February 25, 1997

Mr. Donald A. Reid
Vice President, Operations
Vermont Yankee Nuclear Power Corporation
Ferry Road
Brattleboro, VT 05301

SUBJECT: VERMONT YANKEE NUCLEAR POWER STATION (TAC NO. M97960)

Dear Mr. Reid:

The NRC staff is reviewing offsite power system designs for older operating plants as a result of lessons learned from the Maine Yankee Indepenent Safety Assessment. We find that additional information is necessary to complete our review for Vermont Yankee.

Your response to the enclosure to this letter is requested as soon as possible but no later than 30 days from the date of receipt of this letter. If you have questions regarding the enclosure or are unable to meet the requested response date, please call me at (301) 415-3045, or e-mail me at vlr@nrc.gov.

Sincerely,

(Original Signed By)

Ver[illegible] L. Rooney, Senior Project Manager
Project Directorate I-3
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Docket No. 50-271

Enclosure: Request for Additional Information

cc w/encl: See next page

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

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Vernon L. Rooney, Senior Project Manager
Project Directorate I-3
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cc w/encl: See next page

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REQUEST FOR ADDITIONAL INFORMATION REGARDING THE ADEQUACY OF THE DELAYED OFFSITE POWER CIRCUIT VERMONT YANKEE NUCLEAR POWER STATION

The U.S. Nuclear Regulatory Commission recently performed a review of offsite power system designs for older operating plants as a result of lessons learned from the Maine Yankee Independent Safety Assessment. The review was conducted to verify the adequacy of delayed offsite power circuits. In particular, the staff was concerned with plants that rely upon main and unit auxiliary transformers to backfeed power to the onsite distribution system by removing the disconnect links between the main generator and the main transformer. This review identified Vermont Yankee as a plant that included this feature.

Vermont Yankee was licensed with only one immediately available offsite power circuit and a delayed offsite power circuit that relies on a backfeed through the main and unit auxiliary transformers. In order to establish this backfeed the main generator disconnect links must be removed. For a delayed offsite power circuit to be considered an acceptable source of offsite power, it must be shown that power can be reestablished in sufficient time to prevent fuel design limits and design conditions of the reactor coolant pressure boundary from being exceeded. The Vermont Yankee Final Safety Analysis Report (FSAR) does not state how long it is expected to take to establish the backfeed, and the staff could not find any documentation on the docket to indicate that Vermont Yankee has performed an analysis to demonstrate the adequacy of this delayed offsite power circuit.

The staff is concerned that Vermont Yankee may not have performed an analysis to demonstrate the adequacy of its delayed offsite power circuit. In order to resolve this concern, please respond to the following questions:

1. Has Vermont Yankee Nuclear Power Corporation (VYNPC) performed an analysis to demonstrate that the delayed offsite power circuit can be established in sufficient time to prevent fuel design limits and design conditions of the reactor coolant pressure boundary from being exceeded? If so, provide a summary of the analysis and any conclusions (e.g., adequacy of time limits and voltages, etc.).

2. Does VYNPC have procedures in place for implementing the delayed offsite power circuit when needed, and has VYNPC ever tested its capability to backfeed power within an allowable time limit? If so, how often are operators trained on using the procedures and how long does it take to establish the backfeed?

3. It appears that Vermont Yankee FSAR and Technical Specifications (TSs) are taking credit for the Vernon Hydro line as a second delayed offsite power circuit. Describe the analysis and acceptance criteria used by VYNPC to determine that the Vernon Hydro line is acceptable as an offsite power source in view of the fact that it is used as an alternate ac power source for Station Blackout.

4. Explain why the TSs only require one start-up transformer to be operable in order to startup and operate Vermont Yankee. This TS appears to be deficient since it allows Vermont Yankee to operate indefinitely without

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an immediate source of offsite power available to one division of engineered safeguards equipment.

5. The staff noted that TSs do not contain surveillance requirements regarding the delayed offsite power circuit. Explain how Vermont Yankee periodically verifies its ability to establish offsite power within a specified time limit using the main and unit auxiliary transformers.