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)
PLANT SERVICE WATER EFFLUENT STREAM NOT MONITORED DUE TO PROCEDURE DEFICIENCY

| 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) |
| | | | | | | | | | NA | 0 5 0 0 0 |
| 0 2 | 1 1 | 8 8 | 8 8 | 0 0 1 | 0 0 | 0 3 | 1 1 | 8 8 | NA | 0 5 0 0 0 |

| OPERATING MODE (9) | N | THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| POWER LEVEL (10) | 0 0 0 | | 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 (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 |
|---|---|---|---|---|---|---|---|---|---|
| C | B I | X X F S | W 3 0 8 | N | NA | | | | |
| NA | | | | | NA | | | | |

| SUPPLEMENTAL REPORT EXPECTED (14) | | EXPECTED SUBMISSION DATE (15) | MONTH | DAY | YEAR |
|---|---|---|---|---|---|
| YES (If yes, complete EXPECTED SUBMISSION DATE) | X NO | | | | |

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


ABSTRACT

On 9-3-87, with the plant in cold shutdown for a scheduled refueling and maintenance outage, plant personnel discovered that the Service Water (SW)(EIIS=BI) Effluent Radiation Monitor was not receiving flow. As required by plant Technical Specifications when this monitor is not operable, daily grab samples of the SW effluent stream were immediately initiated.

Investigation of this event has found the root cause for loss of flow to the monitor to be a procedural deficiency. The loss of flow condition occurs as a result of SW (EIIS=BI) system lineup changes, at which time the monitor must be realigned to an alternate supply source. Procedure changes have been incorporated to address this deficiency.

The intermediate cause of this event was a malfunctioning flow switch which was blocked by silt buildup. This malfunction prevented the above loss of flow condition from alarming in the Control Room.

A Potential Reportable Occurrence was initiated on 9-3-87 to address this event. The event was determined to be Not Reportable at that time although additional investigation of the problem was initiated. After gaining further information, it was determined on 2-11-88 that this event should be re-evaluated per this LER.


IE22
1/1

NRC Form 366A (9-83)

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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

| 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 1 | — 0 0 | 0 2 OF 0 3 |

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

DESCRIPTION OF EVENT

On 9-3-87, with the plant shutdown for refueling, technicians were performing a routine calibration of the Service Water (SW) (EIIS=BI) Effluent Radiation Monitor flow switch (EIIS=FS)(Worcester Valve Company Model #F16602X). During the calibration, the flow switch was found to be inoperable due to silt buildup in the switch.

In addition, it was found that there was no flow through the SW Effluent Radiation Monitor corresponding to the plugged flow switch. Grab samples of SW effluent were then initiated immediately and taken every 24 hours as required by Technical Specifications until flow was restored to the Radiation Monitor on 9-26-87.

After reviewing system evolutions that occurred during the plant shutdown, it was determined that the SW Effluent Radiation Monitor was not receiving flow for twelve days (8-22-87 to 9-3-87). This was due to a valve lineup change that occurred on 8-22-87 which greatly reduced SW system flow.

CAUSE OF EVENT

On 8-22-87, the Service Water system flow path that supplies all Turbine Building Cooling equipment was isolated to allow for valve maintenance. Since the Turbine Building is normally a major load on the Service Water system, this isolation greatly reduced total required Service Water flow.

As a result, the SW system discharge line was no longer completely filled. Therefore, the Radiation Monitor suction line, which enters from the side of the SW discharge line, became uncovered. When this occurred, sample suction flow ceased which in turn caused the breaker for the sample pump supplying the monitor to trip.

Normally, a Radiation Monitor downscale alarm occurs in the Control Room upon failure of its corresponding radiation detector or upon loss of flow through the detector. However, the flow switch which initiates the loss of flow signal was found to be clogged with silt and did not function. This malfunctioning flow switch has been determined to be the intermediate cause of this event.

The evaluation of this event has identified the root cause to be a procedural deficiency in not recognizing the loss of flow to the Radiation Monitor when the Service Water system valve lineup was changed.

ANALYSIS OF EVENT

Although the Service Water effluent stream was not being monitored for a twelve day period, there is good assurance that a radioactive liquid effluent release in excess of 10 CFR 20 limits did not occur in that:

a) The Service Water System operates at a higher pressure than the various equipment cooling systems it supplies. Therefore, leakage of any radioactive liquid into the Service Water system is highly unlikely.

NRC Form 366A (9-83)

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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

| 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 1 | — 0 0 | 0 3 OF 0 3 |

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

ANALYSIS OF EVENT (Cont.)

b) During the period that the radiation monitor was made out of service, there were no substantial changes in the Service Water system configuration or Plant operating status. In addition, grab samples taken of the effluent stream immediately after the discovery were well below release limits. Therefore, it can be conservatively assumed that grab samples taken after the discovery were representative of the effluent stream during the twelve unmonitored days.

Therefore, during the events of this report, it can be reasonably assumed that there were no adverse safety implications to plant equipment, personnel, or to the public.

CORRECTIVE ACTION

When plant valve lineup changes occur as described above that greatly reduce SW system flow, an alternate flow path to the radiation monitor is available to assure constant flow to the monitor. Operating procedures have been revised to assure that this alternate path is used when it is necessary to maintain flow.

In addition, a periodic surveillance has been initiated to verify flow from the radiation monitor, thereby assuring detector flow regardless of the SW system configuration. If loss of flow is observed, immediate action will be taken to restore flow.

ADDITIONAL INFORMATION

No similar occurrences have been reported to the Commission in the last five years.

A Potential Reportable Occurrence was initiated on 9-3-87 to address this event. The event was determined to be Not Reportable at that time although additional investigation of the problem was initiated. After gaining further information, it was determined on 2-11-88 that this event should be re-evaluated per this LER.

VERMONT YANKEE NUCLEAR POWER CORPORATION

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

March 11, 1988
VYV 88-046

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 88-01

Dear Sirs:

As defined by 10CFR50.73, we are reporting the attached Reportable Occurrence as LER 88-01.

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
631 Park Avenue
King of Prussia, Pennsylvania 19406

IE22
1/1