



VERMONT YANKEE NUCLEAR POWER CORPORATION

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

June 29, 1990
VYV# 90-219

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 90-08

Dear Sirs:

As defined by 10CFR50.73, we are reporting the attached Reportable Occurrence as LER 90-08.

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

9007050083 900629
PDR ADOCK 05000271
S PDC

LEZZ
41

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)

| | | | | | | | | | | | | | | | | | | | |
|---|------|--------|-------------------|------------------------|------------------|-------|----------------------|-----------------|----------------|--|-------------------------------|----------------|----|----|------------------------|--|--|--|--|
| 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) Failure to Meet Separation Criteria for Power Cables to Regulatory Guide 1.97 Instrumentation Loops | | | | | | | | | | | | | | | | | | | |
| 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 5 | 2 9 | 9 0 | 9 0 | - 0 0 8 | - 0 0 | 0 6 | 2 9 | 9 0 | | | | 0 5 0 0 0 | | | | | | | |
| OPERATING MODE (9) N THIS REPORT IS SUBMITTED PURSUANT TO REQ'TS OF 10CFR §: <input checked="" type="checkbox"/> ONE OR MORE (11) | | | | | | | | | | | | | | | | | | | |
| POWER LEVEL (10) | | 1 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: | | | | | | | | | | |
| | | | 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 DONALD A. REID, PLANT MANAGER | | | | | | | | | | TELEPHONE NO. 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 | | | | | | | | | |
| N/A | | | | | | N/A | | | | | | | | | | | | | |
| N/A | | | | | | N/A | | | | | | | | | | | | | |
| SUPPLEMENTAL REPORT EXPECTED (14) | | | | | | | | | | EXPECTED SUBMISSION DATE (15) | | MO | DA | YR | | | | | |
| <input type="checkbox"/> YES (If yes, complete EXPECTED SUBMISSION DATE) <input checked="" type="checkbox"/> NO | | | | | | | | | | | | | | | | | | | |
| ABSTRACT (Limit to 1400 spaces, i.e., approx. fifteen single-space typewritten lines) (16) | | | | | | | | | | | | | | | | | | | |

On May 29, 1990, at approximately 1645 hours, with the reactor operating at 100% power, it was identified that four cables providing power to certain Post-Accident Monitoring Instrument Loops (Regulatory Guide 1.97) were not routed in accordance with required separation criteria. It was determined that the four cables are routed in cable trays used to carry the cables of the opposite division power cables.

Immediately following the identification of this event, a Justification for Continued Operation (JCO) was presented and accepted by the Plant Operations Review Committee (PORC). Vermont Yankee made the determination that although the separation criteria was not fully met, all instrument loops were considered operational based upon their condition of being functional along with an evaluation of the deficiency relative to the design basis accident analysis. On May 30, 1990, the NRC appeared to disagree with the Vermont Yankee position. This resulted in the four instrumentation loops being conservatively placed in a 30-day Limiting Condition for Operation (LCO).

This event was identified as a result of LER 89-09, in which Vermont Yankee committed to review and clarify the Plant Separation Criteria especially as it relates to instrumentation. The effort to revise the criteria is ongoing.

A temporary waiver of compliance to the Technical Specifications has been requested and granted. A design change is being prepared to provide separation for the power cables that supply the Regulatory Guide 1.97 instruments, this design change will be installed during the 1990 refueling outage.

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
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 | 0 5 0 0 0 2 7 1 | 9 0 | - 0 0 8 | - 0 0 | 0 2 | OF | 0 3 | |

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

DESCRIPTION OF EVENT

On May 29, 1990, at approximately 1645 hours, with the reactor operating at 100% power, it was identified that four cables providing power to certain Post-Accident Monitoring Instrument Loops (Regulatory Guide 1.97) were not routed in accordance with required separation criteria. It was determined that the four cables are routed in cable trays used to carry the cables of the opposite division power cables. The equipment affected is one of the two divisions required to provide Post-Accident Monitoring Instrumentation for the following parameters:

- * Drywell Atmospheric Temperature
- * Torus Water Temperature
- * Torus Air Temperature
- * Torus Air Pressure

Immediately following identification of this condition, a Justification for Continued Operation (JCO) was presented and accepted by the Plant Operations Review Committee (PORC). Vermont Yankee made the determination that although the separation criteria was not fully met, all instrument loops were considered operational based upon their condition of being functional along with an evaluation of the deficiency relative to the design basis accident analysis. On May 30, 1990, the NRC appeared to disagree with the Vermont Yankee position. This resulted in the four instrumentation loops being conservatively placed in the 30-day Limiting Condition for Operation (LCO) as required by Technical Specification Table 3.2.6.

CAUSE OF EVENT

The root cause of this event has been determined to be a combination of several factors. As determined by LER 89-09, requirements for separation of analog instrumentation are unclear in the Vermont Yankee Separation Criteria. The original plant design considered analog instrumentation to be non-essential (NNS) with the Vital and Instrument AC buses designed to provide reliable sources of power. Although the Vital and Instrument AC buses themselves are powered from redundant sources, the distribution circuits fed from them may not be considered redundant since these power cables were non-designated cables to NNS instrumentation and routed accordingly.

During the implementation of RG 1.97 design, existing (original) equipment was used where possible to provide the indicating and/or recording function of required RG 1.97 parameters. As a result, existing power supplies to the Control Room Panels from the Vital and Instrument AC buses were used, however, a verification of cable routing of these power supplies was not performed to ensure redundancy in accordance with RG 1.97 requirements because of the belief that the Vital and Instrument AC buses provided the required cable separation since they were powered from redundant sources.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

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.

| UTILITY NAME (1) | DOCKET NO. (2) | LER NUMBER (4) | | | PAGE (3) | | |
|--------------------------------------|----------------|----------------|--------|------|----------|----|----|
| | | YEAR | SEQ. # | REV# | | | |
| VERMONT YANKEE NUCLEAR POWER STATION | 05000271 | 90 | 008 | 00 | 03 | OF | 03 |

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

ANALYSIS OF EVENT

The events detailed in this report do not have adverse safety implications to public health or safety.

The subject instrument loops are completely functional. Redundancy and separation of equipment and cable is satisfied for the majority of each instrument loop installation. This includes all potentially harsh environment areas and missile producing areas. It is only the relatively short length of power cable routed in non-harsh environment where separation requirements are not satisfied (from the one Control Room panel to the Cable Vault and back into another Control Room panel). In addition, the subject cable trays are safety class and located in the Cable Vault which is protected by a fire detection and suppression system.

The instrument loops involved perform a monitoring function only. There is no automatic function initiated by this equipment. Therefore, no automatic safety feature is jeopardized by the loss of any of these loops.

CORRECTIVE ACTIONS

This event was identified as a result of the Corrective Actions associated with LER 89-09, in which Vermont Yankee committed to review and clarify the Plant Separation Criteria. The effort to enhance the criteria is ongoing, and will specifically address separation requirements for redundant equipment powered from the Instrument and Vital AC buses.

A temporary waiver of compliance from Technical Specifications Table 3.2.6, 30-day LCO Requirements has been requested and granted.

A design change is being prepared to provide the required separation for the power cabling to the Regulatory Guide 1.97 instruments. This design change will be installed prior to the start-up from the 1990 refueling outage.

ADDITIONAL INFORMATION

A similar event was reported to the Commission in LER 89-09.