LOUISIANA POWER & LIGHT / 142 DELARONDE STREET
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MIDDLE SOUTH UTILITIES SYSTEM

September 15, 1983

W3I83-0311
Q-3-A35.07.33

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

SUBJECT: Waterford SES Unit No. 3
Docket No. 50-382
Significant Construction Deficiency No. 33
"Chilled Water Piping Supports"
Final Report

REFERENCE: LP&L Letter W3I83-0256 dated July 29, 1983

Dear Mr. Collins:

In accordance with the requirements of 10 CFR 50.55(e), we are hereby providing two copies of the Final Report of Significant Construction Deficiency No. 33, "Chilled Water Piping Supports."

If you have any questions, please advise.

Very truly yours,

F. J. Drummond
Nuclear Services Manager

cc: 1) Director
Office of Inspection & Enforcement
U. S. Nuclear Regulatory Commission
Washington, D.C. 20555

2) Director
Office of Management
Information and Program Control
U. S. Nuclear Regulatory Commission
Washington, D.C. 20555

3) Mr. E. L. Blake

4) Mr. W. M. Stevenson

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FINAL REPORT OF
SIGNIFICANT CONSTRUCTION DEFICIENCY NO. 33
"CHILLED WATER PIPING SUPPORTS"

INTRODUCTION

This report is submitted pursuant to 10 CFR 50.55(e). It describes deficiencies in the design of the chilled water piping supports resulting in welds and structures being overstressed and seismic span criteria being exceeded. To the best of our knowledge, this problem has not been identified to the Nuclear Regulatory Commission pursuant to 10 CFR 21.

DESCRIPTION

In the review and verification of the original design of the chilled water piping system, the following deficiencies were found:

1. Seismic span criteria were exceeded in some areas of the system.

2. The only seismic load considered was Operating Base Earthquake (OBE). The horizontal "g" factor at elevation 46'-0 was used at support points above and below said elevation. When the appropriate Design Base Earthquake (DBE) load at specific elevations was applied to the supporting structures, it resulted in:

   a) Welds that were overstressed.

   b) Structures that were overstressed.

SAFETY IMPLICATIONS

If welds and structures become overstressed, supports may be deformed. This deformation may lead to degradation or loss of the chilled water system.

Since the chilled water system provides cooling for the safety-related HVAC systems, the cooling capability of the HVAC systems may be degraded or lost under seismic loading conditions.

There are many safety-related systems and components that rely on HVAC for cooling. Thus, loss or degradation of cooling to these systems or components may cause them to be unable to carry out their required safety function.

Therefore, deformation of supports may adversely affect the safety of the plant if the supports are not modified to comply with design criteria.

CORRECTIVE ACTION

1. The S/R design modifications to correct this Significant Construction Deficiency were incorporated via DCN-MP-459 and new revisions/designs. This is to ensure the stress levels and loading criteria were correct.

2. All corrective action is complete and all the supporting documentation has been reviewed and accepted.

This report is submitted as the Final Report.