



MISSISSIPPI POWER & LIGHT COMPANY

Helping Build Mississippi
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JAMES P. MCGAUGHY, JR.
ASSISTANT VICE PRESIDENT

October 19, 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-80/57, Final Report,
HVAC Automatic Air Dampers
AECM-81/412

- Reference:
- 1) AECM-81/270, 7/29/81
 - 2) AECM-81/41, 1/23/81
 - 3) AECM-80/254, 10/13/80

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.

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,

J. P. McGaughy, Jr.

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KDS:dr
Attachment
cc: See Page 2

Mr. J. P. O'Reilly
NRC

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FINAL REPORT for PRD-80/57I. 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 (PAPCO). 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 Standby Gas Treatment System (T48). Several other non-safety-related systems are also affected. The deficiency is applicable to both Unit 1, Unit 2, and Common. It is not applicable to the NSSF vendor.

II. Analysis of Safety Implications

The failure of the welds could cause the respective damper blades to be inoperative. Failure of the dampers to perform in accordance with design requirements could cause malfunction of equipment due to inadequate cooling in the above interfacing systems. Inadequate environmental control in the Control Room could result due to loss of function of the Control Room Ventilation System (Z51).

Failure of the dampers associated with the safety related equipment to fully open when required could result in temperatures above design limits, loss of Control Room environmental control, and could hazard safety-related equipment and operating personnel.

Therefore, this deficiency is reportable under the provisions of 10CFR50.55(e). It is not reportable under 10CFR21 because any affected systems that had been turned over to MP&L had the deficiencies identified prior to turnover.

III. Corrective Actions Taken

Mississippi Power & Light and our Architect/Engineer have determined that the cause of the deficiency is the inadequacy of the material (ASTM-A-108 12L14) utilized by the vendor for the damper shafts and/or use of inappropriate welding procedures for welding this type of material.

However, the vendor (Pacific Air Products Co., Santa Ana, California) disagrees with our determination of the cause. The vendor contends that during installation, the failure to set the limit switches on the actuators caused over-torquing on the entire damper causing the tack welds to break.

Irrespective of either cause noted above, the corrective actions outlined below will correct the deficiency.

The vendor has provided a thru-bolt mechanical connection between the damper blade bracket and the drive shaft, eliminating the design requirement for a tack weld.

The rework and repair of all installed dampers has been completed. The Unit 2 dampers will be repaired by our Constructor after resumption of Unit 2 work. This is being tracked on Condition Report (CR) 7482.

Since all defective dampers at GGNS will be replaced, these actions will serve to preclude recurrence.