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

84 APR 6 A11 : 01

JAMES P. McGAUGHY, JR.
VICE PRESIDENT

April 2, 1984

U. S. Nuclear Regulatory Commission
Region II
101 Marietta Street, N.W.
Suite 2900
Atlanta, Georgia 30303

Attention: Mr. J. P. O'Reilly, Regional Administrator

Dear Mr. O'Reilly:

SUBJECT: Grand Gulf Nuclear Station
Units 1 and 2
Docket No. 50-416/417
License No. NPF-13
File 0260/15525/15526/16694.4
PRD-84/05, Final Report for
Unit 1, Interim Report No. 1
for Unit 2, Main Feed Water
Line Moment Guide Temperature
AECM-84/0209

On March 29, 1984, Mississippi Power & Light Company notified Mr. R. Carroll, of your office, of a Reportable Deficiency at the Grand Gulf Nuclear Station (GGNS). The deficiency concerns the calculated maximum temperature for the main feedwater moment guides exceeding the original design basis limitation for the concrete within the auxiliary building G-line wall.

MP&L has determined that this deficiency is reportable under the provisions of 10CFR21 for Unit 1. Reportability for Unit 2 has not been determined at this time. All current details are contained in our attached Report. We expect to determine reportability and to submit a Final Report for Unit 2 by June 29, 1984.

Yours truly,

For J. P. McGaughy, Jr.

KPS

KDS:dr
ATTACHMENT

cc: See page 2

8404100166 840402
PDR ADOCK 05000416
S PDR

OFFICIAL COPY

IE 27

1/1

cc: Mr. J. B. Richard
Mr. R. B. McGehee
Mr. T. B. Conner

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

Mr. G. B. Taylor
South Miss. Electric Power Association
P. O. Box 1589
Hattiesburg, MS 39401

FINAL REPORT FOR UNIT 1
INTERIM REPORT No. 1 FOR UNIT 2

1. Name and address of the individual ... informing the commission:

J. P. McGaughy, Jr.
Vice-President, Nuclear
P.O. Box 1640
Jackson, Mississippi 39205

2. Identification of the facility ... which ... contains a deficiency:

Grand Gulf Nuclear Station (GGNS) Unit 1
Port Gibson, Mississippi 39150

Determination of reportability for Unit 2 is continuing at this time.

3. Identification of the firm ... supplying the basic component which ... contains a deficiency:

Supplied to Grand Gulf by the Bechtel Power Corporation, Gaithersburg, Maryland.

4. Nature of the deficiency ... and the safety hazard which ... could be created by such a deficiency ...:

A. Description of the Deficiency

During low power operation of Grand Gulf Unit 1, the main steam line moment guides, located within the auxiliary building G-line wall, experienced an overheating problem. In reviewing the applicable calculations it was discovered that heat losses from the uninsulated portions of the moment guides to the concrete wall had been neglected in the original analysis for the main steam and main feedwater lines.

A heat transfer reanalysis of the moment guides was performed using a more detailed model based on as-built conditions. This analysis has shown that the temperature of the concrete wall near the main feedwater line moment guides would exceed 300°F. If the concrete temperature exceeds 300°F (the design limiting temperature of the G-line wall) the potential exists for degradation of concrete properties and strength.

However, for the main steam line moment guides, the reanalysis indicated that the concrete temperature limits would not be exceeded.

B. Analysis of Safety Implications

Degradation of the auxiliary building G-line wall, which encloses the main steam and main feedwater line moment guides, from temperatures in excess of the 300°F limiting temperature could result in failure of the wall to perform its intended safety function for the following reasons:

1. The wall forms a part of the secondary containment which in conjunction with the standby gas treatment system serves to limit doses within the guidelines of 10CFR100 and 10CFR50, during the design basis accident.

2. The wall contains the main steam and feedwater line moment guides which are necessary to protect the outboard Main Steam Isolation Valves (MSIV's) from excessive loads due to a postulated pipe failure in the turbine building. The basis for these restraints is the NRC's Branch Technical Position MEB 3-1, paragraph B.1.b(1)(c).

5. The date on which the information of such deficiency ... was obtained.

Mississippi Power and Light received information of the deficiency on January 11, 1984. An evaluation was performed and the deficiency was reported to Mr. R. Carroll, of your office, as a reportable deficiency for Unit 1 on March 29, 198 . The MP&L "Responsible Officer," Mr. J. P. McGaughy, Jr., will be notified when he returns to his office.

6. In the case of the basic component ... the number and location of all such components.

There are two feedwater penetrations in the auxiliary building G-line wall at GGNS Unit 1.

7. The corrective action which has been taken ... the name of the individual ... responsible for the action; and the length of time that has been ... taken to complete the action.

A. Corrective Actions Taken

A Design Change Package (DCP) 83/4106 has been issued and implemented to insure a steel-concrete interface temperature below 200°F for both the main steam and main feedwater line moment guides. The corrective actions taken were as follows:

1. Insulation was added to main feedwater line moment guides.

2. The Moment guide cooling system was modified for additional cooling capacity.

3. Temperature monitors were installed on the main feedwater line G-line wall moment guides.

B. Responsible Individual

Unit 1
J. E. Cross
Plant Manager
Mississippi Power & Light Co.

C. Length of Time to Complete Actions

All corrective actions per DCP 83/4106 with the exception of the moment guide cooling system balance testing have been completed on Unit 1. The balance tests are for chill water and air flow balance and are scheduled for completion during power ascension under rated conditions.

8. Any advice related to the deficiency ... that has been, is being, or will be given to purchasers or licensees:

As the deficiency did not originate with MP&L, we have no advice to offer.