LOUISIANA POWER & LIGHT / 142 DELARONDE STREET
P. O. BOX 6008 • NEW ORLEANS, LOUISIANA 70174 • (504) 366-2345

MIDDLE SOUTH UTILITIES SYSTEM

May 13, 1982

G. D. McLENDON
Senior Vice President

W3K-82-0275
Q-3-A35.07.52

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
Interim Report of Significant Construction Deficiency No. 52
"Bi-Metallic Penetration Welds, No Stress Relief"

Reference: Telecon - L. L. Bass (LP&L) to L. Martin (NRC) on 4/13/82

Dear Mr. Collins:

In accordance with the requirements of 10CFR50.55(e), we are hereby providing two copies of the Interim Report of Significant Construction Deficiency No. 52, "Bi-Metallic Penetration Welds, No Stress Relief."

If you have any questions, please advise.

Very truly yours,

G. D. McLendon

GDMcL/LLB/grf

Attachment

cc: 1) Director
Office of Inspection & Enforcement
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555
(with 15 copies of report)

2) Director
Office of Management
Information and Program Control
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555
(with 1 copy of report)

IE-27
S1/1

LOUISIANA POWER & LIGHT COMPANY

WATERFORD SES UNIT NO. 3

Interim Report of
Significant Construction Deficiency No. 52

BI-METALLIC PENETRATION WELDS, NO STRESS RELIEF

Reviewed by _____ 5/3/82
R. J. Milhiser - Site Manager Date

Reviewed by _____ 5/3/82
J. L. Wills - Project Superintendent Date

Reviewed by _____ 5382
J. Hart - Project Licensing Engineer Date

Reviewed by _____ 5/3/82
J. DeBruin - ESSE Project Engineer Date

Reviewed by _____ 5/4/82
J. Gutierrez - Q. A. Site Supervisor Date

April 30, 1982

INTERIM REPORT OF
SIGNIFICANT CONSTRUCTION DEFICIENCY NO. 52

"BI-METALLIC PENETRATION WELDS, NO STRESS RELIEF"

INTRODUCTION

This report is submitted pursuant to 10CFR50.55(e). It describes a defect with Reactor Containment Penetration Assemblies 40 and 41. The problem includes omission of stress relief/postweld heat treatment for Shop Weld 2 on each assembly and use of an unqualified welding procedure. This problem is considered reportable under the requirements of 10CFR50.55(e). To the best of our knowledge, this problem has not been identified to the Nuclear Regulatory Commission pursuant to 10CFR21.

DESCRIPTION

Shop Weld No. 2 was performed by Associated Piping & Engineering Corporation personnel using their Welding Procedure SWP-836, Rev. 6, to join a 24-inch diameter schedule 120 ASME SA106 Grade B Guard Pipe to an ASME SA182 Grade F304 Flued Head Forging on Reactor Containment Penetration Numbers 40 and 41. The nominal wall thickness of this weld joint is 1.812 inches. Based upon the requirements of ASME Section III Subsection NE 1971 Edition including Addenda through Winter 1973 Subsubparagraph ND-4623.1(d), the SA106 Grade B Guard pipe requires postweld heat treatment since it exceeds 1½ inches in thickness. The subject joints were welded by buttering the SA106 Grade B material with a high nickel alloy filler metal. Postweld heat treatment of this pipe prior to welding to the stainless steel flued head forging was not accomplished. The welding procedure utilized by Associated Piping & Engineering Corporation was qualified for use with the high nickel alloy buttering but not for subassembly postweld heat treatment.

SAFETY IMPLICATIONS

Failure of Shop Weld No. 2 on Containment Penetration Numbers 40 and 41 could lead to degradation of containment integrity. This condition does not ensure that radiological exposure to the public resulting from a loss-of-coolant accident (LOCA) is below 10CFR100 guidelines. Therefore, the present welds, if left uncorrected, are a safety hazard.

CORRECTIVE ACTION

In order to correct the nonconforming condition, the No. 2 welds must be postweld heat treated by Associated Piping & Engineering using a welding procedure qualified in accordance with ASME Code Sections III and IX requirements and incorporating postweld heat treatment of the subassembly in accordance with the requirements of NE-4620. To avoid an embrittlement problem due to sigma phase formation in the austenitic stainless steel weld filler metal (Type 309) and to minimize the amount of sensitization developed in the stainless steel filler metal and base metal, the postweld heat treatment will not use a holding temperature in the range of 1100 to 1250°F. A lower temperature in the range of 900 to

1000°F will be utilized in accordance with ASME Code Section III Subsection NE allowable alternative requirements. This shall be verified by metallographic examination of individual specimens prior to final heat treatment temperature and hold time selection.

Site Nonconformance Report W3-3647 was issued on April 7, 1982, to track this discrepancy. Completion of the corrective action will be accomplished and a Final Report submitted to the USNRC no later than August 31, 1982.

LOUISIANA POWER & LIGHT COMPANY

WATERFORD SES UNIT NO. 3

Interim Report of
Significant Construction Deficiency No. 52

BI-METALLIC PENETRATION WELDS, NO STRESS RELIEF

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J. Gutierrez - Q. A. Site Supervisor Date
for

April 30, 1982

DUPE

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