LOUISIANA POWER & LIGHT /Waterford 3 SES/P. O. Box B/Killona, LA 70066
MIDDLE SOUTH UTILITIES SYSTEM

September 30, 1983

W3K83-1447
Q-3-A35.07.53

Mr. John T. Collins
Regional Administrator, Region IV
U. S. Nuclear Regulatory Commission
611 Ryan Plaza Drive, Suite 1000
Arlington, Texas 76012

REFERENCE: LP&L letter W3I83-0245 dated July 25, 1983

Dear Mr. Collins:

SUBJECT: Waterford SES Unit No. 3
Docket No. 50-382
Significant Construction Deficiency No. 53
"Possible Failure of General Electric Type HFA Relays"
Final Report

In accordance with the requirements of 10CFR50.55(e), we are hereby providing two copies of the Final Report of Significant Construction Deficiency No. 53 "Possible Failure of General Electric Type HFA Relays".

Very truly yours,

T. F. Gerrets

T. F. Gerrets
Quality Assurance Manager

TFG:CNH:VBR

Encs.

IE-27
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cc: Director
Office of Inspection & Enforcement
U. S. Nuclear Regulatory Commission
Washington, D.C. 20555
(15 copies of report)

Director
Office of Management
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U. S. Nuclear Regulatory Commission
Washington, D.C. 20555

Mr. E. L. Blake
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FINAL REPORT OF
SIGNIFICANT CONSTRUCTION DEFICIENCY NO. 53
"POSSIBLE FAILURE OF GENERAL ELECTRIC
TYPE HFA RELAYS"

INTRODUCTION

This report is submitted pursuant to 10CFR50.55(e). It describes a defect with GE type HFA relays. The defect consists of cracked coil spools which could prevent proper relay operation in Class IE switchgear. This problem is considered reportable under the requirements of 10CFR50.55(e). This problem has been identified by GE to the Nuclear Regulatory Commission under the requirements of 10CFR21.

DESCRIPTION

The defect associated with the subject relays is cracked lexan coil spools. The coil spools are fabricated of either black or clear lexan, a polycarbonate material that is susceptible to surface cracking when exposed to hydrocarbons. Such surface cracking would ultimately deteriorate to such a degree that desired contact actions in response to energization or deenergization of the relay could be impeded.

GE Type HFA relays are installed in Class IE power distribution equipment. In the event of an open circuit coil failure, the defective relays in 4160 volt switchgear could fail to trip the breaker open upon receipt of an automatic trip signal. This could lead to a complete loss of voltage on the bus affecting safety related equipment.

SAFETY IMPLICATIONS

As described above, the defective relays in 4160 volt Class IE switchgear, if left uncorrected could result in the complete loss of voltage to the bus affecting safety related equipment which would then not be available on demand. The loss of one or possibly more redundant power sources is in conflict with the intent of Criterion 17 of 10CFR50 Appendix A and therefore, is considered reportable.

CORRECTIVE ACTION

Nonconformance Report No. W3-3645 was initiated to implement corrective action in accordance with the design documents which remove the possibility of cracked lexan coil spools in the HFA Relays.

All lexan coil spools in the HFA relays have been replaced by coils made of tefzel, and in some instances the entire relay was replaced with an equivalent "Century Series" relay. All replacement material/relays for safety-related switchgear was Class 1E qualified.

All corrective action is complete per NCR No. W3-3645 and all the supporting documentation has been reviewed and accepted.

This report is submitted as the Final Report.