Telephone 617 366-9011
TWX
710-390-0739

# YANKEE ATOMIC ELECTRIC COMPANY

B.3.2.1
WYR 79-140

20 Turnpike Road Westborough, Massachusetts 01581

November 16, 1979

United States Nuclear Regulatory Commission
Washington, D.C. 20555

Attention: Office of Nuclear Reactor Regulation
Mr. Dennis L. Ziemann, Chief
Division of Operating Reactors

References:
(1) License No. DPR-3 (Docket No. 59-29)
(2) USNRC letter to all power reactors, dated August 8, 1979
(3) YAEC letter to USNRC, dated October 27, 1979
(4) YAEC letter to USNRC, dated November 1, 1979

Dear Sir:

Subject: Voltage Regulator Installation

As requested in Reference (2), we have been reviewing the electric power systems at the Yankee Nuclear Power Station (Yankee Rowe) to determine if the offsite power system and the onsite power distribution system is of sufficient capacity to automatically start and operate all safety loads, assuming that all onsite power systems are not available.

Reference (3) reported that our studies found a potential problem when Yankee Rowe was operating with certain bus tie breakers closed. Based on preliminary computer studies, we had found that if the grid voltage was at the minimum expected value (95% of 115 kV), and if the plant was operating with the center buses tied to offsite power, the offsite power system and the onsite distribution system may not have been capable of providing the required voltage level at the safety related buses in the event of the receipt of a Safety Injection Actuation Signal.

Reference (4) provided details of the problem and proposed interim operating procedures which would assure that safety-related buses were supplied with adequate voltage at all times. In Reference (4) we stated that the preliminary computer studies would be confirmed. If the problem was still present, we would immediately proceed with permanent engineering modifications.

We have since verified our computer results and have confirmed the above mentioned potential problem. A meeting was held with NRC staff on November 8, 1979 at Bethesda, Maryland to discuss our proposed modifications. At that meeting we proposed to install voltage regulators on the secondary side of the 115/2.4 kV station service transformers.

1367 185

A015
1/0

7911200 514

This letter is to inform you that we are presently proceeding with the engineering and installation of a 3-phase bank of voltage regulators on the secondary side of 115/2.4 kV station service transformers No. 2 and No. 3. The voltage regulators will provide plus or minus 15 percent regulation on the secondary voltage of the station service transformers. The 3-phase regulator banks will be pad mounted and will each be connected to the secondary bushings of the station service transformer on one side, and to the non-segregated phase bus duct which feeds 2400 volt bus on the other side.

The voltage regulators will maintain a fixed load side voltage with a variation of source side voltage. Our computer studies have verified that the addition of voltage regulators capable of regulating a plus or minus 10 percent voltage variation, will provide satisfactory voltage at the safety related loads when the grid operates within its normal voltage range.

As discussed at our meeting, we are presently making every effort to have this equipment installed and operational by December 2, 1979. Work on the voltage regulator foundations is scheduled to begin on November 16 and the voltage regulators and other accessories should be delivered by November 21. Engineering is progressing simultaneously.

We have alerted the system dispatchers at REMVEC (Rhode Island, Eastern Massachusetts, and Vermont Energy Control) of this potential problem at Yankee Rowe. In the event that Yankee Rowe is off the line before this modification is installed and is in the process of starting up or shutting down, the REMVEC dispatchers will attempt to maintain adequate voltage at Yankee Rowe. Furthermore, should there be an indication of impending voltage degradation during this mode of operation, the dispatchers will notify Yankee Rowe accordingly.

We trust that you find this information satisfactory; however, should you desire additional information, please contact us.

Very truly yours,

YANKEE ATOMIC ELECTRIC COMPANY

R. H. Groce

R. H. Groce
Senior Engineer
Licensing

PRJ/jgh

cc: I&E Region 1