



MISSISSIPPI POWER & LIGHT COMPANY

Helping Build Mississippi

P. O. BOX 1640, JACKSON, MISSISSIPPI 39215-1640

June 28, 1985

NUCLEAR LICENSING & SAFETY DEPARTMENT

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
License No. NPF-29
File: 0290/M-189.1
IST Pump & Valve Program - Maximum
Stroke Times & Additional
Relief Requests
AECM-85/0149

Mississippi Power & Light (MP&L) submitted the Grand Gulf Nuclear Station (GGNS) Unit 1 Pump and Valve Inservice Test (IST) Program to the NRC on August 26, 1983. During a working meeting conducted on November 27, and 28, 1984 between MP&L and members of your staff to discuss the program, the NRC staff requested that MP&L provide a list of maximum allowable stroke time values for all power operated valves subject to inservice testing. MP&L's response to the NRC staff's request is provided in Attachment 1 to this letter. MP&L has also identified the need for three (3) additional relief requests (Attachment 2) to Specification MP&L M-189.1 Rev. 0. These relief requests are in addition to those provided in MP&L letter AECM-85/0121 dated June 17, 1985.

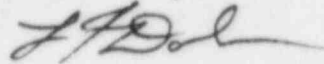
Attachment 1 describes two methodologies which were utilized in calculating the maximum allowable stroke time values. The maximum value was computed by a statistical method (Method 1) when there was sufficient data to ensure a statistically valid base. In the case where a "normal" range could not be determined, a slightly larger margin was added to the average stroke time (Method 2). For some of the subject valves listed in Attachment 1 the maximum allowable stroke times utilized are the maximum isolation times in GGNS Technical Specification Tables 3.6.4-1 and 3.6.6.2-1. The maximum allowable stroke time for the valves listed in Attachment 1 and the relief requests provided in Attachment 2 to this letter will be incorporated into the GGNS IST program by commercial operation, which is presently scheduled for July 1, 1985.

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If there are any questions, please contact this office.

Yours truly,



L. F. Dale
Director

KED/MLC/JGC:dmm
Attachment

cc: Mr. J. B. Richard (w/a)
Mr. O. D. Kingsley, Jr. (w/a)
Mr. R. B. McGehee (w/a)
Mr. N. S. Reynolds (w/a)
Mr. G. B. Taylor (w/o)
Mr. R. C. Butcher (w/a)

Mr. James M. Taylor, Director (w/a)
Office of Inspection & Enforcement
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Dr. J. Nelson Grace, Regional Administrator (w/a)
U. S. Nuclear Regulatory Commission
Region II
101 Marietta St., N. W., Suite 2900
Atlanta, Georgia 30323

Mr. Herb Rockhold (w/a)
EG&G Idaho, Inc.
P.O. Box 1625
Idaho Falls, Idaho 83415

Contained herein are maximum allowable stroke time values for all power operated valves subject to inservice testing. The "Safety Position" indicates the position to which the valve must be stroked and timed.

Based on ASME Section XI, IWV-3417, an increase in stroke time of 50% for quick acting valves or an increase of 25% for slower valves is well within acceptable limits since no immediate action is required. Therefore, the maximum stroke times have been computed as follows.

Method 1

For groups of valves where sufficient data exists to ensure a valid statistical base, the maximum is computed by the greater of adding 3 standard deviations to the mean (\bar{x}) to define the normal range and then adding 10% to that normal range or a 10% increase beyond the Code "alert" values (1.35 \bar{x} for stroke times exceeding 10 seconds and 1.6 \bar{x} for stroke times less than or equal to 10 seconds). The "alert" values of the Code will be observed. The mean (\bar{x}) is not subject to frequent change, but is subject to periodic updating as the database grows.

Method 2

The "normal" range cannot always be determined for a group or for individual valves or the valves may not follow the trends discussed above. In this case, a slightly larger margin is added to the average stroke time by use of the following formula.

$$\text{Maximum} = 2.058\bar{x} - 0.027\bar{x}^2 \quad \text{for } \bar{x} \text{ less than or equal to } 26 \text{ seconds}$$

This is derived from the relationship in Figure 1.

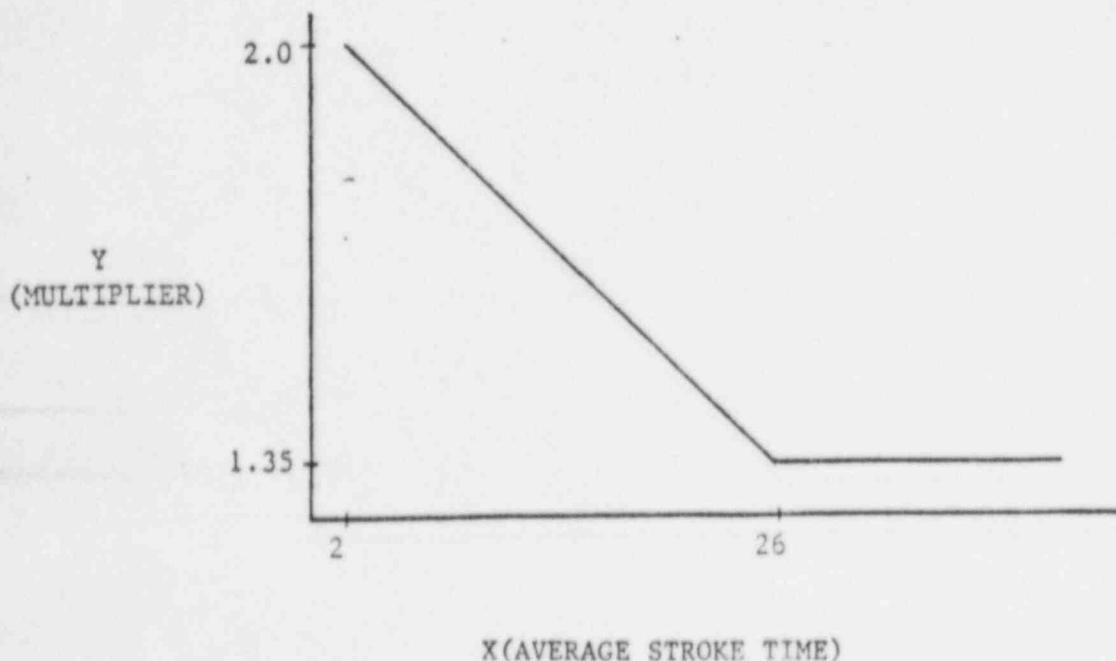


FIGURE 1

This method avoids overlap which occurs with the range method of Section XI. The maximum for valves with average stroke times of greater than 26 seconds is $(1.35)\bar{x}$.

Regardless of which method is used, the following rules apply.

- i) Maximum \leq Analytical Requirements
- ii) Maximum \leq Technical Specifications *
- iii) Maximum \leq $(1.25) \bar{x}$ (Design Specification Value)

*Note: In cases where the Technical Specifications are more conservative than the methods described above, the Technical Specification limit will be used unless a Technical Specification change is made.

MP&L plans to use Method 1 wherever possible in the future as more is learned about valve behavior, and information is gathered for each specific valve and actuator combination.