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MIDDLE SOUTH UTILITIES SYSTEM

December 7, 1984

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Director of Nuclear Reactor Regulation
Attention: Mr. G. W. Knighton, Chief
Licensing Branch No. 3
Division of Licensing
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Subject: Waterford 3 SES
Docket No. 50-382
BASEMAT MONITORING AND CONFIRMATORY ANALYSES

Dear Mr. Knighton:

Two areas have been identified by the NRC Staff as requiring LP&L action with regards to the issue of cracks in the Nuclear Plant Island Structure Common Foundation Basemat. This letter defines the required actions and provides commitments for completion of these actions.

The NRC Staff filings with the Atomic Safety and Licensing Appeal Board have indicated the need for a monitoring and surveillance program and confirmatory analyses. LP&L will submit to the NRC Staff, prior to exceeding 5% power, a monitoring and surveillance program for the basemat. Following NRC Staff review and approval, LP&L will not modify the program without prior approval of the NRC Staff. This program will address, at a minimum, the following elements:

1. settlement of the basemat

2. changes in ground water chemistry that could effect corrosion of reinforcing steel

3. seasonal variation in ground water levels

4. mapping of significant cracking in the basemat and adjacent walls.

Prior to exceeding 5% power, LP&L will submit for NRC staff review and approval a detailed commitment to perform confirmatory analyses for the basemat. The commitment will address the following elements:

1. dynamic coupling between the reactor building and the base mat for seismic stresses resulting from the vertical earthquake input

2. dynamic effects of lateral soil/water loadings

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3. artificial boundary constraints in finite elements models

4. fineness of base mat element mesh

5. origin of cracks in the vertical walls.

These confirmatory analyses will be submitted for review by the NRC Staff prior to restart after the first refueling cycle.

If you need further information regarding these commitments please contact me.

Very truly yours,

K.W. Cook

K.W. Cook
Nuclear Support & Licensing Manager

KWC:sms

cc: R.D. Martin, NRC-Region IV
D.M. Crutchfield, NRC-NRR
J.H. Wilson, NRC-NRR
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