MAINE YANKEE ATOMIC POWER COMPANY •

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July 18, 1985
MN-85-134

GDW-85-199

Director of Nuclear Reactor Regulation
United States Nuclear Regulatory Commission
Washington, D. C. 20555

Attention: Mr. Edward J. Butcher, Jr.
Acting Branch Chief
Operating Reactors Branch No. 3
Division of Licensing

References:
(a) License No. DPR-36 (Docket No. 50-309)
(b) USNRC Letter to MYAPCo, dated June 8, 1983
(c) MYAPCo Letter to USNRC, dated December 19, 1983 (MN-83-249)
(d) USNRC Letter to MYAPCo, dated May 25, 1984
(e) MYAPCo Letter to USNRC, dated October 11, 1984 (MN-84-176)
(f) MYAPCo Letter to USNRC, dated October 29, 1984 (MN-84-175)
(g) USNRC Letter to MYAPCo, dated March 20, 1985

Subject: Maine Yankee Offsite Power Supplies

Gentlemen:

At a meeting held on May 8, 1985, between representatives of Maine Yankee and the staff, the open items contained in Reference (g) were discussed. The purpose of this letter is to document the results of that meeting.

NRC Open Item

Based on our review of the APSV study and your letters dated October 11 and October 29, 1984 we find that you have:

(a) No plans to demonstrate the actual capacity of these lines at the refueling outage.

Maine Yankee Resolution

In accordance with the staff's recommendation, Maine Yankee will perform the following test during each refueling outage. Maine Yankee will power the plant auxiliary loads from only the Suroweic 115 kV line and measure the Maine Yankee 115 kV switchyard voltage using installed instrumentation.

1. Maine Yankee will develop a testing procedure by August 30, 1985. Testing will be completed prior to start up after the 1985 refueling outage.

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NRC Open Item

(b) Provided no data to validate your APSV study.

Maine Yankee Resolution

Validation of the load flow program and model used for the APSV study will be provided in two parts for simplicity. The first part addresses the on-site portion of the computer model and the second part addresses the off-site portion of the computer model.

- On-Site Computer Model

  Yankee Atomic Electric Company Report #YAEC-1204, the predecessor of the APSV study provided the staff with two validations of the load flow program and the on-site portion of the computer model. A copy of the validation data contained in YAEC-1204 (Table 5.1) is provided as an enclosure to this letter.

  The YAEC-1204 validations consisted of recording auxiliary power system data while the plant was operating and then using that data with the load flow program and the on-site computer model to predict specific bus voltages. The enclosed results (Table 5.1) show that the deviations between the actual and predicted bus voltages are minimal.

- Off-Site Computer Model

  Validation of the off-site portion of the computer model has been achieved through data provided by the Voltage Schedules and Reactive Dispatch Task Force (VSRDTF) of the New England Power Exchange (NEPEX). NEPEX, the control center of the New England Power Pool (NEPOOL), is responsible for reliable and economic operation of NEPOOL generation and transmission facilities.

  The VSRDTF is charged with the responsibility of ensuring that adequate voltage is available at all nuclear power plants in the New England area. Consequently, comprehensive analyses have been performed to determine the minimum Maine Yankee switchyard voltage for "worst case" conditions. The results of these analyses predict a Maine Yankee switchyard voltage of 110.6 kV when the Mason 115 kV line is out of service and the maximum auxiliary power system load is transferred to the Suroweic 115 kV line alone. The minimum Maine Yankee switchyard voltage calculated by the APSV study is 110.0 for the same plant conditions. It is clear from this data that the APSV results are valid. Although the APSV study results have been validated, Maine Yankee plans to use the VSRDTF data for future APSV studies because it is considered extremely accurate, more comprehensive and it is continually updated.

Maine Yankee plans to update our computer models as needed to reflect plant and distribution system changes once per cycle.

2. Accordingly, by August 30, 1985, Maine Yankee will implement a program for review and updating, as appropriate, of our voltage system computer models. The purpose of this program is to periodically verify the adequacy of Maine Yankee's station service power systems.

NRC Open Item

(c) Accomplished only 2.5% of the proposed 5% tap settings on the reserve service transformer (X-14) during recent refueling due to misinterpretation of the service order.

Maine Yankee Resolution

3. Maine Yankee will complete the tap setting change during the 1985 refueling outage.

Until that time, the interim auxiliary power system precaution provided to the plant operators will remain in effect to compensate for the incomplete tap change.

Very truly yours,

MAINE YANKEE ATOMIC POWER COMPANY

G. D. Whittier, Manager
Nuclear Engineering & Licensing

GDW/bjp

Enclosure

cc: Dr. Thomas E. Murley
Mr. Cornelius F. Holden

Table 5.1

Predicted Voltage Vs. Measured Voltage

Verification #1 - December 6, 1979 - 0400 hours

Bus	Predicted Voltage (Volts)	Measured Voltage (Volts)	Percent Deviation (Percent)
6900 volt bus 1	6762	6800	-.56
6900 volt bus 2	6762	6800	-.56
4160 volt bus 3	4147	4250	-2.42
4160 volt bus 4	4147	4300	-3.56
4160 volt bus 5	4147	4200	-1.26
4160 volt bus 6	4147	4250	-2.42
480 volt bus 7	470	467	+.64
480 volt bus 8	471	466	+1.07

Verification 21 - December 8, 1979 - 1200 hours

Bus	Predicted Voltage (Volts)	Measured Voltage (Volts)	Percent Deviation (Percent)
6900 volt bus 1	6731	6800	-1.01
6900 volt bus 2	6731	6800	-1.01
4160 volt bus 3	4131	4230	-2.34
4160 volt bus 4	4131	4280	-3.48
4160 volt bus 5	4131	4200	-1.64
4160 volt bus 6	4131		-1.64
480 volt bus 7	468	462	+1.30
480 volt bus 8	468	466	+.43