTV32B	1,900	7,820	138.1
Purge Supply (86)	3HVU*CTV33A 3HVU*CTV32A 3HVU*V5	20	7,300	664
	Other Penetrations	1,800.5	1,868.9	(later) ⁽²⁾
	Total	12,720.5	28,958.9	(later) ⁽²⁾
	Allowable Limit (0.042 La)	20,633.9	20,633.9	20,633.9

Notes:

(1) Containment integrity is maintained by the following valve:

Valve ID	As-Left (RFO4)	As-Found (RFO5)	As-Left (RFO5)
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3CVS*AOV23 27 27 46
(containment isolation valve associated with 3CVS*V20)

(2) As-left leakage will be updated in an LER supplement

EXPIRES: 5/31/95

LICENSEE EVENT REPORT (LER)
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05000423

LER NUMBER (6)

YEAR

SEQUENTIAL
NUMBERREVISION
NUMBER

PAGE (3)

95

— 009 —

00

05 OF 05

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

Figure 1, Containment Purge Supply Penetration, #86

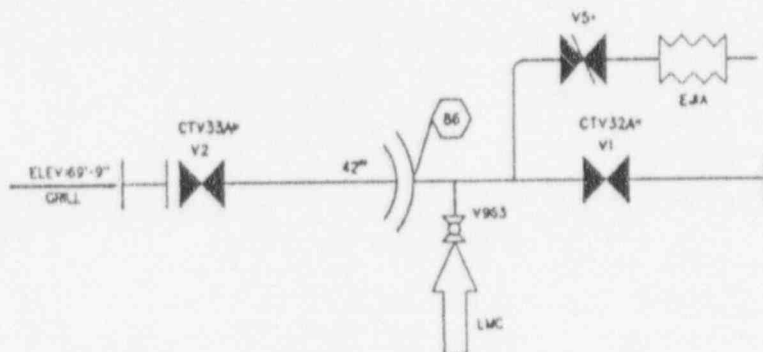


Figure 2, Containment Purge Exhaust Penetration, #85

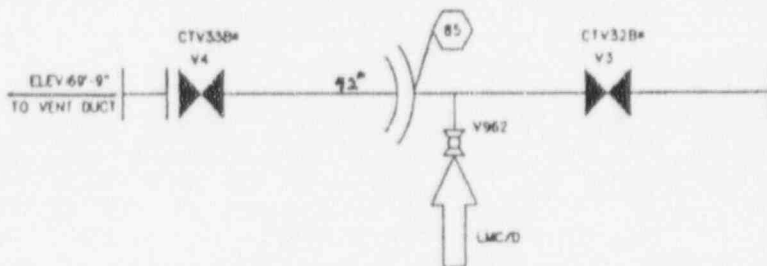


Figure 3, Containment Vacuum Penetration, #37

