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

JUL 28 1980

Docket No. 50-155

Mr. David P. Hoffman
Nuclear Licensing Administrator
Consumers Power Company
212 West Michigan Avenue
Jackson, Michigan 49201

Dear Mr. Hoffman:

SUBJECT: ANCHORAGE AND SUPPORT OF SAFETY RELATED ELECTRICAL EQUIPMENT

References: 1. Letter from D. Eisenhut to SEP Licensees, dated January 1, 1980

2. Letter from R. Schaffstall to D. Crutchfield, dated July 3, 1980

Reference 1 identified a potential safety concern relative to the anchorage and support of safety related electrical equipment and requested that you initiate a program to resolve this issue including the installation of any required modifications by September 1, 1980. Reference 2 describes a program which was developed by the Systematic Evaluation Program Owners Group in response to comments made by members of the NRC staff at a May 14, 1980 meeting in Bethesda. As a result of your comments and our review of Reference 2, we are providing additional guidance to you as indicated in the Attachments.

Attachment 1 provides guidance as to the expected scope of your investigations and information which should be documented for our review. A suggested format for this documentation is provided in Attachment 2. Due to the lack of clarification relative to certain requirements of Reference 1 and in particular the issue of support of internally attached electrical components, we will permit an extension until December 31, 1980 for completion of this program. This shall include the installation of any modifications which may be required as a result of your investigations. Any modifications shall be made in accordance with 10 CFR 50.59 of the Commission Regulations. We request that formal documentation summarizing your program be submitted to this office by December 31, 1980.

Existing plant floor response spectra or floor response spectra computed or estimated from the NRC Site Specific Spectra Program are acceptable

for use in your evaluation. The conservatism of these loadings shall be verified when the final floor response spectra are available.

Sincerely,

Thomas V. Wambach

for Dennis M. Crutchfield, Chief
Operating Reactors Branch #5
Division of Licensing

Attachments:
As stated

cc w/attachments:
See next page

Mr. David P. Hoffman

cc
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ATTACHMENT 1
ANCHORAGE AND SUPPORT OF SAFETY RELATED ELECTRICAL EQUIPMENT POINTS TO BE ADDRESSED BY SEP LICENSEES IN DECEMBER 31, 1980 SUBMITTAL

1. Information should be provided not only for the anchorage of electrical equipment but also the entire support that provides a load path (such as bracing and frames), as well as support for internally attached components. The latter is especially important for cabinet or panel type electrical equipment (such as control panels, instrument panels, etc.) which has internally supported components. An example of a potential improperly supported internal component would be a heavy component cantilevered off a front sheet metal panel without additional support to a stronger and stiffer location. These inadequate supports for internal components also should be identified and corrected before December 31, 1980.

2. In order to verify that an anchorage or a support of safety related electrical equipment has adequate capacity, provide justification by test, or analytical means. If expansion anchor bolts exist, justification provided previously for IE Bulletin 79-02 can be utilized if applicable. The acceptance criteria for substantiating these judgements should be provided, this may involve specifying the factor of safety and allowable stress limits used for design and justifying the overturning moment and shear force used.

3. Provide a table listing all (to include both floor and wall mounted) safety related electrical equipment in the plant. For each piece of equipment provide the information described in the attached table (attachment 2).

   These investigations of each piece of equipment should determine:

   a. Whether positive anchorage or support exists

   b. The type of anchorage

   c. Whether internally attached components are properly supported

   d. Identify non-seismic Category I equipment, the dislodgement of which during an earthquake may be detrimental to safety related equipment and render them inoperable. Inspection of the anchorages of such non-seismic Category I equipment should be conducted. If positive anchorages do not exist, they should be identified and modified before December 31, 1980.

4. Wherever modifications of anchorages or supports are required, these modifications should be implemented and thoroughly documented.

5. The seismic design of cable trays may be treated as a separate problem, because of its complexity. Each licensee or the SEP Owner's Group should provide a separate action plan for the resolution of this issue within 30 days of receipt of this letter.

ATTACHMENT 2
SUMMARY OF INVESTIGATION OF ANCHORAGE AND SUPPORT OF
SAFETY RELATED ELECTRICAL EQUIPMENT AND NON-SEISMIC CATEGORY I
ITEMS THAT MAY DAMAGE THIS EQUIPMENT

| Equip. Name | Equip. ID | System in Which Installed | Location Bldg. & Elev. | Type of Anchorage* | Was Anchorage Modified Since Jan. 1, 1980 | Internally Attached Components | | | Non-Seismic Cat I Items that could potentially Interact with this equip. | | | I.D. of Document Supporting Conclusion |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Equip. Name & ID | Type of Support | Was Support Evaluated | Name & ID | Type of Support | Was Support Evaluated | |
| | | | | | | | | | | | | |

*Examples of Type of Anchorage:
1. Bolted to Equipment
2. Bolted to Concrete Wall
3. Bolted to Concrete Slab
4. Bolted to Block Wall
5. Welded to Embedded Channel