

ATTACHMENT TO LER

Northeast Nuclear Energy Company
Millstone Nuclear Power Station - Unit 1
Provisional License Number DPR-21
Docket Number 50-245

Identification of Occurrence

Failure of ten primary containment isolation valves, to satisfy the Technical Specification limit for local leak rate testing.

Conditions Prior to Occurrence

The unit was shutdown on April 28, 1979 for a planned refueling outage.

Description of Occurrence

During the refueling outage, all testable primary containment isolation valves, cable penetrations and manways were local leak rate tested. Of the 88 isolation valves, penetrations and manways tested, a total of 10 were found to have leakage in excess of Technical Specification limits.

The Technical Specifications require that the combined total leak rate for all testable penetrations and isolation valves be less than 319.2 SCFH at 43 PSIG. In addition, no one penetration or isolation valve, except the main steam line isolation valves, may exceed a leak rate of 19.95 SCFH at 43 PSIG. No one main steam line isolation valve may exceed a leak rate of 11.5 SCFH at 25 PSIG.

The total "As Found" leak rate, assuming a worst single failure analysis, was on the order of 420 SCFH. Following repairs of the leaking valves, the total "As Left" leak rate was 108.65 SCFH at 43 PSIG.

The following is a list of the valves which initially failed to pass the leak rate test, their "As Found" and "As Left" leakages.

<u>Valve/Penetration</u>	<u>As Found</u>	<u>As Left</u>
A. Feedwater Check Valves		
1-FW-9A	> 50 SCFH	2.90 SCFH
1-FW-10A	> 50 SCFH	6.30 SCFH
B. Shutdown Cooling Isolation Valves		
1-SD-4A, B	80 SCFH	3.34 SCFH
1-SD-2B	33 SCFH	3.34 SCFH

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C.	Atmospheric Control Valves			
	1-AC-7, 9, 11 & 12	-	40 SCFH	2.55 SCFH
D.	Cleanup System Isolation Valves			
	1-CU-2		73 SCFH	2.71 SCFH

Designation of the Apparent Cause of the Occurrence

A.	Feedwater Check Valves			
	1-FW-9A	-		Worn seat and seal ring.
	1-FW-10A	-		Worn seating surface.
B.	Shutdown Cooling Isolation Valves			
	1-SD-4A, B	-		Worn seat rings and disc.
	1-SD-2B	-		Worn seat ring.
C.	Atmospheric Control Valves			
	1-AC-7, 9, 11 & 12			Dirt in air actuators.
D.	Cleanup System			
	1-CU-2	-		Worn disc and seat.

Analysis of the Occurrence

A. Feedwater Check Valves

Although two feedwater check valves failed to pass the local leak rate, this is not considered to be significant since accident conditions would tend to seat these valves more firmly than test conditions, also the Feedwater System is part of the ECCS System and would normally be operating for small pipe breaks.

B. Shutdown Cooling Isolation Valves

The redundant isolation valve for 1-SD-4A & B was available and exhibited leakage within allowable limits. The redundant isolation valve for 1-SD-2B was also available and exhibited leakage within allowable limits.

C. Atmospheric Control Valves

The redundant isolation valves for 1-AC-7, 9, 11 & 12 were available and exhibited leakage within allowable limits.

D. Cleanup System

The redundant isolation valves for 1-CU-2 were available and exhibited leakage within allowable limits.

Corrective Action

A. Feedwater Check Valves

1-FW-9A	-	Replaced seat and seal ring. Valve retested satisfactorily.
1-FW-10A	-	Stoned seating surface & cleaned valve, retested satisfactorily.

B. Shutdown Cooling Isolation Valves

1-SD-4A, B	-	Machined worn seat rings and discs. Valves retested satisfactorily.
1-SD-2B	-	Replaced worn seal ring. Valve retested satisfactorily.

C. Atmospheric Control Valves

1-AC-7, 9, 11 & 12	-	Rebuilt air actuators. Valves retested satisfactorily.
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D. Cleanup System

1-CU-2	-	Lapped seat and replaced disc. Valve retested satisfactorily.
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There are no recommendations for modification or replacement of any of the aforementioned components pending NRC review of Millstone's 10 CFR 50 App. J submittal.

Failure Data

A. Feedwater Check Valves

Manufacturer: Crane-Chapman Valve Company

Figure 1575 WE

18 inch check valve

Forged carbon steel

B. Shutdown Cooling Isolation Valves

1-SD-4A, B

Manufacturer: Crane-Chapman Valve Company

Figure L603

10 inch globe valve

Forged stainless steel

1-SD-2B

Manufacturer: Crane-Chapman Valve Company

Figure 76-1/2 U

12 inch gate valve

Forged stainless steel

C. Atmospheric Control Valves

Manufacturer: Allis-Chalmers

Model: 150R

18 inch butterfly valve

Cast carbon steel

D. Cleanup System Isolation Valve

Manufacturer: Crane-Chapman Valve Company

Figure 83-1/2 U

8 inch gate valve

Forged stainless steel

LICENSEE EVENT REPORT

CONTROL BLOCK: _____ (PLEASE PRINT OR TYPE ALL REQUIRED INFORMATION)

1 C I T M H S I 2 0 P 0 0 0 0 0 - 0 0 3 4 1 1 1 1 4 0 1 5
B U LICENSEE CODE 14 15 LICENSE NUMBER 29 30 LICENSE TYPE 33 37 CAT. NO. 80

1 1 REPORT SOURCE L 6 0 5 0 0 0 2 4 5 7 0 6 2 8 7 9 8 0 8 10 13 17 19 9
B 8 9 69 61 DOCKET NUMBER 63 63 EVENT DATE 74 75 REPORT DATE 80

EVENT DESCRIPTION AND PROBABLE CONSEQUENCES 10

1 2 While performing local leak rate tests two outboard shutdown cooling system
1 3 heat exchanger outlet valves (1-SD-4A, 4B) were found to be leaking in excess of
1 4 Technical Specification limits. The redundant isolation valve exhibited leakage within
1 5 the desired limit. See attached report.
1 6
1 7
1 8
1 9

5 1 8 SYSTEM CODE S D 11 CAUSE CODE E 12 CAUSE SUBCODE B 13 COMPONENT CODE V A L V E X 14 COMP. SUBCODE F 15 VALVE SUBCODE D 16
EVENT YEAR 7 9 21 SHUTDOWN METHOD Z 20 21 SEQUENTIAL REPORT NO. 0 1 1 9 24 OCCURRENCE CODE 0 3 27 REPORT TYPE L 30 REVISION NO. 0 32
17 LER-RO REPORT NUMBER ACTION TAKEN B 18 33 FUTURE ACTION Z 19 34 EFFECT ON PLANT Z 20 35

1 10 CAUSE DESCRIPTION AND CORRECTIVE ACTIONS 27
1 10 Crane-Chapman 10 inch forged stainless steel globe valve figure number L603. The
1 11 leakage was attributable to worn sealing surfaces from normal usage. Valves were
1 12 reworked and tested satisfactorily.
1 13
1 14

1 5 7 8 9 FACILITY STATUS H 28 10 % POWER 0 0 0 29 11 OTHER STATUS NA 30 12 METHOD OF DISCOVERY B 31 13 DISCOVERY DESCRIPTION Local leak rate testing 32
13

1 6 7 8 9 ACTIVITY CONTENT 4 Z 33 10 AMOUNT OF ACTIVITY NA 35 11 LOCATION OF RELEASE NA 36
13

1 7 7 8 9 PERSONNEL EXPOSURES 0 0 0 37 10 TYPE Z 38 11 DESCRIPTION NA 39
13

1 8 7 8 9 PERSONNEL INJURIES 0 0 0 40 10 DESCRIPTION NA 41
13

1 9 7 8 9 LOSS OF OR DAMAGE TO FACILITY TYPE Z 42 10 DESCRIPTION NA 43
13

2 5 7 8 9 PUBLICITY ISSUED Z 44 10 DESCRIPTION NA 45
13

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NAME OF PREPARER P. J. Przekop PHONE 203-447-1791
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LICENSEE EVENT REPORT

CONTROL BLOCK: _____ 1

(PLEASE PRINT OR TYPE ALL REQUIRED INFORMATION)

LICENSEE CODE CITMNS12 00-00000-0003 4111114 011

REPORT SOURCE L 050002457 0628792 0803799

EVENT DESCRIPTION AND PROBABLE CONSEQUENCES 10
While performing local leak rate tests one outboard shutdown cooling system pump suction valve (1-SD-2B) was found to be leaking in excess of the Technical Specification limit. The redundant isolation valve exhibited leakage within the desired limit. See attached report.

SYSTEM CODE SD 11 CAUSE CODE E 12 CAUSE SUBCODE B 13 COMPONENT CODE VALVE X 14 COMP. SUBCODE E 15 VALVE SUBCODE D 16
EVENT YEAR 79 22 SEQUENTIAL REPORT NO. 019 24-26 OCCURRENCE CODE 03 23-29 REPORT TYPE L 30 REVISION NO. 0 32
ACTION TAKEN B 33 FUTURE ACTION Z 34 EFFECT ON PLANT Z 35 SHUTDOWN METHOD Z 36 HOURS 0000 37-40 ATTACHMENT SUBMITTED Y 41 NRRD-FORMSUR Y 42 PRIME COMP. SUPPLIER A 43 COMPONENT MANUFACTURER C256 44-47

CAUSE DESCRIPTION AND CORRECTIVE ACTIONS 27
Crane-Chapman 12 inch forged stainless steel gate valve figure U 76-1/2 U. The leakage was attributable to a worn seal ring. The valve was reworked and retested satisfactorily.

FACILITY STATUS H 28 % POWER 000 29 OTHER STATUS NA 30 METHOD OF DISCOVERY B 31 DISCOVERY DESCRIPTION 32 Local leak rate testing
ACTIVITY RELEASED OF RELEASE Z 33 Z 34 AMOUNT OF ACTIVITY NA 35 LOCATION OF RELEASE 36 NA
PERSONNEL EXPOSURES NUMBER 000 37 TYPE Z 38 DESCRIPTION 39 NA
PERSONNEL INJURIES NUMBER 000 40 DESCRIPTION 41 NA
LOSS OF OR DAMAGE TO FACILITY TYPE Z 42 DESCRIPTION 43 NA
PUBLICITY ISSUED Z 44 DESCRIPTION 45 NA
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NAME OF PREPARER P. J. Przekop PHONE 203-447-1791

LICENSEE EVENT REPORT

CONTROL BLOCK: _____ (1)

(PLEASE PRINT OR TYPE ALL REQUIRED INFORMATION)

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40		
C T M N S 1														0 0		-		0 0		0 0		0 0		-		0 0		3 4		1 1		1 1		1 1		4 0		1 1		5	
L I C E N S E E C O D E														L I C E N S E N U M B E R		L I C E N S E T Y P E		C A T		S E																					

REPORT SOURCE: L (6) 0 5 0 0 0 2 4 5 (7) 0 6 2 8 7 9 (8) 0 8 0 3 7 9 (9)

DOCKET NUMBER: _____ EVENT DATE: _____ REPORT DATE: _____

EVENT DESCRIPTION AND PROBABLE CONSEQUENCES (10)

0 2 | While performing local leak rate tests four atmospheric control valves (1-AC-7, 9, 11, 12) were found to be leaking in excess of the Technical Specification limit.

0 3 |

0 4 | The redundant isolation valves exhibited leakage within the desired limits. See

0 5 | attached report.

0 6 |

0 7 |

0 8 |

SYSTEM CODE	CAUSE CODE	CAUSE SUBCODE	COMPONENT CODE	COMP. SUBCODE	VALVE SUBCODE
S D (11)	E (12)	R (13)	V A L V E X (14)	B (15)	D (16)
LER NO REPORT NUMBER (17)	EVENT YEAR (21)	SEQUENTIAL REPORT NO. (24)	OCCURRENCE CODE (28)	REPORT TYPE (30)	REVISION NO. (32)
7 9	7 9	0 1 9	0 3	L	0
ACTION TAKEN (33)	FUTURE ACTION (34)	EFFECT ON PLANT (35)	SHUTDOWN METHOD (36)	HOURS (37)	ATTACHMENT SUBMITTED (41)
B (18)	Z (19)	Z (20)	Z (21)	0 0 0 0	Y (23)
PRIME COMP. SUPPLIER (43)	COMPONENT MANUFACTURER (44)				
A (25)	A 1 1 8 0 (47)				

CAUSE DESCRIPTION AND CORRECTIVE ACTIONS (27)

1 0 | Allis-Chalmers 18 inch cast carbon steel butterfly valve model number 150R. Leakage

1 1 | was attributable to worn seals. Valve was reworked and retested satisfactorily.

1 2 |

1 3 |

1 4 |

FACILITY STATUS (26)	% POWER (29)	OTHER STATUS (30)	METHOD OF DISCOVERY (31)	DISCOVERY DESCRIPTION (32)
H	0 0 0	NA	B	Local leak rate testing
ACTIVITY RELEASED (33)	CONTENT OF RELEASE (34)	AMOUNT OF ACTIVITY (35)	LOCATION OF RELEASE (36)	
4	Z	NA	NA	
PERSONNEL EXPOSURES NUMBER (37)	TYPE (38)	DESCRIPTION (39)		
0 0	4	NA		
PERSONNEL INJURIES NUMBER (40)	DESCRIPTION (41)			
0 0	NA			
LOSS OF OR DAMAGE TO FACILITY TYPE (42)	DESCRIPTION (43)			
Z	NA			
PUBLICITY ISSUED (44)	DESCRIPTION (45)			
Z	NA			

LICENSEE EVENT REPORT

CONTROL BLOCK

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1 | C | I | T | I | M | I | N | S | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 4 | 1 | 1 | 1 | 1 | 1 | 1 | 4 | 0 | 1 | 5

REPORT SOURCE: L 6 | 0 | 5 | 0 | 0 | 0 | 2 | 4 | 5 | 7 | 0 | 6 | 2 | 8 | 7 | 9 | 8 | 0 | 8 | 0 | 3 | 7 | 9 | 9

EVENT DESCRIPTION AND PROBABLE CONSEQUENCES (10)

0 2 | While performing local leak rate tests one cleanup system inboard isolation valve

0 3 | (1-CU-2) was found to have leakage in excess of the Technical Specification limit.

0 4 | The redundant isolation valves exhibited leakage within the desired limit. See

0 5 | attached report.

SYSTEM CODE: S D 11

CAUSE CODE: E 17

CAUSE SUBCODE: B 13

COMPONENT CODE: V A L V F X 14

COMP SUBCODE: E 15

VALVE SUBCODE: D 16

LER NO REPORT NUMBER: 17

EVENT YEAR: 7 9

SEQUENTIAL REPORT NO.: 0 1 9

OCCURRENCE CODE: 0 3

REPORT TYPE: L

REVISION NO.: 0

ACTION TAKEN: B 12

FUTURE ACTION: Z 19

EFFECT ON PLANT: Z 20

SHUTDOWN METHOD: Z 21

HOURS: 0 0 0 0

ATTACHMENT SUBMITTED: Y 23

NPRD-4 FORM 1503: Y 24

PRIME COMP. SUPPLIER: A 25

COMPONENT MANUFACTURER: C 21 51 6

CAUSE DESCRIPTION AND CORRECTIVE ACTIONS (27)

1 0 | Crane-Chapman 8 inch forged stainless steel gate valve figure number 83 - 1/2 U,

1 1 | Leakage was attributable to worn seating surfaces. Valve was reworked and retested

1 2 | satisfactorily.

FACILITY STATUS: H 28

% POWER: 0 0 0 29

OTHER STATUS: NA 30

METHOD OF DISCOVERY: B 31

DISCOVERY DESCRIPTION: Local leak rate testing 32

ACTIVITY CONTENT RELEASED OF RELEASE: Z 33

AMOUNT OF ACTIVITY: NA 35

LOCATION OF RELEASE: NA 36

PERSONNEL EXPOSURES NUMBER: 0 0 0 37

TYPE: Z 38

DESCRIPTION: NA 39

PERSONNEL INJURIES NUMBER: 0 0 0 40

DESCRIPTION: NA 41

LOSS OF OR DAMAGE TO FACILITY TYPE: Z 42

DESCRIPTION: NA 43

PUBLICITY ISSUED DESCRIPTION: Z 44

DESCRIPTION: NA 45

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