VERMONT YANKEE
NUCLEAR POWER CORPORATION

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December 10, 1996
BVY 96-156

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

Reference: (a) License No. DPR-28 (Docket No. 50-271)

Subject: Reportable Occurrence No. LER 96-004-01

As defined by 10CFR50.73, we are reporting the attached Reportable Occurrence as LER 96-004, Supplement 01.

Sincerely,

VERMONT YANKEE NUCLEAR POWER CORPORATION

for Robert J. Wanczyk
Plant Manager

cc: USNRC Region 1 Administrator
USNRC Resident Inspector - VYNPS
USNRC Project Manager - VYNPS

160019

NRC Form 366 (4-95) U.S. NUCLEAR REGULATORY COMMISSION

LICENSEE EVENT REPORT (LER)

APPROVED BY OMB NO. 3150-0104
EXPIRES 04/30/98

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS MANDATORY INFORMATION COLLECTION REQUEST: 50.0 HRS. REPORTED LESSONS LEARNED ARE INCORPORATED INTO THE LICENSING PROCESS AND FED BACK TO INDUSTRY. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (T-6 F33), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555-0001, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1)	DOCKET NUMBER ( )	PAGE (3)
VERMONT YANKEE NUCLEAR POWER STATION	05000271	01 OF 06

TITLE (4) Discrepancies identified in the Appendix J Leak Rate Testing Program

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 NAME	DOCKET NO.(S) 05000
02	02	96	96	-- 004 --	01	12	10	96	N/A	

OPERATING MODE (9)	N
POWER LEVEL (10)	100

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: CHECK ONE OR MORE (11)

	20.2201(b)		20.2203(a)(2)(v)	X	50.73(a)(2)(i)		50.73(a)(2)(viii)
	20.2203(a)(1)		20.2203(a)(3)(i)	X	50.73(a)(2)(ii)		50.73(a)(2)(x)
	20.2203(a)(2)(i)		20.2203(a)(3)(ii)		50.73(a)(2)(iii)		73.71
	20.2203(a)(2)(ii)		20.2203(a)(4)		50.73(a)(2)(iv)		OTHER
	20.2203(a)(2)(iii)		50.36(c)(1)		50.73(a)(2)(v)		(Specify in Abstract below or in NRC Form 366A)
	20.2203(a)(2)(iv)		50.36(c)(2)		50.73(a)(2)(vii)		

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NO. (Include Area Code)
ROBERT J. WANCZYK, PLANT MANAGER	802-257-7711

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
NA					NA				
NA					NA				

SUPPLEMENTAL REPORT EXPECTED (14)			EXPECTED SUBMISSION DATE (15)	MO	DAY	YEAR
	YES (If yes, complete EXPECTED SUBMISSION DATE)	XX NO				

ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines) (16)

On 2/2/96 while operating at 100% power, a Vermont Yankee self-assessment identified that 10CFR50 Appendix J requirements were not being satisfied on several containment penetrations. Penetrations X-23 and X-24 for the Reactor Building Closed Cooling Water System are not Type C leak rate tested due to an approved exemption which is no longer supported by the existing plant configuration. Core Spray penetrations X-16A&B were not being Type C tested because an exemption was never submitted documenting the agreed upon method of testing. The method for testing the Inboard MSIV's did not meet the requirements of 10CFR50 Appendix J or the approved NRC exemption as documented in the Program SER and TER. The outboard MSIV's have been and continue to be tested appropriately. A Basis for Maintaining Operability evaluation was performed and determined that the plant can continue to operate safely until the concerns with the Appendix J testing are resolved. The root cause evaluation has determined the causes to be design analysis and inadequate administrative controls for generating plant commitments.

DESCRIPTION OF EVENT

On 2/2/96 while operating at 100% power, a Vermont Yankee initiated self-assessment identified that the local leak rate testing on several containment penetrations was not being conducted in accordance with 10CFR50 Appendix J.

Item 1 - Reactor Building Closed Cooling Water (RBCCW) Penetration Test Exemption

Penetrations X-23 and X-24 (EIIS=PEN) are the containment inlet and outlet lines for the RBCCW (EIIS=CC) System. These penetrations are not Type C leak rate tested due to an approved exemption. Our review has determined that, due to changes made in the seismic and safety classifications of portions of the RBCCW System, the approved exemption is no longer supported. The original Appendix J Testing Program stated that Type C testing of valves for penetrations X-23 and X-24 was not necessary based upon a note in the program that stated that "Type C testing is not required for valves which remain open with the system operating at pressures greater than the maximum peak accident pressure (P_a) throughout the 30-day post-accident period, considering possible single active failure." Due to changes in the seismic and safety classifications of the RBCCW System the design does not support this exemption because: 1) the piping directly outboard of the RBCCW System containment isolation valves V70-113/117 (EIIS=ISV) is classified as Non-Nuclear Safety, and 2) the components necessary to maintain system pressure $>P_a$ have not been maintained as seismically qualified.

Item 2 - Core Spray (CS) Injection Line Testing Exemption

Penetrations X-16A/B are the CS (EIIS=BM) System injection line penetrations. Our reviews have determined that while there has been docketed correspondence between Vermont Yankee and the NRC as to the method of testing of these penetrations, an exemption for the Vermont Yankee proposed testing method was never submitted as required. The isolation valves for penetration X-16A/B are V14-12A/B, V14-13A/B and V14-30A/B. Docketed correspondence between Vermont Yankee and NRC show that Vermont Yankee proposed to alternately test V14-12A/B and V14-11A/B due to a lack of test connections and ALARA. Vermont Yankee intended to submit an exemption request for the alternative testing method however the exemption was never submitted.

Item 3 - Inboard Main Steam Isolation Valve (MSIV) Test Method

The method of testing the Inboard MSIV's (EIIS=ISV) does not meet the requirements of 10CFR50 Appendix J or the approved NRC exemption as documented in the Program SER. The SER approving the reduced pressure testing states that the test pressure is to be applied between the inboard and outboard MSIV's. Contrary to this, when testing the inboard MSIV's the test pressure is applied upstream of the inboard MSIV's. This test method has been in place since initial testing and is consistent with the intent of the Technical Specifications.

CAUSE OF EVENT

A root cause analysis was performed. Individuals that may have been involved or had knowledge of the event were contacted. The following root causes were identified:

Item 1. RBCCW Penetration Test Exemption:

The root cause of this issue is a Design Analysis problem. The design change (EDCR 84-402) that downgraded the seismic classification of the RBCCW system did not identify the Appendix J Program as a design reference or an attribute for the RBCCW system. A contributing cause was an inadequate review of the design documents that failed to identify the effect on the Appendix J Program.

Cause of Event (cont.)

Item 2. V14-13A/B and V14-30A/B Testing Exemption:

The root cause of this issue is an Administrative Control problem. The commitment to develop and submit an exemption was not entered into a formal tracking system (Licensee Action Item or Commitment Tracking System). This resulted in the NRC commitment not being assigned or tracked to assure completion.

Item 3. Inboard MSIV Test Method:

The root cause of this issue is an Administrative Control problem. A commitment for a detailed review of the SER was not generated to assure that the technical details/requirements of the SER/TER were satisfied by the Appendix J Program and its implementing procedures. A contributing cause was that an assumption was made that the reduced pressure testing method used by Vermont Yankee was an acceptable approach to performing MSIV Appendix J testing. Thus, a review was not performed to assure that the requirements of the SER were satisfied.

A contributing cause was that a periodic review/update of the Appendix J Program should have identified and resolved the issues at a much earlier date. This periodic review or update was probably not performed for the following reasons:

1. Vermont Yankee expectations for what, when and how the periodic reviews of the Appendix J program should be performed was not developed until 1/18/94 when the Component Test Program Plan was approved. The guidance provided by the Component Test Program has been used for the current review effort for the Appendix J Program.

2. Coordination of the Appendix J Program was considered a collateral duty until the Performance Engineering / Plant Support Department was formed in January of 1996. Included in the department was a full time Appendix J Coordinator position.

ANALYSIS OF EVENT

A Basis for Maintaining Operability (BMO 96-02 and Rev. 1) was prepared and it was determined that the plant could continue to operate safely even though there are questions relative to the Appendix J testing performed.

Item 1: The RBCCW loop inside of containment is seismically qualified and will remain intact post-LOCA. Even though not all of the RBCCW system was upgraded during the 1985/86 Seismic Reanalysis Program, the system was originally Seismic Class 1. A walk-down was performed on the RBCCW piping outside containment by structural engineers from Design Engineering on 2/14/96 & 2/15/96. The walk-down did not identify any issues that would make the original seismic qualification of the small or large bore RBCCW piping outside containment questionable. There is reasonable assurance that the portions not upgraded would withstand a seismic event. Thus, the system could still maintain pressures greater than P_a at penetrations X-23 and X-24.

Item 2 It has been determined that due to the lack of test connections and ALARA concerns that testing of the Core Spray inside containment isolation valves is not appropriate. Testing of the two in series outboard isolation valves provides an equivalent assurance of containment integrity for these penetrations. The valves are located close to the primary containment and there are limited potential leak paths between the valves and containment.

ANALYSIS OF EVENT (cont.)

Item 3 The test method used by Vermont Yankee for testing the inboard MSIV's is allowed by ANSI N45.4-74 which is the standard the Vermont Yankee Appendix J program commits to. The test pressure, although not applied between the valves as expected in the SER/TER, is applied in the accident direction. The test method is the method allowed for testing of the outboard MSIV's and the Technical Specification criterion for leakage rate is based upon a test at 24 psig.

CORRECTIVE ACTIONS

Item 1. RBCCW Penetration Test Exemption:

Short Term

The following short term corrective actions, with the exception of number 5, have been completed. Note that Short Term items 1 and 2 are no longer required since the Long Term actions have been completed.

1. An AP 4000 surveillance item, with conservative acceptance criteria, has been initiated to require Operations to trend and evaluate the RBCCW Surge Tank make-up on a weekly basis. Increased makeup will require the water usage to be identified by:

   a. determining if any maintenance activities may have required makeup to the surge tank,
   b. evaluating Drywell Sump totalizer readings for increased Drywell leakage, and/or
   c. performing an inspection of the entire RBCCW system.

2. The procedure for operating the non-safety, non-seismic temporary RBCCW filter skid has been revised so that it meets the intent of BMO 96-02, Rev. 1. The temporary skid will only be operated on the RBCCW system while primary containment integrity is not required.

3. The RBCCW operating procedure was revised to isolate the non-seismic ECP Test Vessel (by closing valves RSW-195 and RSW-196).

4. A review of the design process has verified that the current design change process requires the Appendix J Coordinator to review design changes for effects on the program.

5. A review of original systems is being performed to ensure that they were not deleted from original seismic classifications during reanalysis and to ensure similar classification problems identified in LER 96-04 do not exist. This review will be completed by December 31, 1996.

Long Term

1. A design package was prepared for the final identified option. This design included:

   a. installing new test boundary valves with test connections to allow Type C Appendix J testing of the RBCCW Containment isolation valves (V70-113/117),

   b. verifying and documenting that the inner RBCCW loop meets the seismic criteria in the FSAR,

Corrective Actions (cont.)

c. re-classifying the non-classified or NNS RBCCW components inside Primary Containment so that they are classified as SC2,

d. verifying or modifying the current RBCCW components inside Primary Containment so that they are not susceptible to vibration related damage, and

2. The Appendix J Program was revised to require type C leak testing of the RBCCW containment isolation valves.

Long term actions #1 and #2 were implemented during the 1996 Outage.

Item 2. V14-13A/B and V14-30A/B Testing Exemption:

The following corrective actions have been completed.

1. The operator rounds procedure has been revised to require a weekly inspection, with conservative acceptance criteria, of the Core Spray sub-system piping from the pump discharge check valves to Primary Containment. The inspections will be performed while the system is pressurized by keep-fill. Any leakage identified by these inspections shall be repaired on an expedited basis. Note that this item is no longer required as corrective action number three (following below) is complete.

2. A review of the commitment tracking procedure verified that the procedure requires that tracking numbers be assigned to all commitments made in VY to NRC correspondence to assure that the commitments are tracked and completed.

3. The Design Basis for the Core Spray system has been revised to have one Appendix J leak tested Containment Isolation valve along with a closed seismic loop outside Containment.

Item 3. Inboard MSIV Test Method:

Short Term

NRC to VY Correspondence is routed to the appropriate personnel for review. In addition, the reviews are tracked by the Vermont Yankee Commitment Tracking System.

No further action is necessary.

Long Term

Update the testing method and test the Inboard and Outboard MSIVs in accordance with the approved NRC exemption.

This long term action item was completed during the 1996 Outage.

Corrective Actions (cont.)

General:

Short Term

Operations personnel have been trained as to the intent and content of BMO 96-02, Rev.1.

Long Term

1. A VY controlled document will be established for maintaining major programs. The document is expected to be published by January 31, 1997.

2. Vermont Yankee's computer equipment database will be revised to reflect which equipment is Primary Containment related. The revision is expected to be completed by January 31, 1997.

3. Training on the Appendix J program changes and the use of the equipment database is expected to be completed by January 31, 1997.

ADDITIONAL INFORMATION

1. An additional Appendix J issue dealing with the Residual Heat Removal system was subsequently identified. This issue was discussed in a letter, BVY 96-144, dated November 15, 1996, previously submitted to the NRC.

2. Commitments were previously made in LER's 93-03 and 95-01 to update Vermont Yankee's Appendix J Program and submit it to the NRC for information. This update is expected to be completed by January 31, 1997.