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

April 16, 1992

Docket No. 50-271

Mr. L. A. Tremblay
Senior Licensing Engineer
Vermont Yankee Nuclear Power Corporation
580 Main Street
Bolton, Massachusetts 01740-1398

Dear Mr. Tremblay:

SUBJECT: ARI DIVERSITY ISSUE AT VERMONT YANKEE (TAC NO. M82055)

In your letter of March 20, 1991, you stated that Vermont Yankee plans to install additional equipment which will provide diverse actuation of the Alternate Rod Injection (ARI) for the reactor low-low level signal, however, the high pressure channels will not be modified because you believe that the high neutron flux scram signal provides the required diversity for the high reactor pressure ARI initiation signal. The staff reviewed your submittal and found the proposed modification of the low-low level channels is acceptable. However, the staff did not agree that the high neutron flux scram signal in the existing reactor trip system would be sufficient to meet the ATWS Rule diversity requirement. By letter dated November 14, 1991, the staff stated that you should modify your design to comply with the rule or request an exemption.

By letter dated January 17, 1992, you requested an exemption from the diversity requirements of 10 CFR 50.62(c)(3) for both the reactor vessel level and the reactor pressure channels. The basis for the exemption is that the Vermont Yankee's Rosemount trip units are located in an area subject to harsh environment, such that a one-for-one replacement with GE trip units is not possible. Compliance with the staff's position would result in undue hardship on Vermont Yankee due to costs and manhour expenditures which are significantly higher than other BWR plants.

According to your submittal dated March 20, 1991, Vermont Yankee had upgraded the trip units in 1980 from the Rosemount 510 series trip units to the Rosemount 710 series trip units. Based on the information available to the staff from other utilities, it is the staff's understanding that the Rosemount 710 series trip units have been used by most utilities. It became the standard product line of the Rosemount Trip Units for nuclear plant application. GE started their trip unit design in 1982 and intended it to be interchangeable to the Rosemount 710 series trip unit. The GE trip units were equivalent to the Rosemount 710 series trip units in that the same qualifications and standards were met. If the Rosemount 710 series trip units can be qualified for Vermont Yankee's application, the staff believes that the GE trip units also can be qualified.

You cited a reference to NRC's approval of the exemption from Oyster Creek on a similar case. The staff would like to point out that the situation is different for Oyster Creek because (1) the Oyster Creek ARI system pressure channels used the Rochester instruments for trip units which are diverse from the reactor trip system, and (2) the cost would be much higher to implement fully diverse level channels for the ARI system, with new dedicated transmitters, new associated electronic components and new cabinets.

Based on the review of your submittals, the staff concludes that you have not demonstrated that to implement the ARI diversity requirements would result in undue hardship or other costs that are significantly in excess of those contemplated when the regulation was adopted. Therefore, your request for exemption from ARI system diversity requirements is denied.

Sincerely,

original signed by

Patrick M. Sears, Project Manager
Project Directorate 1-3
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

cc: See next page

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*See previous concurrence

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Vermont Yankee

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