



MISSISSIPPI POWER & LIGHT COMPANY

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NUCLEAR PRODUCTION DEPARTMENT

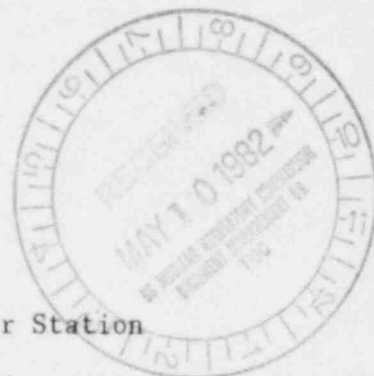
May 7, 1982

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

Attention: Mr. Harold R. Denton, Director

Dear Mr. Denton:

SUBJECT: Grand Gulf Nuclear Station
Units 1 and 2
Docket Nos. 50-416 and 50-417
File 0260/0862/L-350.0
Response to SER Item 1.9(5)
AECM-82/195



Mississippi Power & Light Company (MP&L) is submitting the enclosed information in support of the Grand Gulf Nuclear Station (GGNS) Safety Evaluation Report (SER), NUREG-0831. This information provides clarification in response to the SER outstanding issue, Item 1.9(5), regarding the technique employed in the Grand Gulf design for combining dynamic loads.

For the balance-of-plant scope, dynamic responses resulting from loss-of-coolant accident (LOCA) and safe shutdown earthquake (SSE) for GGNS have been combined using "square root of the sum of the squares" (SRSS) method. Dynamic responses other than those of LOCA and SSE have been combined using absolute sum method. For the nuclear steam supply system scope, all dynamic responses have been combined using the absolute sum method. Should future analysis warrant the use of SRSS for combining dynamic responses, MP&L reserves the option to utilize the topical report generated by Structural Mechanics Associates (Report #SMA 12109.01-R001, dated November, 1981) on behalf of the Mark III containment owner's subgroup on SRSS.

The enclosed information represents proposed changes or clarifications to Question 110.35 and MEB DSER 3.9.3-2 of the GGNS Final Safety Analysis Report (FSAR). These proposed FSAR changes along with other revisions to applicable portions of FSAR Section 3.9 will be incorporated into the next available amendment to the FSAR.

Regarding revisions to the Grand Gulf FSAR, the last FSAR amendment scheduled prior to the projected fuel load has been submitted (Amendment 55, April 19, 1982). Thus, the incorporation of any proposed FSAR revisions, as indicated in the attachments, will be made pending agreement between MP&L and NRC Project Management on the appropriate procedures required for post-operating license FSAR amendments.

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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:lm
Attachments

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

Mr. Richard C. DeYoung, Director (w/a)
Office of Inspection & Enforcement
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Mr. J. P. O'Reilly, Regional Administrator (w/a)
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110.35 For reactor coolant pressure boundary components and supports,
(3.9.3) we have accepted the use of the square root of sum of squares methodology for combining dynamic responses resulting from LOCA and SSE. This acceptance is documented in NUREG-0484 "Methodology for Combining Dynamic Responses." At this time, we have not accepted the use of SRSS for combining responses from other combinations of dynamic loads and for other components and supports. Our review of the SRSS methodology is continuing and we are concentrating on the proposed Kennedy-Newmark criteria, which is being proposed by the Mark II Owner's Group. The eventual outcome is expected to establish our position and criteria for general acceptance of response combination using SRSS methods.

We request that you provide in the FSAR a specific listing of all combinations of dynamic loads and all components for which combination of dynamic responses by the SRSS method is proposed. The listing should specifically include such loads as OBE inertia loads, OBE anchor point movement loads, SRV loads, turbine stop valve closure loads, Mark III containment hydrodynamic vibratory loads, SSE loads, and LOCA loads (including annulus pressurization).

RESPONSE

Loading events have been combined as shown in our response to Question 110.34. For the balance-of-plant scope, LOCA and SSE loadings have been combined using the SRSS method. This has been approved as documented in NUREG-0484 "Methodology for Combining Dynamic Responses", Revision 1. Dynamic responses other than those of SSE and LOCA have been added using the absolute sum method. For the nuclear steam supply system scope, all dynamic responses have been combined using the absolute sum method.

Should future analysis warrant the use of SRSS for combining dynamic responses, MP&L reserves the option to utilize the topical report generated by Structural Mechanics Associates (Report #SMA 12109.01-R001, dated November, 1981) on behalf of the Mark III containment owner's subgroup on SRSS. This report has been submitted to and is under review by the NRC.

DSEER 3.9.3-2 (MEB DSEER Page 21) Another open issue related to load combination is the applicant's method for combining peak responses to multiple dynamic loads. The applicant has used the "square root of the sum of the squares" method (SRSS) for all dynamic responses. Our position, as outlined in NUREG-0484, "Methodology for Combining Dynamic Responses," is that the SRSS method is acceptable for combining peak dynamic responses due to LOCA and SSE for the RCPB. For other dynamic loads and for other ASME Class 1, 2 and 3 components and supports, we are currently preparing a generic position which should be available in the near future.

RESPONSE

As stated in the revised response to Question 110.35, for the balance-of-plant scope, dynamic responses other than those of SSE and LOCA have been combined using the absolute sum method; also, for the nuclear steam supply system scope, all dynamic responses have been combined using the absolute sum method. However, Mississippi Power & Light Company (MP&L) is a participant in the Mark III containment owner's subgroup on SRSS, which has recently submitted to the NRC a topical report, Structural Mechanics Associates (Report #SMA 12109.01-R001, dated November, 1981), justifying the use of SRSS. MP&L believes that the SRSS methodology is an adequate design basis for dynamic load combinations; therefore, reserves the option to utilize this topical report should future analysis warrant the use of SRSS for combining dynamic responses.