Entergy

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October 5, 2004

Re: Vermont Yankee Nuclear
Power Station
Docket No. 50-271
BVY 04-77

Document Control Desk
U.S. Nuclear Regulatory Commission
Mail Stop O-P1-17
Washington, DC 20555-0001

Subject: **Technical Specification Proposed Change No. 268**
One-time Integrated Leak Rate Test (ILRT) Interval Extension

Dear Sir:

Pursuant to 10CFR50.90, Vermont Yankee (VY) hereby proposes to amend its Facility Operating License, DPR-28, by incorporating the attached proposed change into the VY Technical Specifications (TS).

The proposed license amendment would revise Technical Specification section 6.7.C "Primary Containment Leak Rate Testing Program" to allow a one-time interval extension of no more than five (5) years for the Type A, Integrated Leakage Rate Test (ILRT). The exception is to allow ILRT testing within fifteen years from the last ILRT, performed in April 1995. This application represents a cost beneficial licensing change. The integrated leak rate test imposes significant expense on the station while the safety benefit of performing it within 10 years, versus 15 years, is minimal. The proposed amendment is considered risk-informed, therefore Regulatory Guide 1.174, "An Approach for Using Probabilistic Risk Assessment in Risk Informed Decisions on Plant-Specific Changes to the Licensing Basis" has been followed, while using the methodology of Electric Power Research Institute (EPRI) Report "Risk Impact Assessment of Revised Containment leak Rate Testing Intervals," (EPRI TR-104285).

Attachment 1 to this letter contains supporting information, safety assessment of the proposed change and the determination of no significant hazards consideration. Attachment 2 provides the marked-up version of the current Technical Specification page. Attachment 3 is the retyped Technical Specification page. Attachment 4 contains a detailed, plant specific safety assessment performed in support of this amendment request.

VY has reviewed the proposed Technical Specification change in accordance with 10CFR50.92 and concludes that the proposed change does not involve a significant hazards consideration.

In accordance with 10CFR50.91, a copy of this application and the associated attachments are being submitted to the designated Vermont State official.

There are no new commitments being made in this submittal.

A017

VY requests approval of the proposed amendment by September 8, 2005 with the amendment being implemented within 30 days. If you have any questions or require additional information, please contact Mr. James M. DeVincentis at (802) 258-4236.

I declare under penalty of perjury that the foregoing is true and correct. Executed on 10-5-2004.

Sincerely,

Jay K. Thayer
Site Vice President
Vermont Yankee Nuclear
Power Station

cc: next page

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ATTACHMENT 1 TO BVY 04-77

DESCRIPTION AND ASSESSMENT OF TECHNICAL SPECIFICATION PROPOSED CHANGE NO. 268 ONE-TIME INTEGRATED LEAK RATE TEST (ILRT) INTERVAL EXTENSION

ENTERGY NUCLEAR OPERATIONS, INC.
VERMONT YANKEE NUCLEAR POWER STATION
DOCKET NO. 50-271

1. DESCRIPTION

The proposed license amendment would revise Technical Specification section 6.7.C "Primary Containment Leak Rate Testing Program" to allow a one-time interval extension of no more than five (5) years for the Type A, Integrated Leakage Rate Test (ILRT). This revision is a one time exception to the ten (10) year frequency of the performance-based leakage rate testing program for Type A tests as defined by NEI 94-01, Revision 0, "Industry Guideline For Implementing Performance-Based Option of 10 CFR Part 50, Appendix J" (Reference 1), and endorsed by 10CFR50, Appendix J, Option B. The proposed one-time exception is to the requirement to perform an ILRT at a frequency of up to ten years, with allowance for a 15-month extension. The requested exception is to allow the ILRT to be performed within fifteen years from the last ILRT, which was performed in April 1995.

VY requests approval of the proposed amendment by September 8, 2005 to support VY's upcoming Refueling Outage 25 scheduled to commence on October 8, 2005.

2. PROPOSED CHANGES

VY's TS Section 6.7.C, "Primary Containment Leak Rate Testing Program" currently states:

> *A program shall be established to implement the leak rate testing of the primary containment as required by 10 CFR 50.54(o) and 10 CFR 50, Appendix J, Option B as modified by approved exemptions. This program shall be in accordance with the guidelines contained in Regulatory Guide 1.163, entitled "Performance Based Containment Leak-Test Program," dated September 1995, as modified by the following exception to NEI 94-01, Rev 0, "Industry Guideline for Implementing Performance-Based Option of 10CFR50, Appendix J":*
>
> > *Section 9.2.3: The first Type A test after the April 1995 Type A test shall be performed no later than November 2005.*

The proposed change would revise the date by which the next Type A test is conducted. Specifically, the last sentence would be modified to state:

> *Section 9.2.3: The first Type A test after the April 1995 Type A test shall be performed no later than April 2010.*

This proposed amendment to the TS takes a one-time exception to the 10-year frequency of the performance-based leakage rate testing program for Type A test as documented by NE1 94-01. The exception will allow ILRT testing within 15 years from the last ILRT which was performed in April 1995. This application represents a cost beneficial licensing change. The ILRT imposes significant expense and hardship to the plant while the differential safety benefit of performing the test within 10.6 years, versus 15 years, is minimal.

3. BACKGROUND

10 CFR 50, Appendix J, Option B Requirements:

The testing requirements of 10CFR50, Appendix J, provide assurance that leakage from the containment, including systems and components that penetrate the containment, does not

exceed the allowable leakage values specified in the Technical Specifications. The limitation of containment leakage provides assurance that the containment would perform its design function following an accident up to and including the plant design basis accident. Appendix J identifies three types of required tests: Type A tests, intended to measure the primary containment overall integrated leakage rate; Type B tests, intended to detect local leaks and to measure leakage across pressure-containing or leakage limiting boundaries for primary containment penetrations; and Type C tests, intended to measure containment isolation valve leakage rates. Type B and C tests identify the vast majority of potential containment leakage paths. Type A tests identify overall (integrated) containment leakage rate and serve to ensure continued leakage integrity of the containment structure by evaluating those structural parts of the containment not covered by Type B and C testing.

10CFR50, Appendix J, was revised, effective October 26, 1995, to allow licensees to choose containment leakage testing under Option A "Prescriptive Requirements" or Option B "Performance-Based Requirements." In February 1998, License Amendment 152 (Reference 2) was issued to the Vermont Yankee Operating License to permit implementation of 10CFR50, Appendix J, Option B. License Amendment 152 amended (created) Technical Specification section 6.15 (subsequently renumbered as Technical Specification section 6.7.C) requiring Type A, B and C testing in accordance with Regulatory Guide (RG) 1.163 (Reference 3). Regulatory Guide 1.163 specifies a method acceptable to the NRC for complying with Option B by approving the use of NEI 94-01 and ANSI/ANS 56.8-1994 (Reference 4), subject to several regulatory positions in the guide. NEI 94-01 specifies an initial Type A test interval of 48 months, but allows an extended interval of ten years, based upon two consecutive successful tests. Subsequently, in June 2003, License Amendment 215 (Reference 5) was issued extending the 10 year interval to approximately 10.6 years.

The adoption of the Option B performance-based containment leakage rate testing program did not alter the basic method by which Appendix J leakage rate testing is performed, but did alter the frequency of measuring primary containment leakage in Type A, B, and C tests. Frequency is based upon an evaluation which looks at the "as found" leakage history to determine a frequency for leakage testing which provides assurance that leakage limits will be maintained. The changes to Type A test frequency allowed by Option B do not directly result in an increase in containment leakage, only the interval at which such leakage is measured on an integrated basis. Similarly, the proposed change to the Type A test frequency will not directly result in an increase in containment leakage.

The extended frequency interval for testing allowed by NEI 94-01 is based upon a generic evaluation documented in NUREG-1493, "Performance-Based Containment Leak-Test Program" (Reference 6). NUREG-1493 made the following statements in Section 10.1.2 with regard to extending the test frequency:

- "Reducing the frequency of Type A tests (ILRTs) from the current three per ten years to one per twenty years was found to lead to an imperceptible increase in risk. The estimated increase in risk is very small because ILRTs identify only a few potential containment leakage paths that cannot be identified by Type B and C testing, and the leaks that have been found by Type A tests have been only marginally above existing requirements. Given the insensitivity of risk to containment leakage rate, and the small fraction of leakage detected solely by Type A testing, increasing the interval between ILRTs is possible with minimal impact on public risk."

- "While Type B and C tests identify the vast majority (greater than 95%) of all potential leakage paths, performance-based alternatives are feasible without significant risk impacts. Since leakage contributes less than 0.1 percent of overall risk under existing requirements, the overall effect is very small."

Exceptions to the guidelines of RG 1.163 are allowed by 10CFR50, Appendix J, Option B, Section V.B, "Implementation," which states "The regulatory guide or other implementation document used by a licensee, or applicant for an operating license, to develop a performance-based leakage-testing program must be included, by general reference, in the plant technical specifications. The submittal for technical specification revisions must contain justification, including supporting analyses, if the licensee chooses to deviate from methods approved by the Commission and endorsed in a regulatory guide." Since exceptions meeting the stated requirements are permitted, Technical Specification amendment requests satisfying these requirements do not require an exemption to Option B.

4. TECHNICAL ANALYSIS

10CFR50, Appendix J, Option B Plant Specific Implementation

As previously stated, License Amendment 152 to the Vermont Yankee Operating License permitted implementation of 10 CFR 50, Appendix J, Option B. Amendment 152 requires Type A, B, and C testing be conducted in accordance with Regulatory Guide (RG) 1.163, which in turn endorses the methodology for complying with Option B identified in NEI 94-01. The surveillance frequency for Type A testing in NEI 94-01 is at least once per ten years based on an acceptable performance history (i.e., two consecutive periodic Type A tests at least 24 months apart where the calculated performance leakage rate was less than $1.0L_a$) and consideration of the performance factors in NEI 94-01, Section 11.3. The two most recent Type A tests at Vermont Yankee have been satisfactory and there has never been a failure due to a bellows or liner failure.

The performance leakage rates are calculated in accordance with NEI 94-01, Section 9.1.1. The performance leakage rate includes the Type A Upper Confidence Limit (UCL) at 95% plus the as-left minimum pathway leakage rate for all Type B and C pathways not in service, isolated, or not lined up in their test position. In addition, leakage pathways that were isolated during the performance of the test because of excessive leakage are included in the test results by adding the as-found minimum pathway leakage rate to the Type A test 95% UCL. The performance leakage rate does not include leakage savings (i.e., improvements to Type B and C components made prior to the Type A test).

- For the April 1992 periodic Type A test, the Mass Point method calculated at the 95% UCL leakage rate was 0.1172 wt% / day. The minimum pathway leakage rate for Type B and C pathways not in service and water level corrections was 0.0454 wt% / day. Therefore, the performance leakage rate was 0.1172 + 0.0454 = 0.1626 wt% / day.

- For the April 1995 periodic Type A test, the Total Time method calculated at the 95% UCL leakage rate was 0.3788 wt% / day. The minimum pathway leakage rate for Type B and C pathways not in service and water level corrections was 0.0200 wt% / day. Therefore, the performance leakage rate was 0.3788 + 0.0200 = 0.3988wt% / day (it is

noted that the increase in leakage results were associated with the use of the Total Time method verses the Mass Point method).

These results compare with the maximum allowable leakage rate for Vermont Yankee of 0.8 wt% / day at a pressure of 44 psig. Based upon these two consecutive successful tests, and the approval of License Amendment 215, the current ILRT interval requirement for Vermont Yankee is approximately 10.6 years

Plant Testing and Inspection Programs

In addition to periodic Type A testing, various inspections and tests are routinely performed to assure primary containment integrity. These include Type B and C testing performed in accordance with Appendix J, Option B; inspection activities performed as part of the plant Inservice Inspection program; Technical Specification related inspections; and others. The aggregate results of these tests and inspections serve to provide a high degree of assurance of continued primary containment integrity.

- Type B and Type C Program

  The Vermont Yankee Appendix J, Type B and Type C testing program is described in Operating Procedure (OP) 4030 "Type B and C Primary Containment Leakage Rate Testing," Program Procedure (PP) 7006 "Primary Containment Leakage Rate Testing Program," and Entergy Northeast ENN-DC-334 "Primary Containment Leakage Rate Testing (Appendix J)." Regarding the scope of these procedures, the procedures require:

  Electrical penetrations, air/locks, hatches, flanges, and valves within the scope of the Appendix J Program Plan and which are not exempt shall be tested in compliance with the requirements of 10CFR50, Appendix J, Option B and Regulatory Guide 1.163.

  The Type B and C test program provides a means to detect or measure leakage across pressure containing or leakage limiting barriers of the primary reactor containment. The results of the test program are used to ensure that proper maintenance and repairs are made on the primary reactor containment components over their service life. The Type B and C test program provides a means to protect the health and safety of plant personnel and the public by maintaining the leakage from these components below required levels.

  The Type B and C test program consists of local leak rate testing of penetrations which utilize a resilient seal, expansion bellows, double gasketed man ways, hatches, and flanges, drywell airlock, and containment isolation valves that serve as a barrier to the release of the post accident primary containment atmosphere.

  These components are tested with air or nitrogen at a pressure greater than or equal to 44 psig (Pa), except for the Main Steam Line Isolation Valves which are tested at ≥24 psig. Tests performed on-line assure that full accident differential pressure is applied across the barrier under test, accounting for containment inerting, or system head pressure.

As previously noted, Type B and Type C testing evaluate all but a small portion of potential containment leakage pathways. Nothing in this amendment request affects the scope, performance or scheduling of Type B or Type C tests. These programs will continue to provide a high degree of assurance that primary containment integrity is maintained.

- Inservice Inspection (ISI) Program

Effective September 1996, the NRC endorsed Subsections IWE and IWL of ASME Section XI, 1992 Edition including 1992 Addenda. These subsections contain inservice inspection and repair/replacement rules for Class MC and Class CC components. The Vermont Yankee reactor containment is a free-standing steel containment, to which the requirements of Subsection IWE apply.

For Vermont Yankee, these requirements are included in the Program Procedure (PP) 7024 "Containment Inservice Inspection Program (IWE)". The program contains detailed inservice inspection requirements for Class MC components in accordance with 10CFR50.55a(b)(2)(vi) & (ix) and the 1998 Edition of ASME Boiler and Pressure Vessel Code Section XI through the 2000 Addenda. There are no Relief Requests in effect for this program.

Vermont Yankee performs Category E-A examinations in accordance with Table IWE-2500-1. Included in these General Visual examinations are the interior and exterior pressure retaining boundary (Item E1.10), accessible surface areas (Item E1.11) and moisture barriers (Item E1.30). The General Visual examinations focus on coating flaws such as cracking, peeling, flaking, blistering, rusting, and discoloration and any mechanical damage, pitting and arc strikes observed are recorded and evaluated in accordance with ENN-EP-S-001 "IWE General Visual Containment Inspection."

During the implementation of the program, the moisture barrier required at the intersection of the interior of the drywell shell and the concrete floor at elevation 238' was determined to have been degraded and effective reconfiguration of the seal was not performed (ER 99-1954). Subsequently, a minor modification was developed (MM 2000-010) to install a replacement seal. The drywell shell and the concrete floor were stripped of all paint, coatings, and sealant for approximately a six inch band either side of the intersecting joint. The drywell shell was examined by VT-3, VT-1, and ultrasonic measurement processes. The shell was determined to be satisfactory in accordance with the criteria of VYC-2043. The drywell shell was coated and the seal was replaced. Though not required by the Code of Record, the moisture barrier is being examined each refueling outage through RFO 27.

Additionally, Vermont Yankee performs Category E-A examinations in accordance with Table IWE-2500-1 as modified by 10CFR50.55a(b)(2)(ix). Bolting (Item E1.11), wetted surfaces of submerged areas (Item 1.12), and the accessible surfaces of the BWR vent system (Item E1.20) are VT-3 examined in accordance with ENN-NDE-10.03 "VT-3 Examinations."

Presently, no surface areas require Category E-C augmented examination in accordance with IWE-1241.

Plant Operational Performance

Vermont Yankee is a General Electric Boiling Water Reactor (BWR-4). The reactor is contained in a Mark 1, Free Standing Steel Containment Building. The containment consists of three primary interconnected structures: the drywell, housing the reactor and related components, a toroidal suppression chamber (torus) and the vent header system. The drywell, which includes the major primary containment volume, is inerted with nitrogen and maintained at a ≥1.7 psid positive pressure with respect to the torus. This pressure differential is required by Technical Specifications (LCO 3.7.A.9.a) and monitored by plant instrumentation and through periodic surveillance requirement (4.7.A.9.a). The pressure differential is established during drywell inerting by pressurizing the drywell using plant nitrogen. During normal plant operation, the combination of a small amount of normal instrument nitrogen leakage within the drywell and leak tightness of the containment structure is such that nitrogen typically does not have to be added to the drywell to maintain the required pressure differential.

Although the pressure is not as significant as that resulting from a Design Basis Accident, the fact that the containment is normally pressurized provides a degree of assurance of containment structural integrity (i.e.; no large leak paths in the containment structure). Significant leakage would be identified through increased nitrogen usage (periodically monitored via operator rounds) needed to maintain the required differential pressure, and would be investigated promptly and addressed within the scope of the plant Corrective Action Process. This feature is a complement to periodic visual inspections of the interior and exterior of the containment structure, and serves to provide added assurance of structural integrity for those areas that may be inaccessible for visual examination.

Plant Specific Risk Assessment

Attachment 4 contains a detailed, plant specific risk assessment performed in support of this amendment request. This assessment evaluates the risk impact of extending the Type A test interval for Vermont Yankee from ten to fifteen years. The assessment complements the studies cited in NUREG-1493 that concluded that Type A testing intervals could be extended to as much as twenty years with negligible impact on risk. It is noted that the risk assessment was performed at power uprate conditions (120% power) and that this conservatively envelopes the current operating licensed power level.

The conclusions of the plant specific assessment are that effects on risk from the requested change are negligible or non-risk significant. Methodology and a summary of results are as follows:

- <u>Approach and Methodology:</u>

  In performing the risk assessment evaluation, the guidelines of NEI 94-01, "Industry Guideline for Implementing Performance-Based Option of 10 CFR Part 50, Appendix J", the methodology used in EPRI TR-104285, "Risk Assessment of Revised Containment Leak Rate Testing Intervals," and the NRC Regulatory Guide 1.174, "An Approach for Using Probabilistic Risk Assessment In Risk-Informed Decisions On Plant-Specific Changes to the Licensing Basis" were used. The assessment also followed the guidance and additional information distributed by NEI in November 2001 to their Administrative Points of Contact regarding risk assessment evaluation of one-time

extensions of containment ILRT intervals and the approach outlined in the Indian Point Unit Three Nuclear Power Plant ILRT extension submittal.

The risk assessment evaluation uses the current Vermont Yankee Probabilistic Safety Assessment (PSA) internal events model that includes a Level 2 analysis of core damage scenarios and subsequent containment response resulting in various fission product release categories (including no release). The change in plant risk is then evaluated based on the potential change in population dose rate (person-rem/ry), change in Large Early Release Frequency (LERF), and the change in conditional containment failure probability (CCFP).

In addition to the internal events risk assessment evaluation, the impact associated with extending the Type A test frequency interval was further examined by considering external event hazard or potential containment liner corrosion. The purpose for these additional evaluations was to assess whether there are any unique insights or important quantitative information associated with the explicit consideration of external event hazard or containment liner corrosion in the risk assessment results. The external event hazards or potential containment liner corrosion evaluation was found not to impact any of the above conclusions.

- Summary of Results:

The conclusion of the plant internal events risk associated with extending the Type A ILRT interval from ten to fifteen years is as follows.

1) The increase in risk on the total integrated plant risk as measured by person rem/year increases for those accident sequences influenced by Type A testing, given the change from a 1-in-10 years test interval to a 1-in-15 years test interval, is found to be 0.004% (0.0005 person rem/ry). This value can be considered to be a negligible increase in risk.

2) Regulatory Guide 1.174 provides guidance for determining the risk impact of plant-specific changes to the licensing basis. Regulatory Guide 1.174 defines very small changes in risk as resulting in increases of core damage frequency (CDF) below 10^{-6}/ ry and increases in LERF below 10^{-7}/ ry. Since the ILRT does not impact CDF, the relevant criterion is LERF. The increase in LERF resulting from a change in the Type A ILRT test interval from 1-in-10 years to 1-in-15 years is 2.87×10^{-9}/ry. Since Regulatory Guide 1.174 defines very small changes in LERF as below 10^{-7}/ ry, increasing the ILRT interval at Vermont Yankee from the currently allowed one-in-ten years to one-in-fifteen years is non-risk significant from a risk perspective.

3) The change in conditional containment failure probability (CCFP) is calculated to demonstrate the impact on 'defense-in-depth'. For the current ten-year ILRT interval, sequences involving no containment failure or small releases contribute 12.01% to the overall plant risk. Alternatively stated, the contribution of sequences involving containment failure for the ten-year interval is 87.99%. These numbers are consistent with those documented in the Vermont Yankee PSA. For the proposed fifteen-year interval, the contribution of sequences involving containment failure increased to 88.05%. Therefore, $\Delta CCFP_{10\text{-}15}$ is found to be 0.06%. This represents a negligible change in the Vermont Yankee containment defense-in-depth.

Additional risk considerations (external event hazards, potential containment liner corrosion) were also evaluated, with a similar conclusion that the requested test interval extension poses negligible risk. These evaluations are summarized in Attachment 4.

Conclusion

Previous Type A tests confirm that the Vermont Yankee reactor containment structure exhibits extremely low leakage and represents minimal risk to increased leakage. The risk is minimized by continued Type B and Type C testing, reinforced by the Inservice Inspection (ISI) program and technical specification inspections, by other periodic walk downs and inspections, and by operating experience with a containment that normally operates at a positive pressure. These, in aggregate, provide continuing confidence in containment integrity.

This experience is supplemented by studies, including a plant specific risk analysis, that conclude that the risk associated with extending the Type A test interval on a one-time basis as requested is negligibly small.

It is therefore concluded that the cost-beneficial, risk informed change represented by this request is prudent and reasonable, and that the requested change involves no significant hazards as further documented in the following section.

5. REGULATORY SAFETY ANALYSIS

5.1 No Significant Hazards Consideration

The proposed change to Section 6.7.C of the Vermont Yankee Technical Specifications would allow for a single extension to the frequency of the next primary containment integrated leak rate test (ILRT). This proposed change would permit the existing ILRT frequency to be extended from 10.6 years to 15 years.

Pursuant to 10CFR50.92, Vermont Yankee has reviewed the proposed change and concludes that the change does not involve a significant hazards consideration since the proposed change satisfies the criteria in 10CFR50.92(c).

1. The operation of Vermont Yankee Nuclear Power Station in accordance with the proposed amendment will not involve a significant increase in the probability or consequences of an accident previously evaluated.

   The proposed revision to Technical Specifications adds a one-time extension to the current interval for Type A testing. The current test interval of 10.6 years, based on past performance, is extended on a one-time basis to fifteen years from the last Type A test. The proposed extension to Type A testing cannot increase the probability of an accident previously evaluated since the containment Type A testing extension is not a modification and the test extension is not of a type that could lead to equipment failure or accident initiation.

   The proposed extension to Type A testing does not involve a significant increase in the consequences of an accident since research documented in NUREG-1493 has found that, generically, very few potential containment leakage paths are not

identified by Type B and C tests. The NUREG concluded that reducing the Type A (ILRT) testing frequency to once per twenty years was found to lead to an imperceptible increase in risk. These generic conclusions were confirmed by a plant specific risk analysis performed using the current Vermont Yankee Probabilistic Safety Assessment (PSA) internal events model that concluded the consequences are low to negligible.

Testing and inspection programs in place also provide a high degree of assurance that the containment will not degrade in a manner detectable only by Type A testing. The last two successful Type A tests indicate a very leak tight containment. Type B and C testing required by Technical Specifications will identify any containment opening such as valves that would otherwise be detected by the Type A tests. Inspections, including those required by the ASME code and the Maintenance Rule are performed in order to identify indications of containment degradation that could affect that leak tightness.

Therefore, the proposed changes do not represent a significant increase in the probability or consequences of an accident previously analyzed.

2. The operation of Vermont Yankee Nuclear Power Station in accordance with the proposed amendment will not create the possibility of a new or different kind of accident from any accident previously evaluated.

   The proposed revision to Technical Specifications adds a one time extension to the current interval for Type A testing. The current test interval of 10.6 years, based on past performance, would be extended on a one time basis to fifteen years from the last Type A test. The proposed extension to Type A testing cannot create the possibility of a new or different type of accident since there are no physical changes being made to the plant and there are no changes to the operation of the plant that could introduce a new failure mode creating an accident or affecting the mitigation of an accident.

   Therefore, the proposed changes do not create the possibility of a new or different kind of accident from any accident previously analyzed.

3. The operation of Vermont Yankee Nuclear Power Station in accordance with the proposed amendment will not involve a significant reduction in a margin of safety.

   The proposed revision to Technical Specifications adds a one time extension to the current interval for Type A testing. The current test interval of 10.6 years, based on past performance, would be extended on a one time basis to fifteen years from the last Type A test. The proposed extension to Type A testing will not significantly reduce the margin of safety. The NUREG-1493 generic study of the effects of extending containment leakage testing found that a 20-year extension in Type A leakage testing resulted in an imperceptible increase in risk to the public. NUREG-1493 found that, generically, the design containment leakage rate contributes about 0.1 percent to the individual risk and that the decrease in Type A testing frequency would have a minimal affect on this risk since 95% of the potential leakage paths are detected by Type C testing. This was further confirmed by a plant specific risk assessment using the current Vermont Yankee PSA internal events

model that concluded the risk associated with this change is negligibly small and/or non-risk significant.

Therefore, the proposed changes do not involve a significant reduction in a margin of safety.

5.2 Environmental Consideration

The proposed amendment does not involve (i) a significant hazards consideration, (ii) a significant change in the types or significant increase in the amounts of any effluent that may be released offsite, or (iii) a significant increase in individual or cumulative occupational radiation exposure. Accordingly, the proposed amendment meets the eligibility criterion for categorical exclusion set forth in 10CFR51.22(c)(9). Therefore, pursuant to 10CFR51.22(b), no environmental assessment needs to be prepared in connection with the proposed amendment.

6. COORDINATION WITH OTHER PENDING TS CHANGES

The pages affected by this Proposed Technical Specification Change have also been identified for modification within Proposed Technical Specification Changes # 261 and # 262.

7. PRECEDENTS

The NRC has approved similar risk-informed submittals relating to a one-time extension of a Type A test interval for a number of plants. Examples include LaSalle Units 1 & 2 (T AC NOs. MB9004 and MB9005), Hope Creek (TAC NO. MB6551), and Duane Arnold Energy Center (TAC NO. MB4752).

8. REFERENCES

1. NEI 94-01, "Industry Guideline for Implementing Performance-Based Option of 10 CFR Part 50, Appendix J," Revision 0, dated July 26, 1995.

2. USNRC Letter to VYNPC, "Issuance of Amendment No. 152 to Facility Operating License No. DPR-28, Vermont Yankee Nuclear Power Station (TAC No. M99264)," NVY 98-24, dated February 26, 1998.

3. Regulatory Guide 1.163, "Performance-Based Containment Leak-Test Program," dated September 1995.

4. ANSI/ANS 56.8 – 1994, "Containment System Leakage Testing Requirements"

5. USNRC Letter to VYNPC, "Vermont Yankee Nuclear Power Station - Issuance of Amendment Re: One-Time Extension of Appendix J Type A Integrated Leakage Rate Test Interval (TAC No. MB6507)," NVY 03-45, dated June 2, 2003.

6. NUREG-1493, "Performance-Based Containment Leak-Test Program," dated September 1, 1995.

ATTACHMENT 2 TO BVY 04-77

MARKUP OF TECHNICAL SPECIFICATIONS PAGES FOR
TECHNICAL SPECIFICATION PROPOSED CHANGE NO. 268
ONE-TIME INTEGRATED LEAK RATE TEST (ILRT) INTERVAL EXTENSION

ENTERGY NUCLEAR OPERATIONS, INC.
VERMONT YANKEE NUCLEAR POWER STATION
DOCKET NO. 50-271

Report for the period of the report in which any change to the ODCM was made. Each change shall be identified by markings in the margin of the affected pages, clearly indicating the area of the page that was changed, and shall indicate the date (e.g., month/year) the change was implemented.

C. PRIMARY CONTAINMENT LEAK RATE TESTING PROGRAM

A program shall be established to implement the leak rate testing of the primary containment as required by 10 CFR 50.54(o) and 10 CFR 50, Appendix J, Option B as modified by approved exemptions. This program shall be in accordance with the guidelines contained in Regulatory Guide 1.163, entitled "Performance Based Containment Leak-Test Program," dated September 1995, as modified by the following exception to NEI 94-01, Rev. 0, "Industry Guideline for Implementing Performance-Based Option of 10CFR50, Appendix J":

Section 9.2.3: The first Type A test after the April 1995 Type A test shall be performed no later than November 2005. April 2010.

The peak calculated containment internal pressure for the design basis loss of coolant accident, Pa, is 44 psig.

The maximum allowable primary containment leak rate, La, at Pa, shall be 0.8% of primary containment air weight per day.

Leak rate acceptance criteria are:

1. Primary containment leak rate acceptance criterion < 1.0 La.

2. The as-left primary containment integrated leak rate test (Type A test) acceptance criterion is ≤ 0.75 La.

3. The combined local leak rate test (Type B and C tests) acceptance criterion is ≤ 0.60 La, calculated on a maximum pathway basis, prior to entering a mode of operation where containment integrity is required.

4. The combined local leak rate test (Type B and C tests) acceptance criterion is ≤ 0.60 La, calculated on a minimum pathway basis, at all times when primary containment integrity is required.

5. Airlock overall leak rate acceptance criterion is ≤ 0.10 La when tested at ≥ Pa.

The provision of the Definition (1.0.Y) for Surveillance Frequency does not apply to the test frequencies specified in the Primary Containment Leak Rate Testing Program.

D. Radioactive Effluent Controls Program

This program conforming to 10 CFR 50.36a provides for the control of radioactive effluents and for maintaining the doses to members of the public from radioactive effluents as low as reasonably

ATTACHMENT 3 TO BVY 04-77

RETYPED TECHNICAL SPECIFICATION PAGES FOR
TECHNICAL SPECIFICATION PROPOSED CHANGE NO. 268
ONE-TIME INTEGRATED LEAK RATE TEST (ILRT) INTERVAL EXTENSION

ENTERGY NUCLEAR OPERATIONS, INC.
VERMONT YANKEE NUCLEAR POWER STATION
DOCKET NO. 50-271

Listing of Affected Technical Specifications Pages

Replace the Vermont Yankee Nuclear Power Station Technical Specifications page listed below with the revised page. The revised page contains a vertical line in the margin indicating the area of change.

Remove	Insert
265	265

Report for the period of the report in which any change to the ODCM was made. Each change shall be identified by markings in the margin of the affected pages, clearly indicating the area of the page that was changed, and shall indicate the date (e.g., month/year) the change was implemented.

C. PRIMARY CONTAINMENT LEAK RATE TESTING PROGRAM

A program shall be established to implement the leak rate testing of the primary containment as required by 10 CFR 50.54(o) and 10 CFR 50, Appendix J, Option B as modified by approved exemptions. This program shall be in accordance with the guidelines contained in Regulatory Guide 1.163, entitled "Performance Based Containment Leak-Test Program," dated September 1995, as modified by the following exception to NEI 94-01, Rev. 0, "Industry Guideline for Implementing Performance-Based Option of 10CFR50, Appendix J":

Section 9.2.3: The first Type A test after the April 1995 Type A test shall be performed no later than April 2010.

The peak calculated containment internal pressure for the design basis loss of coolant accident, Pa, is 44 psig.

The maximum allowable primary containment leak rate, La, at Pa, shall be 0.8% of primary containment air weight per day.

Leak rate acceptance criteria are:

1. Primary containment leak rate acceptance criterion < 1.0 La.

2. The as-left primary containment integrated leak rate test (Type A test) acceptance criterion is ≤ 0.75 La.

3. The combined local leak rate test (Type B and C tests) acceptance criterion is ≤ 0.60 La, calculated on a maximum pathway basis, prior to entering a mode of operation where containment integrity is required.

4. The combined local leak rate test (Type B and C tests) acceptance criterion is ≤ 0.60 La, calculated on a minimum pathway basis, at all times when primary containment integrity is required.

5. Airlock overall leak rate acceptance criterion is ≤ 0.10 La when tested at ≥ Pa.

The provision of the Definition (1.0.Y) for Surveillance Frequency does not apply to the test frequencies specified in the Primary Containment Leak Rate Testing Program.

D. Radioactive Effluent Controls Program

This program conforming to 10 CFR 50.36a provides for the control of radioactive effluents and for maintaining the doses to members of the public from radioactive effluents as low as reasonably