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

JAMES P. McGAUGHY, JR.
ASSISTANT VICE PRESIDENT

November 18, 1981

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, Director

Dear Mr. O'Reilly:

SUBJECT: Grand Gulf Nuclear Station
Units 1 and 2
Docket Nos. 50-416/417
File 0260/15525/15526
PRD-81/03, Final Report,
Valve Motor Cycling
AECM-81/264

Reference: AECM-81/74, 2/19/81

On January 27, 1981, Mississippi Power & Light Company notified Mr. J. Rausch, of your office, of a Potentially Reportable Deficiency (PRD) at the Grand Gulf Nuclear Station (GGNS) construction site. The deficiency concerns valve motor cycling. Our initial report stated that there was valve disc movement during "chattering". However, further investigation has revealed that there is no disc movement. The valves originally reported were in the Residual Heat Removal System (E12). Further inspection has detected similar problems with other valves in the Nuclear Boiler System (B21) and the Feedwater Leakage Control System (E38).

This condition has been determined to be reportable under 10CFR50.55(e) but not under 10CFR21 since the systems involved have not been accepted by MP&L. Attached is our final report.

Yours truly,

For J. P. McGaughy, Jr.

KDS:dr
Attachment

cc: See page 2

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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

FINAL REPORT FOR PRD-81/03

I. Description of the Deficiency

This deficiency concerns eleven (11) Yarway motor operated valves in use at GGNS. When the valves are closed, a torque switch opens and the motor is de-energized. However, the torque switch inadvertently closes within a brief time, re-energizing the motor. On the previously closed valve, the motor will operate until enough torque is developed to open the torque switch contacts, de-energizing the motor. This repeated event could cause motor failure and loss of valve function.

Systems affected are the Nuclear Boiler System (B21), Residual Heat Removal System (E12), and the Feedwater Leakage Control System (E38). This condition is applicable to Unit 1 and Unit 2. It is not within the NSSS scope of supply.

II. Analysis of Safety Implications

In systems E12 and B21, the failure of the valves to operate would not affect the safety of the power plant. However, if the valves in System E38 became incapacitated, the Feedwater Leakage Control System would be prevented from performing its intended safety function.

This deficiency is therefore reportable under the provisions of 10CFR50.55(e). However, the affected systems had not been turned over to MP&L, so it is not reportable by MP&L under the provisions of 10CFR21.

III. Corrective Actions Taken

Our Architect/Engineer considers the cause of the cited condition to be a vendor design or manufacturing deficiency.

To correct the problem, the control circuits for the valves have been modified. Following the relaxation, the torque switch closes, only to have the new control circuit prevent the re-energization. There is no valve disc movement when the gears relax.

A thorough review of all valves at GGNS was conducted. A total of nine (9) additional valves were discovered which have similar designs to the eleven (11) previously identified deficient valves. Although none of these nine (9) valves exhibited a chattering problem, their control circuits were modified to preclude problems from occurring in the future.

All modifications have been completed on Unit 1. Unit 2 modifications will be completed prior to Unit 2 fuel load.