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June 6, 2006

Docket No. 50-271  
BVY 06-045

U.S. Nuclear Regulatory Commission  
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11555 Rockville Pike  
Rockville, MD 20852

References: Listed on Attachment 1

**Subject: Vermont Yankee Response to NRC Generic Letter 2006-03 Regarding Potentially Nonconforming HEMYC and MT Fire Barrier Configurations**

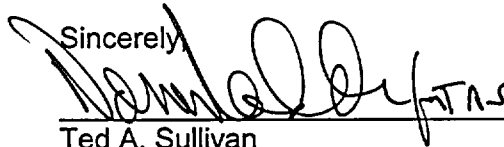
The NRC issued Generic Letter (GL) 2006-03 to request licensees to confirm compliance with existing applicable regulatory requirements in light of information provided in the GL regarding HEMYC and MT fire barrier systems, and if appropriate, take additional actions. Specifically, although HEMYC and MT fire barriers may be relied on to protect electrical and instrumentation cables and equipment that provide safe shutdown capability during a fire, NRC testing has revealed that both materials failed to provide the protective function intended for compliance with existing regulations. The NRC requested licensees to provide a written response within 60 days describing the use of HEMYC, MT and other fire barrier systems at their nuclear power plants (NPPs). The requested information is to be submitted under the requirements of 10 CFR 50.54(f).

The attachment to this letter provides the written response for Vermont Yankee Nuclear Power Station (VYNPS). If you have any questions or require additional information, please contact Mr. Jim DeVincentis at 802-258-4236.

There are no regulatory commitments contained within this letter.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on June 6, 2006.

Sincerely,  
  
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Ted A. Sullivan  
Site Vice President  
Vermont Yankee Nuclear Power Station

Attachment 1: Vermont Yankee Response to Generic Letter 2006-03

cc: (Next Page)

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**Attachment 1**

**Vermont Yankee Nuclear Power Station**

**License No. DPR-28 (Docket No. 50-271)**

**Vermont Yankee Response to Generic Letter 2006-03**

## **Vermont Yankee Response to Generic Letter 2006-03**

### **Requested Actions**

Addressees are requested to determine whether or not HEMYC or MT fire barrier material is installed and relied upon for separation and/or safe shutdown purposes to satisfy applicable regulatory requirements. In addition, licensees are asked to describe controls that were used to ensure the adequacy of other fire barrier materials, consistent with the assessment requested in GL 92-08.

### **Requested Information**

Within 60 days of the date of this GL, licensees are requested to provide the following:

#### **NRC Request 1.a:**

A written statement on whether HEMYC or MT fire barrier material is used at their NPPs and whether it is relied upon for separation and/or safe shutdown purposes in accordance with the licensing basis, including whether HEMYC or MT is credited in other analyses (e.g. exemptions, license amendments, GL 86-10 analyses).

#### **VYNPS Response to Request 1.a:**

VYNPS currently has no HEMYC fire barrier material installed in applications that are relied on for separation or safe shutdown purposes, having removed the last such material in July of 2005 as described in Reference (2), and has never had MT fire barrier material installed in the facility. Remaining installed HEMYC fire barrier material is not credited for 10CFR50 Appendix R compliance in the VYNPS Safe Shutdown Capability Analysis, or in any other associated analyses.

#### **NRC Request 1.b:**

A description of the controls that were used to ensure that other fire barrier types relied on for separation of redundant trains located in a single fire area are capable of providing the necessary level of protection. Addressees may reference their responses to GL 92-08 to the extent that the responses address this specific issue.

#### **VYNPS Response to Request 1.b:**

The HEMYC material formerly installed in credited applications has been replaced with 3M Interam® E-54A fire barrier material, which was manufactured and tested to the requirements of ASTM E-119 and installed in accordance with the manufacturer's criteria for individual sheet thickness and number of layers necessary to meet a 1-hour rating.

In response to information provided in Reference (3) regarding the observed inability of certain 3M Interam® fire barrier material test specimens to meet the maximum single-point temperature and average temperature rise acceptance criteria of Reference (4), VYNPS performed engineering evaluations (References 5 and 6) to document the acceptability of previously installed Interam® fire barriers.

Those evaluations determined that all 3M Interam® fire barrier material installed at VYNPS prior to issuance of GL 86-10 Supplement 1 will provide adequate fire barrier performance, and that no changes are required to address the information provided in NRC Information Notice 95-52. 3M Interam® was applied either to replace Thermal Sciences Inc. Thermo-Lag fire barriers as described in Reference (7) or as newly installed material at locations not previously protected by fire barriers.

Vermont Yankee Engineering Request 05-400 (Reference 8), which in 2005 accomplished replacement of the credited HEMYC installations with 3M Interam® material, based the adequacy of those replacements on manufacturer's test results for a conduit size and fire-wrap configuration that were subsequently determined to be bounded by the acceptable test results summarized by the NRC in Table 1 of Reference (3).

NRC Requests 2.a through 2.d and Request 3 are not applicable to VYNPS since no credited HEMYC or MT fire barrier material is installed in the facility.

References:

- (1) NRC Generic Letter 2006-03, "Potentially Nonconforming HEMYC and MT Fire Barrier Configurations," dated April 10, 2006.
- (2) Letter, VYNPS to USNRC, "Status of HEMYC Fire Barrier Wrap at Vermont Yankee," BVY 05-076, dated August 17, 2005.
- (3) NRC Information Notice 95-52, "Fire Endurance Test Results for Electrical Raceway Fire Barrier Systems Constructed from 3M Company Interam® Fire Barrier Materials," dated November 14, 1995.
- (4) NRC Generic Letter 86-10, Supplement 1, "Fire Endurance Test Acceptance Criteria for Fire Barrier Systems Used to Separate Redundant Safe Shutdown Trains Within the Same Fire Area," dated March 15, 1994.
- (5) VYNPS Fire Protection Engineering Evaluation No. 70, "Evaluation of 3-Hour Rated 3M Fire Wrap Installed Prior to Issuance of NRC GL 86-10 Sup. 1 to NRC Information Notice 95-52," dated January 17, 1997.
- (6) VYNPS Fire Protection Engineering Evaluation No. 71, "Evaluation of 1-Hour Rated 3M Fire Wrap Installed Prior to Issuance of NRC GL 86-10 Sup. 1 to NRC Information Notice 95-52," dated January 17, 1997.
- (7) Letter, VYNPS to USNRC, "Completion of Actions to Address NRC Generic Letter 92-08: Thermo-Lag Fire Barriers," BVY 93-062, dated June 28, 1993.
- (8) VYNPS Engineering Request 05-400, "Replace HEMYC Fire Wrap with 3M Fire Wrap," date June 27, 2005.