



MISSISSIPPI POWER & LIGHT COMPANY

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February 7, 1985

50-416

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
Unit 1
Docket No. 50-416
License No. NPF-29
File: 0260/L-814.1
Ref: AECM-84/0531
Request for Extension to the
10CFR50.49(g) Environmental
Qualification Deadline, Motor
Control Centers
AECM-85/0042

Pursuant to 10CFR50.49(g), Mississippi Power & Light (MP&L) is hereby requesting an extension to the March 31, 1985 environmental qualification (EQ) deadline for certain safety related motor control centers (MCC) at the Grand Gulf Nuclear Station (GGNS). The information supporting the extension request on the GGNS MCCs is provided in Attachment 1 and the associated Justification for Continued Operation (JCO) is provided in Attachment 2. In addition, MP&L is also notifying the NRC of an EQ related test failure regarding the qualified life determination for a component within these MCCs.

By letter dated December 21, 1984 (AECM-84/0531), MP&L requested an extension to the EQ deadline for seven categories of equipment which would not be fully qualified in accordance with 10CFR50.49 requirements by March 31, 1985. At the time of the previous extension request, the environmental qualification for the subject MCCs was on schedule for completion before March 31, 1985. However, due to a specific component failure during thermal aging tests to establish a qualified life for the MCCs, the full qualification of this equipment is now expected to be completed after the above EQ deadline. The aging test failure and subsequent MP&L actions are further discussed in Attachment 1.

MP&L requests that this extension request be considered concurrently with those previously submitted in AECM-84/0531 for extension of the completion date until November 30, 1985. A reference to the applicable 10CFR50.49 criteria for the extension and the JCO, as provided in the previous submittal, have been applied similarly to this component as noted in the attachments.

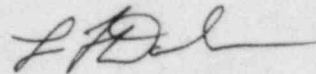
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If you require any additional information on this matter, please contact this office.

Yours truly,



L. F. Dale
Director

SAB/JGC:rg
Attachments

cc: Mr. J. B. Richard (w/a)
Mr. R. B. McGehee (w/a)
Mr. N. S. Reynolds (w/a)
Mr. G. B. Taylor (w/o)

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

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

SUPPORTING INFORMATION FOR EXTENSION REQUEST

Component Name: Klockner-Moeller Series 170, 480 Volt Motor Control Center

Plant ID Nos.:	Q1R20-S510A-A	Q1R20-S610A-B
	Q1R20-S520A-A	Q1R20-S620A-B
	Q1R20-S530A-A	Q1R20-S630A-B
	Q1R20-S540A-A	Q1R20-S640A-B
	Q1R20-S540B-A	Q1R20-S640B-B

Basis for Extension Request:

As a result of the initial NUREG-0588 review, the above listed motor control centers (MCCs) were determined to require further age testing to meet the NUREG-0588 requirements. A thermal aging program was, therefore, initiated by MP&L and Klockner-Moeller, to obtain a qualified life for all components in these MCCs. The thermal age testing on an identical GGNS MCC began in August 1984 and the functional tests were completed on January 11, 1985.

The age testing for the GGNS MCC resulted in a successful qualified life for all components except for GE 15 and 20 amp molded case circuit breakers. Some of the GE circuit breakers failed to perform their trip function after being subjected to thermal test conditions. The tested circuit breakers have been sent to GE for evaluation of the cause of failure and to determine whether valid data can be obtained from the test results for establishing a qualified life on the circuit breakers.

However, an extension to the March 31, 1985 EQ deadline will be necessary in order to complete the evaluation of the failure and to implement the appropriate corrective action.

Therefore, an extension to the EQ deadline is being requested based on consideration for "testing complications" referenced in 10CFR50.49(g).

JUSTIFICATION FOR CONTINUED OPERATION

Generic Component Name: 480 Volt Motor Control Center

Plant ID Nos.:	Q1R20-S510A-A	Q1R20-S610A-B
	Q1R20-S520A-A	Q1R20-S620A-B
	Q1R20-S530A-A	Q1R20-S630A-B
	Q1R20-S540A-A	Q1R20-S640A-B
	Q1R20-S540B-A	Q1R20-S640B-B

Manufacturer/Model No.: Klockner-Moeller Series 170

Technical Discussion:

For the above list of 480 volt motor control centers, the only harsh environment to which they will be exposed is radiation. The maximum predicted accident radiation exposure for the above listed motor control centers is 5.77×10^4 rads. A materials evaluation for the components within the motor control centers has been performed, and the lowest radiation damage threshold for these organic materials is 1.0×10^5 rads. The components are therefore, expected to withstand the GGNS post LOCA radiation environment. The function time requirement for the motor control centers in the radiation harsh environment is 100 days post LOCA.

The thermal aging tests performed on the components within the motor control centers proved to be successful for obtaining a qualified life of 41 years except for two components. The first component is a Klockner-Moeller circuit breaker which has passed functional testing for a qualified life of 11.72 years. The second component is a GE THQB molded case circuit breaker. These circuit breakers were aged in three (3) groups to obtain different qualified lives. The aging temperatures used were 105C, 125C, and a combination of 125C and 131C to obtain qualified lives of 6.48 years, 22.53 years and 41.3 years, respectively. The tested circuit breakers have been sent to GE for further analysis to determine the exact cause of failure. It is believed that these aging temperatures could have been excessive and a significant contributing factor in the failure of the circuit breakers.

During post-thermal aging functional testing, the circuit breakers demonstrated an inability to trip under test load conditions, however, they still operated as a switching device. These circuit breakers have demonstrated the ability to trip in an ambient environment during the baseline functional testing performed. However, if the above failure were to occur it is considered to fail in its normally closed position and the Class 1E power supplied to its load will be maintained. Therefore, MP&L concludes that the plant safety is not significantly reduced.

This analysis meets the criteria of 10CFR50.49, paragraph (1), item 5. Therefore, continued operation is justified.