



MISSISSIPPI POWER & LIGHT COMPANY

Helping Build Mississippi

P. O. BOX 1640, JACKSON, MISSISSIPPI 39205

PRODUCTION DEPARTMENT

April 9, 1980

U. S. Nuclear Regulatory Commission
Light Water Reactors Branch No. 2
Division of Project Management
Washington, D. C. 20555

ATTENTION: Mr. Thomas C. Houghton

Dear Mr. Houghton:

SUBJECT: Grand Gulf Nuclear Station
Dockets 50-416 and 50-417
Units 1 and 2
File 0272/0277/L-334.C
Confirmatory Piping Analysis
by NRC Consultant - Request
for Information
AECM-80/61

The letter from Mr. Robert L. Baer of February 14, 1980, requested information to support the confirmatory piping analysis of the #16 SRV discharge line being performed by Pacific Northwest Laboratory as part of the Grand Gulf operating license review.

Below are listed the specific requests from Mr. Baer's letter with a description of those items attached in response. Note that some items will be provided by separate letter.

1. Piping layout and isometric drawings sufficient to model the system--
 - a. Drawing 9645-SK-M-4004, Revision A, System Piping Isometric, Main Stream "C" SRV to Suppression Pool--Containment, Unit 1 (Attachment 1).
 - b. Specification 9645-MS-01, Revision 9, Grand Gulf Nuclear Station, Units 1 and 2, Valve Identification (Attachment 2).
2. Support drawings with support and hanger spring rates--
 - a. Support drawings will be provided by separate letter.
 - b. Spring rates are stated on drawing 9645-SK-M-4004, Revision A (1.a above).

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3. Piping design specification--
 - a. Applicable portions of piping design specification 9645-M-220.0, Revision 6, Design Specification for Nuclear Piping Systems for Mississippi Power and Light Company, Grand Gulf Nuclear Station, Units 1 and 2, Grand Gulf, Mississippi (Attachment 3).
 - b. Piping data is listed on drawing 9645-SK-M-4004, Revision A (1.a above).
4. Valve weights and CG's--

Drawing 9645-M-157.1-14006-01-H, Revision 5, 10 In. 300# W. E. Vacuum Breaker Valve (Attachment 4).
5. Appropriate response spectra--
 - a. Five dynamic load cases are provided (Attachment 5).
 - b. For each load case, information is provided at three or four elevations, as appropriate.
 - c. For each load case, an envelope of spectra at all appropriate elevations is also provided (Attachment 6).
6. Appropriate anchor point movements--

Information is provided on drawing 9645-SK-M-4004, Revision A, Assumption 1 (1.a above).
7. Any design change notices not yet incorporated into the piping or support drawings--
 - a. There are no outstanding design change notices, as of this date.
 - b. All subsequent design change notices applicable will be forwarded for your information.
8. Suppression pool drag loads necessary to analyze the submerged portions of the line--
 - a. Calculation 9645-8.8.16-Q, Revision A, Loads on Quencher Resulting from Air Clearing, Sheets 14 through 16 (Attachment 7).
 - b. This calculation gives the loads for a quencher that are imposed by the air clearing of an adjacent quencher. The air clearing of an adjacent quencher is the limiting load for the quencher when considered as a submerged structure. The case shown in the attached load sheets (8.a above) is for a situation where the quencher are located 16 degrees apart around the drywell circumference. There are

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other situations where the distance between quenchers is greater. These situations do not need to be addressed since the load on the adjacent quencher decreases with distance by the following relationship:

$$P = \frac{2P_B r_0}{r}$$

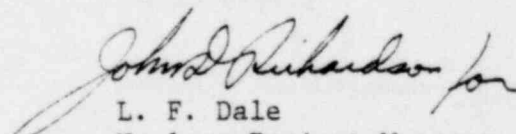
where r = distance between quenchers
r₀ = 4.87 feet
z = attenuated bubble pressure from one SRV at distance r
P_B = quencher bubble pressure

The loads identified do not contain any dynamic load factors. A factor, as noted below (9), will be used for the piping analysis.

9. Dynamic load factors necessary to analyze the submerged portions of the line--
The dynamic load factor that was used is provided on drawing 9645-SK-M-4004, Revision A, Assumption 2 (1.a above)
10. The relief valve time history has also been provided for your use (Attachment 8).
11. Drawings 9645-M-101.1-D-76-717, Revision 11, Main Steam Safety/Relief Valve Discharge Line Quencher and 9645-M-101.1-D-76-718, Revision 5, Miscellaneous Details have also been provided for your use (Attachments 9 and 10).

If you have any questions concerning the attached information or need further information, please advise. The points of contact within our supporting architect engineering organization, Bechtel Power Corporation, are Mr. M. J. David, Licensing, and Mr. H. M. Brooks, Licensing.

Yours truly,


L. F. Dale
Nuclear Project Manager

JGC/HMB:ts

Attachments: 1. Drawing 9645-SK-M-4004, Revision A
2. Specification 9645-MS-01, Revision 9

(Attachments continued on next page)

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Attachments

- Cont'd:
3. Applicable portions of specification 9645-M-220.0, Revision 6
 4. Drawing 9645-M-157.1-14066-01-H, Revision 5
 5. Response spectra
 6. Envelope of response spectra
 7. Calculation 9645-8.8.16-Q, Revision A, Sheets 14 through 16
 8. Relief valve time history
 9. Drawing 9645-M-101.1-A-76-717, Revision 11
 10. Drawing 9645-M-101.1-A-76-718, Revision 5

cc: Mr. N. L. Stampley
Mr. R. B. McGehee
Mr. T. B. Conner

Mr. Victor Stello, Jr., Director
Division of Inspection & Enforcement
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

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