MISSISSIPPI POWER & LIGHT COMPANY
Helping Build Mississippi
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NUCLEAR PRODUCTION DEPARTMENT

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

July 29, 1981

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-80/57, Interim Report
No. 1, HVAC Automatic Air Dampers
AECM-81/270

Reference: 1) AECM-81/41, 1/23/81
2) AECM-80/254, 10/12/80

On September 12, 1980, Mississippi Power & Light Company notified Mr. M. Hunt of your office of a Potentially Reportable Deficiency (PRD) at the Grand Gulf Nuclear Station (GGNS) construction site. The deficiency concerns the failure of tack welds on safety related automatic air dampers supplied by Pacific Air Products Company.

Our previous report stated that remedial action would be to grind out the existing welds that failed and to reweld. However, our investigation has shown that the cause of the failure of the welds was that ASTM-A-108 12L14 steel, which is not suitable for welding, was utilized in the manufacture of the damper shafts. Therefore, other plans of corrective action will be formulated and pursued.

Also, previous reports identified the affected system as the Safeguard Switchgear and Battery Rooms Ventilation System (X77). This should have been identified as Diesel Generator HVAC System (X77).

Working with our Constructor we have determined that this deficiency, had it remained uncorrected, could have affected the safety of operations of the nuclear power plant and therefore is reportable under the provisions of 10CFR 50.55(e). It is not reportable per 10CFR21 as explained in our attached report.

Yours truly,

KDS:scb
Attachment

cc: See Page 2

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S/1

cc: Mr. N. L. Stampley
Mr. . B. McGehee
Mr. T. B. Conner

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PRD File
File

Interim Report No. 1 for PRD-80/57

I. Description of the Deficiency

The tack welds connecting the shaft to the damper blades on two safety related automatic air dampers failed during an attempt to open the blade. The dampers are Q1X77F001A-A and Q1X77F003-C in the Diesel Generator HVAC System (X77). These dampers are supplied by Pacific Air Products Company. When failures were noted in these dampers, our Constructor undertook investigative action which identified other similar failures. The condition has now been determined to be generic in nature.

Systems affected in addition to the Diesel Generator HVAC (X77) are the Standby Service Water Building HVAC (Y47), Control Room HVAC (Z51), Safeguard Switchgear and Battery Room HVAC (Z77), and the Standby Gas Treatment System (T48). The deficiency is applicable to both Unit I, Unit II, and Common.

The failure of the welds could cause the respective damper blades to be inoperative. Failure of the dampers associated with safety related equipment to fully open when required could result in temperatures above limits and loss of control room environmental control which could hazard safety related equipment and operating personnel. Failure of the dampers to function according to design because of broken tack welds could cause malfunction of equipment in the Standby Service Water System (P41), the Standby Diesel Generators (P75), the High Pressure Core Spray Diesel Generator (P81), the Safeguard Switchgear and Battery Room, and the Control Room due to inadequate cooling. Inadequate environmental control in the control room could result due to loss of function of the Standby Fresh Air System and secondary containment integrity could be jeopardized by inadequate performance of the Standby Gas Treatment System.

Because of the above reasons, the failure of the tack welds is reportable under the provisions of 10CFR50.55(e). Some of the systems affected have been turned over to MP&L for acceptance, but the deficient items had been identified prior to turnover so this deficiency is not reportable under the requirements of 10CFR21.

Investigation is continuing into the applicability of this deficiency to the NSSS vendor.

II. Approach to Resolution of the Problem

The cause of the tack weld failures is due to the inadequacy of the material (ASTM-A-108 12L14 steel) utilized by the vendor for the damper shafts and/or the use of inappropriate welding procedures for welding this type of material. The deficiency includes all safety related automatic air dampers where this type of material was used.

Our Constructor has notified the vendor of the cause of the deficiency and requested that they redesign the blade bracket to shaft connection to eliminate the tack welding requirement in order to assure system reliability.

III. Status of Proposed Resolution.

Evaluation of known safety implications and of cause and extent of the deficiency has been completed. Further corrective actions and actions to prevent recurrence will be formulated after receiving the vendor's response and new design for the dampers.

IV. Reason Why a Final Report Will Be Delayed

Our Constructor is waiting for the vendor to submit a new design for the blade bracket to shaft connection.

V. Date When Final Report Will Be Submitted

October 19, 1981.