MISSISSIPPI POWER & LIGHT COMPANY
Helping Build Mississippi
P. O. BOX 1640, JACKSON, MISSISSIPPI 39205

December 15, 1981

NUCLEAR PRODUCTION DEPARTMENT

U. S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Washington, D. C. 20555

Attention: Mr. Harold R. Denton, Director

Dear Mr.

SUBJECT: Grand Gulf Nuclear Station
Units 1 and 2
Docket Nos. 50-416 and 50-417
File 0260/L-814.1/M-001.0
Response to Audit of Seismic
Qualification Review Team
AECM-81/483

Mississippi Power & Light Company (MP&L) is providing the following responses addressing the questions raised by the Seismic Qualification Review Team (SQRT) during the audit of Grand Gulf Nuclear Station (GGNS) held on July 28-30, 1981. These questions were identified as open items in the SQRT trip report, an internal NRC document, Chang to Rosztoczy, dated October 22, 1981. This report was provided informally to MP&L.

This submittal represents follow-up information to that previously submitted to the NRC by MP&L letter AECM-81/391, dated October 9, 1981.

1. Concern:

Provide a comparison of fatigue on seismically qualified BOP equipment.

Response:

The comparison for BOP equipment is provided as Attachment 1.

2. Concern:

Provide assurance that retesting and redesign on Limitorque Motor Operators for the hydrodynamic loading is completed prior to fuel load. Provide confirmation when retesting, redesign, and installation have been completed.

Response:

The only Limitorque actuators requiring modification for seismic consideration are the SMB/HBC models mounted on butterfly valves and subject to hydrodynamic loads. Limitorque test report No. B0084 (includes ACTON LAB report No. 15780) indicates special high frequency brackets were installed prior to testing to replace the stock bracket which connects the motor and gear box.

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The test consisted of a resonance search at 0.75g (2 octaves/minute) and a multi-frequency biaxial vibration test to envelope a required response spectrum to 6g in 2.5 Hz and continuous 6g through 100 Hz with 5% damping (30 sec/level).

The actuators performed properly through all natural frequencies. All modification brackets are at GGNS with 50% installed and the remaining 50% to be installed prior to fuel load.

The Limitorque actuators for gate and globe valves did not require modification and successful hydrodynamic loads vibration testing is documented in Limitorque test report No. B0085 (includes ACTON LAB report No. 15780-1).

3. Concern:

For the control room panel (Model No. H13-P601), provide a response to the operational/integrity concerns identified in the NRC SQRT trip report dated October 22, 1981.

Response:

A discussion of Control Room Panel H13-P601 is provided as Attachment 2.

4. Concern:

The motor and fan support channels for the Farr Company 40 MW fans must be modified to reduce flexibility in the horizontal direction.

Response:

Additional structural members will be placed perpendicular to the existing channels. These new members will then be welded to the existing channels. This modification ensures that there will be no natural frequencies below 33 Hz. Since the higher frequency response has never been a concern, this modification will result in complete qualification of the fans.

The design of this modification and supporting analysis is expected to be completed by December 24, 1981. The required modification will be implemented prior to fuel load.

5. Concern:

The mounting plate for the solenoid valve, Q1Z77-F002A (switchgear and battery room ventilation system), must be modified to reduce the flexibility in the mounting plate. This flexibility might, during a seismic event, impact against a nearby air-actuator thereby introducing an unanticipated loading for which the solenoid has not been qualified.

Response:

The flexibility will be removed by stiffening the existing plates or by replacing the existing plates with more rigidly designed plates. Regardless of the final design, the result will be such that the solenoid plates will be sufficiently rigid to prevent impact with the air-actuators.

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The design of this modification and supporting analysis is expected to be completed by December 24, 1981. The required modification will be implemented prior to fuel load.

6. Concern:

Several problems were encountered during qualification of the Reactor Core Isolation Cooling (RCIC) turbine. The mounting studs loosened after several OBE runs. During retesting at a lower g level, a turbine trip occurred due to mounting bolts loosening. Excessive deflection of the lube oil piping was also observed so additional restraint was provided for the lube oil piping to complete the test.

Therefore, seismic qualification of the RCIC turbine is delayed pending resolution of the items mentioned above.

Response:

The concerns noted above are addressed in a General Electric Field Disposition Instruction (FDI). This FDI is provided for your review as Attachment 3. Upon completion of the work proposed by the FDI, the RCIC turbine will be in complete compliance of SQRT qualification. This work will be completed prior to fuel load.

7. Concern:

The applicant is committed to provide documentation describing what means or procedure will be used to assure that the fuel transfer tube closure is closed and latched during reactor operation.

Response:

The GGNS Technical Specifications require verification that the horizontal fuel transfer tube closure, which is part of the horizontal fuel transfer system (F11-E015), is closed every 31 days during power operation. This requirement is provided for under 4.6.1.1 of the GGNS Technical Specifications. To comply with this GGNS Technical Specification requirement, surveillance instructions are in place to perform this verification.

If you have any questions or require further information, please contact this office.

Yours truly,

L. F. Dale
Manager of Nuclear Services

JHS/JGC/JDR:ph

Attachments:
1. Fatigue Analysis for BOP Equipment
2. Discussion of Control Room Panel H13-P601
3. Field Disposition Instruction

cc: (See Next Page)

cc: Mr. N. L. Stampley (w/a)
Mr. R. B. McGehee (w/a)
Mr. T. B. Conner (w/a)
Mr. C. B. Taylor (w/a)

Mr. Richard C. DeYoung, Director (w/a)
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