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50-353

August 5, 1983

Mr. A. Schwencer, Chief
Licensing Branch No. 2
Division of Licensing
U. S. Nuclear Regulatory Commission
Washington, D.C. 20555

Subject: Limerick Generating Station, Units 1 & 2
Structural and Geotechnical Engineering
Branch (SGEB) Open Item

Reference: Telephone Conference between NRC SGEB Reviewer
and Philadelphia Electric Company on
August 3, 1983

File: GOVT 1-1 (NRC)

Dear Mr. Schwencer:

The attachment provides information requested by the Structural and Geotechnical Branch Reviewer during the referenced telecon.

Sincerely,

Eugene J. Bradley

JTR/gra/72

Attachment

Copy to: See Attached Service List

B001
1/1

cc: Judge Lawrence Brenner (w/enclosure)
Judge Richard F. Cole (w/enclosure)
Judge Peter A. Morris (w/enclosure)
Troy B. Conner, Jr., Esq. (w/enclosure)
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Atomic Safety and Licensing Appeal Board (w/enclosure)
Atomic Safety and Licensing Board Panel (w/enclosure)
Docket and Service Section (w/enclosure)

Supplemental Information on Cable Tray Damping Values

The following discussion supplements the discussion of Electrical Raceway Damping Valves transmitted via letter from J. S. Kemper to A. Schwencer dated July 27, 1983 and provides additional justification for the use of a 10% damping valve for cable tray systems:

1. Bechtel Power Corporation test results (FSAR Reference 3.7-7) show that cable tray damping values of up to 50% of critical were experienced. Based on those test results, the referenced report recommended using a conservative damping value of 20%. Since Limerick used a valve of only 10%, a considerable margin of reserve stress capacity exists between the stresses which would result using the damping values determined by the test program and the stresses when the 10% value actually used in the Limerick stress analysis is employed.

2. Additional margin exists in the design of the cable tray supports. Based on a random sample of cable tray supports, conservatively assuming peak accelerations, fully loaded tray and using enveloping response spectra, 95% of the cable tray supports have greater than 5% stress margin. It should be noted that most cable trays as installed at Limerick are not fully loaded. In addition, standard LGS cable tray supports are designed using enveloping response spectra which represent a worst case for all Class I structures. Therefore, supports installed in any but the few critical enveloping building locations have an additional layer of conservation because they have been designed for accelerations substantially higher than those calculated for their locations.

3. Based on the above discussion, even if a 7% damping value were used for a reanalysis, very few of the existing cable tray supports would have the potential for exceeding their design allowables. Since in these few cases there would be a redistribution of loads to other members, no cable tray supports would be expected to be unable to continue to perform a support function.

JTR/gra/73