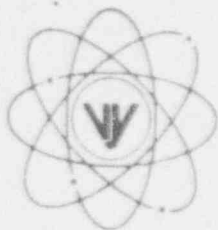


VERMONT YANKEE NUCLEAR POWER CORPORATION



Ferry Road, Brattleboro, VT 05301-7002

REPLY TO:
ENGINEERING OFFICE
580 MAIN STREET
BOLTON, MA 01740
(508) 778-6711

April 16, 1993
BVY 93-042

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

- References:
- (a) License No. DPR-28 (Docket No. 50-271)
 - (b) NRC Bulletin 92-01, Failure of Thermo-Lag 330 Fire Barrier System to Maintain Cabling in Wide Cable Trays and Small Conduits Free From Fire Damage, dated 6/24/92
 - (c) Letter, VYNPC to USNRC, BVY 92-092, dated 7/24/92
 - (d) NRC Bulletin 92-01 Supplement 1, Failure of Thermo-Lag 330 Fire Barrier to Perform its Specified Fire Endurance Function, dated 08/28/92
 - (e) Letter, P.M. Sears (USNRC) to W.P. Murphy (VYNPC), Response to NRC Bulletin 92-01, Failure of Thermo-Lag Fire Barrier System to Maintain Cabling in Wide Cable Trays and Small Conduits Free From Fire Damage, dated 9/8/92
 - (f) Letter, VYNPC to USNRC, NRC Bulletin 92-01 Supplement 1 and Response to Reference (e), dated 09/24/92
 - (g) Thermo-lag 330-1 Fire Barriers (Generic Letter 92-08), dated 12/17/92
 - (h) Industrial Testing Laboratories Report No. 84-10-5, Engineering Report on an Ampacity Test for 600 Volt Power Cables, Three Hour Fire Rated Design, dated October 1984

Subject: NRC Generic Letter 92-08: Thermo-Lag 330 Fire Barriers

Dear Sir:

NRC Generic letter 92-08 was issued to notify licensees of additional concerns surrounding the installation of Thermo-lag 330 (TL) fire barriers. The three concerns identified were (1) that TL installations may not have been qualified by representative fire tests, (2) that ampacity derating factors have not been derived by valid tests, and (3) that qualified barriers have not been installed with appropriate procedures and quality controls.

References (c) and (f) provided a summary of the extent to which TL materials were used at Vermont Yankee and the compensatory measures that were instituted following receipt of References (b) and (d). Vermont Yankee is currently in the process of implementing plant modifications that will eliminate reliance on TL material. The appropriate compensatory measures will remain in place until these modifications are completed.

Our responses to the reporting requirements of Generic Letter 92-08 are as follows:

1. State whether Thermo-lag 330-1 barriers are relied upon (a) to meet 10CFR50.48, to achieve physical independence of electrical systems, (b) to meet a condition of a plant's operating license, or (c) to satisfy a licensing commitment. If applicable, state that Thermo-Lag 330-1 is not used at the facility. This generic letter applies to all 1-hour and all 3-hour Thermo-Lag 330-1 materials and barrier systems assembled by any assembly

9304190144 930416
PDR ADOCK 05000271
F PDR

A029
110

method such as by assembling preformed panels and conduit shapes, as well as spray, trowel and brush-on applications.

As previously stated in References (c) and (f), Thermo-Lag is utilized to a very limited extent at our facility. Vermont Yankee has TL installed on 3" and 4" conduits in a 3-hr configuration to achieve physical independence of electric power systems.

2. If Thermo-Lag 330-1 barriers are used at the facility,

- (a) State whether or not the licensee has qualified the Thermo-Lag 330-1 fire barriers by conducting fire endurance tests in accordance with the NRC's requirements and guidance or licensing commitments.

Vermont Yankee has not conducted our own fire endurance tests for TL applications. We have installed TL per vendor supplied installation procedures and qualification tests.

- (b) State (1) whether or not the fire barrier configurations installed in the plant represent the materials, workmanship, methods of assembly, dimensions, and configurations of the qualification test assembly configurations; and (2) whether or not the licensee has evaluated any deviations from the tested configurations.

The applications of TL at Vermont Yankee are 3" and 4" conduit wraps applied in the 3-hour configuration. These wraps were installed in accordance with vendor supplied installation procedures. All personnel performing the installations were trained and certified by TL prior to performing the installation. Vermont Yankee reviewed the vendor supplied qualification reports prior to installation and used these reports in support of our installations. There were no deviations from the qualified configuration noted during the installation. Vermont Yankee is not planning to further evaluate deviations from this test data, but is working toward eliminating reliance on Thermo-Lag completely.

- (c) State (1) whether or not the as-built Thermo-Lag 330-1 barrier configurations are consistent with the barrier configurations used during the ampacity derating tests relied upon by the licensee for the ampacity derating factors used for all raceways protected by Thermo-Lag 330-1 (for fire protection of safe shutdown capability or to achieve physical independence of electrical systems) and (2) whether or not the ampacity derating test results relied upon by the licensee are correct and applicable to the plant design.

The ampacity derating factors used for installations at Vermont Yankee were obtained from Reference (h), which indicated a 10% derating for the 2" test conduit in a 3-hour configuration. This was determined to be conservative for our installations as the larger conduit sizes result in increased air space inside the conduits which results in lower derating factors. Original plant construction sized all power cables by applying a 50% derating factor for conservatism. Review of the present ampacity requirements for the cables installed in the conduits protected by Thermo-Lag show that sufficient margin exists in the cable sizing to accommodate significant increases in derating and that there is no immediate concern relative to operability of the equipment powered through the affected conduits.

3. With respect to any answer to items 2(a), 2(b) or 2(c) above in the negative, (a) describe all corrective actions needed and include a schedule by which such actions shall be completed and (b) describe all compensatory measures taken in accordance with the technical specifications or administrative controls. When corrective actions have been completed, confirm in writing their completion.

The compensatory measures that have been taken are described in Reference (f) and consist of hourly walkdown of the areas of concern in concert with the installation of temporary fire detection. Vermont Yankee does not plan to do any site specific TL testing to support long term use of this material. Vermont Yankee is however, working toward eliminating reliance on Thermo-Lag 330. It is expected that this work will be completed by 6/1/93. Vermont Yankee will notify the NRC in writing when this corrective action is complete.

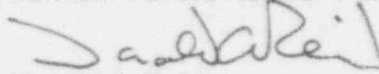
4. List all Thermo-Lag 330-1 barriers for which answers to item 2 cannot be provided in the response due within 120 days from the date of this generic letter, and include a schedule by which such answers shall be provided.

We believe we have provided all the information requested by the generic letter in this submittal and References (c) and (f). Thus, we do not request additional time beyond the 120 days requested for response.

Vermont Yankee will continue to monitor NUMARC efforts pertaining to TL and take any appropriate actions as necessary. Additionally, compensatory measures will continue to be applied until modifications are complete. We believe that the actions described above are responsive to your concerns; however, should you have any further questions, please do not hesitate to contact us.

Very truly yours,

Vermont Yankee Nuclear Power Corporation




Donald A. Reid
Vice President, Operations

cc: USNRC Region I Administrator
USNRC Resident Inspector - VYNPS
USNRC Project Manager - VYNPS
William H. Rasin, NUMARC

STATE OF VERMONT)
)ss
WINDHAM COUNTY)

Then personally appeared before me, Donald A. Reid, who, being duly sworn, did state that he is Vice President, Operations, of Vermont Yankee Nuclear Power Corporation, that he is duly authorized to execute and file the foregoing document in the name and on the behalf of Vermont Yankee Nuclear Power Corporation, and that the statements therein are true to the best of his knowledge and belief.


Sally A. Sandstrum, Notary Public
My Commission expires February 10, 1995