

YANKEE ATOMIC ELECTRIC COMPANY

B.3.2.1
WYR 80-78



20 Turnpike Road Westborough, Massachusetts 01581

July 9, 1980

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

Attention: Mr. Dennis M. Crutchfield, Chief
Operating Reactors Branch #5
Division of Licensing

Reference: (a) License No. DPR-3 (Docket No. 50-29)
(b) USNRC Letter to YAEC dated January 1, 1980

Subject: Anchorage and Support of Safety-Related Electrical Equipment

Dear Sir:

We have completed our review of the anchorage systems for the safety-related electrical equipment identified in Attachment 1. Positive anchorage does exist for all of the components listed, except for the batteries which were found to be free standing on their racks. Since Yankee did not originally have any seismic requirements, none of these anchorages were engineered for seismic loads and the quality of some of these anchorages (particularly stitch and plug welds to embedded steel) is not documented.

No free standing nonseismic auxiliary items (dolleys, gas bottles, etc.) were observed during our plant inspection. Information Notice 80-21 coupled with our site investigation has heightened our awareness about leaving such items around when not in use.

After completing our as-built survey we analyzed the anchorages which we felt were questionable and have satisfied ourselves they do indeed have capacity to resist reasonable seismic accelerations.

For the batteries, we will assume an acceleration in order to engineer and install a positive anchorage system. This will be done prior to startup. The remainder of the anchorages will be verified and, if required, modified as part of our SEP program once floor amplified response spectra (ARS) are developed next spring. At that time we plan to use a static analyses method similar to that described in section 5.3 of IEEE 344-1975 to determine the anchorage demands. If the frequency of the equipment is unknown, the seismic response of the equipment will be assumed to be the peak of the appropriate ARS curve, with the corresponding 1.5 increase factor required for static analysis.

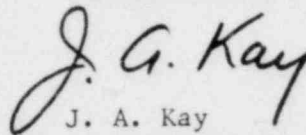
Insofar as the internals of cabinets or electrical/instrument panels are concerned, it is our position that the components will be qualified independently. As part of the equipment qualification program proper anchoring of control room and instrument cabinets mitigates loss of control room panel or instrument panel functions should a seismic event occur. Proper anchoring retains the design rigidity of the cabinet and ensures continued functionality of the system. Due to the single failure design of the plant, a failure of a component within a control room panel or instrument panel would not prevent the plant from shutting down safely.

A visual inspection of overhead cable trays revealed no onerous support configurations. The SEP Owners Group is presently studying the cable tray program generically. We are evaluating the results of completed test programs and proposals for recommended programs. We expect to be prepared to discuss the SEP Owners Group approach with the NRC, SEP and seismic staff by July 15, 1980.

We trust this information is satisfactory; however, if you have any questions, please contact us.

Very truly yours,

YANKEE ATOMIC ELECTRIC COMPANY



J. A. Kay

Senior Engineer - Licensing

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ATTACHMENT 1

List of Safety-Related Electrical Equipment

480 Volt Emergency Bus 1
480 Volt Emergency Bus 2
480 Volt Emergency Bus 3

480 Volt Emergency Motor Control Center 1
480 Volt Emergency Motor Control Center 2

125 Volt D.C. Battery 1
125 Volt D.C. Battery 2
125 Volt D.C. Battery 3

Battery Charger - MG Set 1
Battery Charger - MG Set 2
Battery Charger 3

125 Volt Distribution Switchboard 1
125 Volt Distribution Switchboard 2
125 Volt Distribution Switchboard 3, 3B
125 Volt Distribution Switchboard 3A

Diesel Generator 1
Diesel Generator 2
Diesel Generator 3

Diesel Generator Control Panel 1
Diesel Generator Control Panel 2
Diesel Generator Control Panel 3

Manual Throwover Switch 1
Manual Throwover Switch 2

LPSI Pump 1
LPSI Pump 2
LPSI Pump 3

HPSI Pump 1
HPSI Pump 2
HPSI Pump 3

Main Control Room Board and Panels

Vital Bus Inverter