



MISSISSIPPI POWER & LIGHT COMPANY

Helping Build Mississippi

P. O. BOX 1640, JACKSON, MISSISSIPPI 39205

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JAMES P. McGAUGHY, JR.
VICE PRESIDENT

March 30, 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
Unit 1
License No. NPF-13
Docket No. 50-416
File 0260/15525/15526/16694.4 PRD-
84/01, Final Report, Defective
Solid State Trip Unit
AECM-84/0195

Reference: AECM-84/0022, 1/9/84

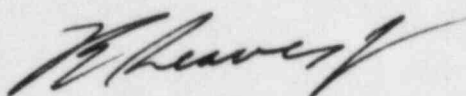
On January 5, 1984, Mississippi Power & Light Company notified Mr. P. Fredrickson, of your office, of a Reportable Deficiency at the Grand Gulf Nuclear Station (GGNS). The deficiency concerns the incorrect installation by Brown Boveri of a 30 VDC 22 microfarad capacitor in place of at least a 50 VDC microfarad capacitor in a solid state trip unit as part of the corrective actions for PRD-83/15.

MP&L has evaluated this deficiency and has determined that it is reportable under the provisions of 10CFR21 for Unit 1. This deficiency is not applicable to Unit 2 as this deficiency occurred during the performance of corrective actions on Unit 1 only for PRD-83/15. Attached is our Final Report.

Our initial report gave some incorrect numbers concerning the number of upgraded trip units tested and re-installed on Unit 1. This confusion resulted from the ongoing nature of the work of removing the defective trip units from the plant. Replacements of the potentially defective trip units which were removed were made with good units currently in the warehouse and from Unit 2 equipment as well as the upgraded trip units received back from Brown Boveri.

Yours truly,

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PDR ADOCK 05000416
S PDR


For J. P. McGaughy, Jr.

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KDS:dr
ATTACHMENT

cc: See page 2

Member Middle South Utilities System

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Mr. J. P. O'Reilly
NRC

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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 PRD-84/01

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 defect:

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

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

The trip unit was supplied to Grand Gulf by Brown Boveri
Electric, Inc. (Formerly ITE), 207 Witmer Road, Horsham, PA 19044.

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

A. Description of the Deficiency

As part of the corrective action for PRD-83/15, defective trip units were removed and sent to Brown Boveri for upgrading. The trip units were returned to Grand Gulf. Our last report stated that thirty-five of the trip units were re-installed; however, at the time of the discovery of the deficiency a total of only nine had been re-installed. While testing one trip unit in a breaker for one of the Standby Service Water (SSW) Cooling Tower Fans, the breaker tripped open on attempting to start the fan. The subsequent investigation revealed that a 30 VDC 22 microfarad capacitor had been incorrectly installed by Brown Boveri in place of at least a 50 or 100 VDC 22 microfarad capacitor in the trip unit. The improper capacitor in the trip unit circuitry caused the breaker to trip open immediately upon a fan start attempt. The plant was in shutdown mode when the trip unit was re-installed and testing of the breaker was performed.

B. Analysis of Safety Implications

The SSW system, including the cooling tower fan and associated breaker, are part of the Engineered Safety Features (ESF) system. The SSW system provides cooling for plant auxiliary systems during an emergency shutdown of the plant (e.g., LOCA) and transfers heat to the cooling tower basins which are the ultimate heat sink for the plant. Two fans in each basin are required to ensure sufficient cooling capability for each reactor unit. In the event one train of the ESF system is not available, (e.g., one diesel-generator in maintenance mode) or a single active failure occurs during a

LOCA condition, and if one of the two cooling tower fans in the other ESF train does not start due to the subject deficiency, then the cooling tower would not adequately handle the plant heat load. Thus, this condition could constitute a substantial safety hazard.

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

Mississippi Power and Light discovered the deficiency on October 27, 1983. We reported the deficiency to Mr. P. Fredrickson, of your office, as being reportable under the provisions of 10CFR21, for Unit 1 on January 5, 1984. The MP&L "Responsible Officer," Mr. J. P. McGaughy, Jr., has been notified of the reportability requirements of this deficiency.

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

We do not have knowledge of the location of such defect located other than at GGNS.

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

The defective trip unit was replaced with a properly assembled trip unit and the breaker was returned to service.

The other forty-three trip units rebuilt by Brown Boveri for PRD-83/15 were inspected and found to have the proper capacitor installed.

The vendor (Brown Boveri) has determined that the repair part was obtained from a non-controlled stock area. Brown Boveri personnel have been reinstructed to use only controlled stock for obtaining repair parts for 1E repairs.

B. Responsible Individual

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

C. Length of Time to Complete Actions

The breaker was returned to service on October 27, 1983.

This deficiency is not applicable to Unit 2 as this deficiency occurred during the performance of corrective actions on Unit 1 only for PRD-83/15.

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.