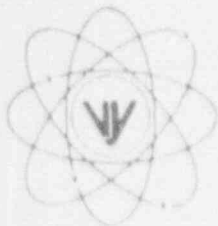


VERMONT YANKEE NUCLEAR POWER CORPORATION



P.O. Box 157 Governor Hunt Road
Vernon, Vermont 05354-0157
(802) 257-7711

May 8, 1991
VYV # 91-124

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

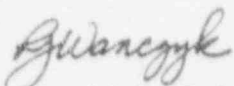
REFERENCE: Operating License DPR-28
Docket No. 50-271
Reportable Occurrence No. LER 91-10

Dear Sirs:

As defined by 10 CFR 50.73, we are reporting the attached Reportable Occurrence as LER 91-10.

Very truly yours,

VERMONT YANKEE NUCLEAR POWER CORPORATION


for Donald A. Reid
Plant Manager

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

9105130372 910508
PDR ADOCK 05000271
S PDR



EXPIRES 4/30/92

LICENSEE EVENT REPORT (LER)

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
20545, AND TO THE PAPERWORK REDUCTION
PROJECT (3150-0104), OFFICE OF MANAGEMENT
AND BUDGET, WASHINGTON, DC 20603.

FACILITY NAME (1)

VERMONT YANKEE NUCLEAR POWER STATION

DOCKET NO. (2)

0 5 0 0 0 2 7 1 0 1 OF 0 3

PAGE (3)

TITLE (4)

Failed Relay Coil Results in Primary Containment Isolation System Actuation

EVENT DATE (5)

LER NUMBER (6)

REPORT DATE (7)

OTHER FACILITIES INVOLVED (8)

MONTH

DAY

YEAR

YEAR

SEQ. #

REV#

MONTH

DAY

YEAR

FACILITY NAMES

DOCKET NO.(S)

0 4

1 2

9 1

9 1

- 0 1 0

- 0 0

0 5

0 8

9 1

0 5 0 0 0

OPERATING

THIS REPORT IS SUBMITTED PURSUANT TO REQ'TS OF 10CFR §: ☒ ONE OR MORE (11)

MODE (9)

N

20.402(b)

20.405(c)

☒ 50.73(a)(2)(iv)

73.71(b)

POWER

20.405(a)(1)(i)

50.36(c)(1)

☐ 50.73(a)(2)(v)

73.71(c)

LEVEL (10)

1 0 0

20.405(a)(1)(ii)

50.36(c)(2)

☐ 50.73(a)(2)(vii)

OTHER:

20.405(a)(1)(iii)

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 NO.

DONALD A. REID, PLANT MANAGER

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

COMPNT

MFR

REPORTABLE
TO NPRDS

.....

CAUSE

SYST

COMPNT

MFR

REPORTABLE
TO NPRDS

.....

B

J M

R L Y

G O B 2

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N/A

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N/A

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SUPPLEMENTAL REPORT EXPECTED (14)

EXPECTED

MO

DA

YR

SUBMISSION

DATE (15)

| | | |

| | | |

| | | |

☐ YES (If yes, complete EXPECTED SUBMISSION DATE) ☒ NO

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

On 04/12/91 at 1158, with the reactor operating at 100% power, valve V12-15 closed isolating the Reactor Water Cleanup (RWCU) System (E1IS=CE). The cause of the valve closure was a failure of the 16A-K26 relay coil which caused the output contacts to change state and initiated the closure of the RWCU inboard isolation valve V12-15. Electrical interlocks caused the in-service RWCU pump to trip when the suction valve began closing. The relay coil was replaced and the RWCU System was tested and returned to service at 1535.

The root cause of this failure is the lack of an established service life for normally energized General Electric (GE) CR120 Relays. Due to the fact that no service life was previously established, plant preventative maintenance did not include a coil replacement schedule. Vermont Yankee is planning to replace all original General Electric CR120 relay coils in the Primary Containment Isolation System in the near future.

A similar occurrence was reported to the Commission as LER 87-01.

EXPIRES 4/30/92

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY
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REGULATORY COMMISSION, WASHINGTON, DC
20555, AND TO THE PAPERWORK REDUCTION
PROJECT (3160-0104), OFFICE OF MANAGEMENT
AND BUDGET, WASHINGTON, DC 20603.

UTILITY NAME (1)	DOCKET NO. (2)	LER NUMBER (6)			PAGE (3)		
		YEAR	SEQ. #	REV#			
VERMONT YANKEE NUCLEAR POWER STATION	05000271	91	-010	-00	02	OF	03

TEXT (If more space is required, use additional NRC Form 366A) (1')

DESCRIPTION OF EVENT

On 04/12/91 at 1158, with the reactor operating at 100% power, valve V12-15 closed isolating the Reactor Water Cleanup (RWCU) System (EIIS=CE). The cause of the valve closure was the failure of the 16A-K26 relay coil. Relay 16A-K26 is a component in the Primary Containment Isolation System (PCIS)(EIIS=JM). This relay in conjunction with 16A-K27 relay are designed to initiate closure of the RWCU System suction and discharge valves on a low reactor water level signal. When the 16A-K26 relay coil failed, the output contacts changed state and initiated the closure of the RWCU inboard isolation valve V12-15. Electrical interlocks caused the in-service RWCU pump to trip when the suction valve began closing.

The relay coil was replaced and the RWCU System was tested and returned to service at 1535.

CAUSE OF EVENT

The root cause of this failure is the lack of an established service life for normally energized General Electric (GE) CR120 Relays. Due to the fact that no service life was previously established, plant preventative maintenance did not include a coil replacement schedule. Based upon this failure and recent history, it has been determined that a service life of fifteen years is appropriate for these relays.

The failure of the 16A-K26 relay coil and subsequent change in output contact state resulted in the isolation of the RWCU System (EIIS=CE). The failure of the coil is age related. The majority of the GE CR120 relays used in the PCIS have been in service for many years and are approaching the end of their useful life.

ANALYSIS OF EVENT

There were no adverse safety implications as a result of this event. The actuation of PCIS logic is an expected and designed action that results when an active component failure occurs. All equipment operated as designed throughout this event. PCIS is designed with the logic relays normally energized so that active component failures or power failures are identified immediately and fail in the safe condition. The Reactor Water Cleanup System function is to maintain the high purity of the reactor coolant, it is not an Engineered Safety System. The short time that it was out of service had no affect upon the water purity of the reactor coolant and did not pose significant risk to the health and safety of the public. The RWCU System was returned to service promptly following the repair of the relay coil.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

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UTILITY NAME (1)	DOCKET NO. (2)	LER NUMBER (4)			PAGE (3)		
		YEAR	SEQ. #	REV#			
VERMONT YANKEE NUCLEAR POWER STATION	05000271	91	-010	-00	03	OF	03

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

CORRECTIVE ACTIONS

Immediate Corrective Actions

1. The relay coil was replaced, the system was tested and returned to service.

Long Term Corrective Actions

1. The requirement to replace safety related, normally energized GE CR120 Relays at fifteen year intervals will be added to the Equipment Service Life Tracking Procedure.
2. Vermont Yankee is planning to replace all original GE CR120 relay coils in the Primary Containment Isolation System in the near future.

ADDITIONAL INFORMATION

A similar occurrence was reported to the Commission under LER 87-01.