



MISSISSIPPI POWER & LIGHT COMPANY

Helping Build Mississippi

P. O. BOX 1640, JACKSON, MISSISSIPPI 39205

JAMES P. MCGAUGHY, JR.
ASSISTANT VICE PRESIDENT

82 MAY 24 P12:10
May 21, 1982

Office of Inspection & Enforcement
U. S. Nuclear Regulatory Commission
Region II
101 Marietta Street, N.W.
Suite 3100
Atlanta, Georgia 30303

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

Dear Mr. O'Reilly:

SUBJECT: Grand Gulf Nuclear Station
Unit 1
Docket No. 50-416
File 0260/15525/15526
PRD-82/23, Interim Report #1,
Corroded Terminal Boards
AECM-82/226

On April 21, 1982, Mississippi Power & Light Company notified Mr. R. Butcher, of your office, of a Potentially Reportable Deficiency (PRD) at the Grand Gulf Nuclear Station (GGNS) construction site. The deficiency concerns corroded terminal boards on pressure transmitters, flow transmitters, and level transmitters utilized in safety related applications at GGNS.

We have determined that this condition is reportable under the provisions of 10CFR50.55(e) because the corroded terminal boards could cause erroneous signals or loss of signals from the transmitters and therefore could have affected adversely the safety of operations of the nuclear power plant.

We are still investigating reportability under 10CFR21. All details obtained to date are included in our attached Interim Report. MP&L Engineering has evaluated this item as not requiring resolution prior to fuel load. However, the deficiency will be resolved prior to low power ascension testing. We expect to submit a Final Report by August 6, 1982.

Yours truly,

For J. P. McGaughy, Jr.

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ATTACHMENT

cc: See page 2

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Mr. J. P. O'Reilly
NRC

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cc: Mr. N. L. Stampley
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

INTERIM REPORT NO. 1 FOR PRD-82/23I. Description of the Deficiency

The terminal board areas of twenty-nine (29) pressure transmitters, level transmitters, and flow transmitters located inside the Unit 1 containment were found to be corroded. The terminal boards are located in a cavity underneath a threaded cap which is sealed to the transmitter unit by thread contact and an "O" ring. Each terminal board cavity communicates with a junction box through a sealed conduit. Each junction box is also sealed.

The deficiency affects the Nuclear Boiler Instrumentation System (B21), Reactor Recirculation (B33), Feedwater Control (C34), Reactor Protection System (C71), Residual Heat Removal (E12), Leak Detection (E31) and the Main Steam Isolation Valve (MSIV) Leakage Control System (E32).

It applies only to transmitters installed in Unit 1 in both the NSSS and BOP scope of supply.

The affected transmitters are located inside containment and are required to be operable during and after a Loss of Coolant Accident or a seismic event. The corroded terminal boards could cause erroneous signals or loss of signals from the transmitters. This could adversely affect the safety of operations of the nuclear power plant and is reportable under the provisions of 10CFR50.55(e).

II. Approach to Resolution of the Problem

The cause has not been definitely identified at this time. Several transmitters in addition to the ones with corroded terminal boards have been found containing water. The cause of the corrosion is believed to be water entering the transmitters and then electrolysis occurring, causing the corrosion. However, we are investigating other possible causes such as improper electroplating.

The corrosion deficiency presently affects twenty-nine (29) transmitters located in Unit 1 containment. However, other transmitters as mentioned above, have been found which contain water, although the terminal boards were not corroded.

Maintenance Work Orders have been initiated to restore the affected transmitters to their original design criteria. Approximately 90% of the affected transmitters have been restored. The terminal boards in all transmitters qualified for use in a harsh environment will be restored and inspected prior to low power ascension testing.

Since the specific cause of the corrosion has not been determined definitive actions to prevent recurrence cannot be formulated at this point. To prevent water from entering the transmitters the required seals will be maintained so that moisture will not be allowed to enter the terminal board cavities.

III. Status of Proposed Resolution

Analysis of safety implications has been determined. Cause and extent of the deficiency have not been specifically identified. Therefore, definite actions to prevent recurrence cannot be formulated. The corrective actions to correct the existing deficiencies will be completed prior to low power ascension testing.

IV. Reason Why a Final Report Will be Delayed

We have not determined the exact cause of the deficiency so that definite actions to prevent recurrence can be formulated.

V. Date When Final Report Will Be Submitted

We expect to submit a Final Report by August 6, 1982.