



VERMONT YANKEE NUCLEAR POWER CORPORATION

P. O. BOX 157
GOVERNOR HUNT ROAD
VERNON, VERMONT 05354

April 7, 1992

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

REFERENCE: Operating License DPR-28
Docket No. 50-271
Reportable Occurrence No. LER 92-010

Dear Sirs:

As defined by 10 CFR 50.73, we are reporting the attached Reportable Occurrence as LER 92-010.

Very truly yours,

VERMONT YANKEE NUCLEAR POWER CORPORATION

Donald A. Reid
Plant Manager

cc: Regional Administrator
USNRC
Region I
475 Allendale Road
King of Prussia, PA 19406

9204140019 920407
PDR ADDCK 05000271
S PDR

IE22
1/1

NRC Form 366 U.S. NUCLEAR REGULATORY COMMISSION (8-89)	APPROVED OMB NO. 3150-0104 EXPIRES 4/30/92 ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (F-530), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3160-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20603.
---	--

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) VERMONT YANKEE NUCLEAR POWER STATION	DOCKET NO. (2) 0 5 0 0 0 2 7 1	PAGE (3) 0 1 OF 0 3
---	-----------------------------------	------------------------

TITLE (4) 1992 Appendix J Type B and C Failure Due to seat Leakage

EVENT DATE (5)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)		
MONTH	DAY	YEAR	YEAR	SEQ #	REV#	MONTH	DAY	YEAR	FACILITY NAMES		
0 3	0 8	9 2	9 2	0 1 0	0 0	0 4	0 7	9 2	N/A		
									DOCKET NO. (S)		
									0 5 0 0 0		

OPERATING MODE (9)	THIS REPORT IS SUBMITTED PURSUANT TO REQ'ENTS OF 10 CFR §: CHECK ONE OR MORE (11)									
POWER LEVEL (10)		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)(vii)		OTHER:		
		20.405(a)(1)(iii)	X	50.73(a)(2)(i)		50.73(a)(2)(viii); (A)				
		20.405(a)(1)(iv)		50.73(a)(2)(ii)		50.73(a)(2)(viii); (B)				
		20.405(a)(1)(v)		50.73(a)(2)(iii)		50.73(a)(2)(ix)				

LICENSEE CONTACT FOR THIS LER (12)

NAME DONALD A. REID, PLANT MANAGER	TELEPHONE NO. AREA CODE 8 0 2 2 5 7 - 7 7 1 1
---------------------------------------	---

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYST	COMPONENT	MFP	REPORTABLE TO NPRDS	CAUSE	SYST	COMPONENT	MFP	REPORTABLE TO NPRDS
	W D	V	W 0 3 0		B S J	V	A 9 1
X	A A	V	C 6 3 1	YES				

SUPPLEMENTAL REPORT EXPECTED (14)

<input type="checkbox"/> YES (if yes, complete EXPECTED SUBMISSION DATE)	<input checked="" type="checkbox"/> NO	EXPECTED SUBMISSION DATE (15)	MO DAY YR
--	--	-------------------------------	-----------

ABSTRACT (Limit to 1400 spaces, i.e., approx. fifteen single-space typewritten lines) (16)

On 3/8/92, 3/12/92, and 3/17/92 while performing Type C Leak Rate Testing with the Plant shutdown for the 1992 refuel outage, Liquid Radwaste Valve LRW-83 (EIIS=WD), Feedwater Check Valve FDW-28B (EIIS=SJ), and Control Rod Drive Valves CRD-413A & 413B (EIIS=AA) were found to have seat leakage above that permitted by Technical Specification 3.7.A.4.

On 3/12/92 the sum total leakage for Type B (penetrations) and Type C (valves) exceeded that allowed by 10 CFR 50 Appendix J. The assigned maximum pathway leakage exceeded that allowed by Appendix J as a result of the leakage through check valve FDW-28B. Appendix J limits the total B and C penetration leakage to 0.60 La.

Vermont Yankee has performed maintenance on the valves that were found to be leaking to determine the cause of the failure. The valves have been retested to verify that seat leakage is within allowable limits.

The root cause evaluation for the failure of CRD-413A & 413B is ongoing and the results will be reported in the Type A Test Report.

NRC Form 366A U.S. NUCLEAR REGULATORY COMMISSION (10-89)		APPROVED OMB NO. 3150-0104 EXPIRES 4/30/92			
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 RECORDS AND REPORTS MANAGEMENT BRANCH (P-530), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20355, AND TO THE PAPERWORK REDUCTION PROJECT (3160-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20603.			
FACILITY NAME (1)	DOCKET NO (2)	LER NUMBER (8)			PAGE (3)
VERMONT YANKEE NUCLEAR POWER STATION	05000271	YEAR	SEQ #	REV #	
		9 2 -	0 1 0 -	0 0	0 2 OF 0 3

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

DESCRIPTION OF EVENT

On 3/8/92, 3/12/92, and 3/17/92 while performing Type C Leak Rate Testing with the Plant shutdown for the 1992 refuel outage, Liquid Radwaste Valve LRW-83 (EIIS=WD), Feedwater Check Valve FDW-28B (EIIS=SJ) and Control Rod Drive Valves CRD-413A & 413B (EIIS=AA) were found to have seat leakage above that permitted by Technical Specification 3.7.A.4.

The following information is for the affected valves:

- LRW-83 3" 300# Walworth co. Air Operated Gate Valve
- CRD-413A/B 3/4" 1500# Conval Check Valve
- FDW-28B 16" 900# Anchor Darling Check Valve

The measured leakage for the valves were:

- Penetration X-18 LRW-83 Leakage = 0.99 pounds mass per hour
- Penetration X-31F CRD-413A Leakage = 0.788 pounds mass per hour
- Penetration X-32F CRD-413B Leakage = 0.873 pounds mass per hour
- penetration X-9B FDW-28B Leakage Exceeded Test Apparatus Capacity

Allowable single valve leakage is limited to 0.522 pounds mass per hour.

On 3/12/92 the sum total leakage for Type B (penetrations) and Type C (valves) exceeded that allowed by 10 CFR 50 Appendix J. The assigned maximum pathway leakage exceeded that allowed by Appendix J as a result of the leakage through check valve FDW-28B. Appendix J limits the total B and C penetration leakage to 0.60 La.

CAUSE OF EVENT

LRW-83: The root cause of the failure is equipment wear/age. The LRW air operated gate valves were evaluated during the 1989 outage. This evaluation determined that the valves needed to be replaced. The failure is a result of valve wear and a failure to properly seat.

CRD-413A & 413B: The cause of the failures was found to be a piece of teflon tape fouling each of the valve seats. The tape prevented proper seating of the disc to the seat. The root cause of the failure is unknown at this time. The root cause evaluation is continuing and the result will be reported to the Commission in the Type A Test Report.

FDW-28B: The root cause of the failure was a manufacturing defect. The casting of the valve had excess material that stuck out far enough to cause the disc to stick in the full open position. The valve was repaired by removing the excess material and assuring proper clearances. The other three feedwater check valves were also inspected for this defect. Valves FDW-27A and 96A, outboard isolation valves for penetrations X-9A/B, do not have the defect. Valve FDW-28A was found to have the defect and the valve could be manually made to stick in the open position. A similar repair was made to valve FDW-28A; however, during as-found leak rate testing, the valve performed adequately and the valve satisfied the Technical Specification acceptance criteria.

NRC Form 366A U.S. NUCLEAR REGULATORY COMMISSION (6-89)		APPROVED OMS NO. 3150-0104 EXPIRES 4/30/92 ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-530), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3160-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20603.																	
LICENSEE EVENT REPORT (LER) TEXT CONTINUATION		FACILITY NAME (1) VERMONT YANKEE NUCLEAR POWER STATION		DOCKET NO (2) 050000271		LER NUMBER (6) <table border="1"> <tr> <th>YEAR</th> <th>SEQ #</th> <th>REV #</th> <th colspan="2">PAGE (3)</th> </tr> <tr> <td>92</td> <td>010</td> <td>00</td> <td>3</td> <td>OF 3</td> </tr> </table>				YEAR	SEQ #	REV #	PAGE (3)		92	010	00	3	OF 3
YEAR	SEQ #	REV #	PAGE (3)																
92	010	00	3	OF 3															

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

ANALYSIS OF EVENT

Vermont Yankee calculates total penetration leakage using the maximum pathway leakage method (summing the largest Type C valve leakage for each penetration). Due to the leakage through FDW-28B, Vermont Yankee conservatively assumes that the Appendix J criteria of 0.6 La was exceeded.

Calculating total penetration leakage using the minimum pathway leakage method (the sum of the Type B and the smaller of the Type C) is currently yielding a total penetration leakage below the allowable limits.

For each of the valves that failed the Type C test, a second valve in the same line met the leakage criteria in the Technical Specifications and Appendix J.

Based on the above, the potential adverse effects on the public health and safety as a result of these events was minimal.

CORRECTIVE ACTIONS

Corrective Actions implemented prior to plant startup:

1. Replaced LRW-83 and successfully tested valve, and
2. Repaired and successfully tested failed valves CRD-413A/B and FDW-28B.

Long Term Corrective Action:

1. Identify root cause for the CRD-413A/B failures and report it as part of the Integrated Local Rate Test Report.

ADDITIONAL INFORMATION

A similar event was reported to the Commission for Liquid Radwaste Valves in 1987 (LER 87-07) and 1989 (LER 89-07).

A similar event was reported to the Commission for Feedwater Check Valves in 1989 (LER 89-07) and 1990 (LER 90-12).

A Similar event was reported to the Commission for total as-found B & C leakage in 1987 (LER 87-07), 1989 (LER 89-07), and 1990 (LER 90-12).