NRC Form 366 (9-83)

U.S. NUCLEAR REGULATORY COMMISSION
APPROVED OMB NO. 3150-0104
EXPIRES 8/31/85

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
VERMONT YANKEE NUCLEAR POWER STATION	0 5 0 0 0 2 7 1	1 OF 0 3

TITLE (4) MAIN STEAM RELIEF VALVE ABOVE SETPOINT DUE TO STEAM CUTS ON THE PILOT DISC AND PILOT SEAT

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 NAMES	DOCKET NUMBER(S)
0 3	0 1	8 8	8 8	— 0 0 2 —	0 0	0 3	3 1	8 8	N/A	0 5 0 0 0
									N/A	0 5 0 0 0

OPERATING MODE (9): N

POWER LEVEL (10): 1 0 0

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)

20.402(b)	20.405(c)	50.73(a)(2)(iv)	73.71(b)
20.405(a)(1)(i)	50.36(c)(1)	X 50.73(a)(2)(v)	73.71(c)
20.405(a)(1)(ii)	50.36(c)(2)	50.73(a)(2)(vii)	OTHER (Specify in Abstract below and in Text, NRC Form 366A)
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)(x)	

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER (AREA CODE)
JAMES P. PELLETIER, PLANT MANAGER	8 0 2 2 5 7 - 7 7 1 1

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
X	S B	R V	T 0 2 0	Y					

SUPPLEMENTAL REPORT EXPECTED (14)

YES (If yes, complete EXPECTED SUBMISSION DATE) X NO

EXPECTED SUBMISSION DATE (15): MONTH | DAY | YEAR

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

ABSTRACT

During 100% power operation, on 02-26-88, two Main Steam (EIIS=SB) relief valves that were removed from service during the 1987 refueling outage, were tested as required by Technical Specifications section 4.6.D.2.

One of the relief valves, serial number 11, activated above the setpoint pressure specified in Technical Specification section 2.2.B. The other relief valve, serial number 13, satisfied all of the testing requirements. After evaluation, this event was determined reportable by the Shift Supervisor on 03-01-88.

The cause of the relief valve failure was pilot stage leakage due to steam cuts on the pilot disc and pilot seat. The valve was repaired and on 03-03-88 was successfully retested. Vermont Yankee will continue to monitor the performance of the relief valves based on past performance.

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NRC Form 366A (9-83)

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6) YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	PAGE (3)
Vermont Yankee Nuclear Power Station	0 5 0 0 0 2 7 1	8 8	— 0 0 2	— 0 0	0 2 OF 0 3

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

DESCRIPTION OF EVENTS

During 100% power operation on 02-26-88, two Main Steam (EIIS=SB) relief valves that were removed from service during the 1987 refueling outage, were tested as required by Technical Specifications section 4.6.D.2.

Technical Specifications require that at least half of all relief valves be tested (or replaced with a tested valve) every refueling outage and that all relief valves be tested (or replaced) every two refueling outages. Vermont Yankee has four, three stage, Target Rock relief valves.

One of the two relief valves tested, S/N (serial number) 11, actuated above the setpoint pressure specified in Technical Specification section 2.2.B and the 1% variation allowed by the Tech Spec. bases and ASME section III division 1 subsection NB7524.3. Valve S/N 11 had a setpoint of 1080 PSIG and actuated at 1133 PSIG (a 4.9% deviation). The other relief valve tested, S/N 13, satisfied all of the testing requirements. After evaluation, this event was determined to be reportable by the Shift Supervisor on 03/01/88.

CAUSE OF EVENT

The cause of the relief valve failure was pilot stage leakage caused by steam cuts on the pilot disc and pilot seat. The root cause of the leakage is suspected to be dirt on the pilot disc and pilot seat.

ANALYSIS OF EVENTS

Technical Specifications requires Vermont Yankee to have four relief valves, one to relieve at ≤1080 PSIG, two to relieve at ≤1090, and one to relieve at ≤1100 PSIG. In addition Vermont Yankee is required to have two safety valves that actuate at ≤1240 PSIG and a reactor high pressure scram set at less than or equal to 1055 PSIG.

The relief valves are part of the Automatic Depressurization System (ADS) (EIIS=JE) which is an emergency system capable of relieving pressure in the reactor vessel so that Low Pressure Core Cooling Systems (EIIS=BM,BO) can initiate. Each relief valve is sized for 33 1/3% capacity. Based on this only three valves are necessary to perform the ADS function.

With the exception of the one relief valve that was 4.9% above the Technical Specifications setpoint all other Tech Spec. requirements were satisfied.

Based on this the Automatic Depressurization System would have performed its design function in that;

1. Overpressurization protection was provided since all the valve settings were below the safety valve actuation point and three relief valves met all Tech. Spec. requirements.

2. Operation of the automatic depressurization system by pilot operation on either an initiation signal or by manual operation from the control room was still available.

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

ANALYSIS OF EVENTS (Cont.)

This ensured depressurization of the vessel to allow Low Pressure Emergency Core Cooling Systems (EIIS=BM,BO) to perform their intended design functions.

CORRECTIVE ACTIONS

No immediate operator actions were necessary as a result of this event.

Relief valve S/N 11 was successfully repaired and retested.

A Nuclear Plant Reliability Data System (NPRDS) inquiry revealed that similar events have occured at other nuclear plants with the three stage Target Rock relief valves. Many of the events have been attributed to foreign matter, that caused steam cuts on the pilot disc and pilot seat.

Two similar events have been submitted to the commission, on the relief valves, in the last five years as LER 86-03 and R083/31/3L.

VERMONT YANKEE NUCLEAR POWER CORPORATION

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

March 31, 1988
VYV 88-056

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 88-02

Dear Sirs:

As defined by 10CFR50.73, we are reporting the attached Reportable Occurrence as LER 88-02.

Very truly yours,

VERMONT YANKEE NUCLEAR POWER CORPORATION

James P. Pelletier

James P. Pelletier
Plant Manager

cc: Regional Administrator
USNRC Office of Inspection and Enforcement
Region I
475 Allendale Road
King of Prussia, Pennsylvania 19406

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