50-55(e)

50-382

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

D. L. ASWELL
Vice President-Power Production

July 13, 1981

W3K81-0256
Q-3-A35.07.30

Mr. K. V. Seyfrit, Director, Region IV
U. S. Nuclear Regulatory Commission
Office of Inspection and Enforcement
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. 30
"Change Out of ASTM A193 S. S. Bolts on Motor Control Center Bus Bars"

Reference: Telcon - R. Bennett (LP&L QA) to R. C. Stewart (USNRC) on 6/12/81

Dear Mr. Seyfrit:

In accordance with the requirements of 10CFR50.55(e), we are hereby providing two copies of the Interim Report of Significant Construction Deficiency No. 30, "Change Out of ASTM A193 S. S. Bolts on Motor Control Center Bus Bars."

If you have any questions, please advise.

Very truly yours,

DL Aswell

D. L. Aswell

DLA/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)

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LOUISIANA POWER & LIGHT COMPANY

WATERFORD SES UNIT NO. 3

Interim Report of
Significant Construction Deficiency No. 30

Change Out of ASTM A193 S. S. Bolts on Motor Control Center Bus Bars

Reviewed by R. J. Mithiser - Site Manager — Date 7/7/81

Reviewed by J. L. Wills - Project Superintendent — Date 7/7/81

Reviewed by for J. Hart - Project Licensing Engineer — Date 7-7-81

Reviewed by R. A. Hartnett - Q. A. Site Supervisor — Date 7-7-81

July 2, 1981

INTERIM REPORT
SIGNIFICANT CONSTRUCTION DEFICIENCY NO. 30
CHANGE OUT OF ASTM A193 S.S. BOLTS ON MOTOR CONTROL CENTER BUS BARS

INTRODUCTION

This report is submitted pursuant to 10CFR50.55(e). It describes a deficiency in the selection of fastener material for the MCC and switchgear bus connections which resulted in overtorqueing of the fasteners. This problem is considered reportable under the requirements of 10CFR 50.55(e). To the best of our knowledge, this problem has not been identified to the Nuclear Regulatory Commission pursuant to 10CFR21.

BACKGROUND

The deficiency occurred during corrective action rework associated with Nonconformance Report W3-2250 issued to document the rusting of the fasteners on the MCC and switchgear bus connections. The disposition required that the rusty bolts be changed out with ASTM A193 material, but the grade was not specified. During procurement of the replacement bolts, ASTM A193, Class 1:B8 bolts were specified based on corrosion resistance considerations. Structural adequacy requirements were not considered at this time.

The initial installation utilized SAE GR 5 (or better) steel, torqued to 40 $\pm$ 5 ft. lbs. in accordance with Drawings 5817-2701 through 2703. This type of bolt has a yield strength of 92 KSI (minimum) and a tensile strength of 120 KSI (minimum).

The ASTM A193, Class 1:B8 bolts have a yield strength of 30 KSI (minimum) and a tensile strength of 75 KSI (minimum).

DESCRIPTION OF DEFICIENCY

During rework installation activities, the torque value to which the fasteners were being torqued was questioned. At this point in time, ASTM A193 bolts had been installed in nine (9) of the 32 MCC's. Of these, the following six (6) are safety-related and affect several systems:

3B312	3A312
3B311	3A411
3B313	3B411

A sample of the ASTM A193 Class bolts were tested and found to break in the 50 to 55 ft. lbs. region in general, with one bolt breaking at approximately 48 ft. lbs. In turn, installed bolts were removed from completed MCC buses for inspection; and the majority of these bolts exhibited 'necking.' On the basis of this evidence, the bolts were found to be improper for this application.

ANALYSIS OF SAFETY IMPLICATIONS

If this deficiency were left uncorrected, possible degradation of safety systems could occur. Such degradation would occur through the complete failure of the MCC if a short circuit were to take place. If a failure of this type were to occur to an MCC when its redundant division was out of service, the safety analyses presently in the FSAR would be invalidated.

CORRECTIVE ACTION

Nonconformance Report W3-2750 documents and dispositions this deficiency. The disposition requires that ASTM A193 Class 1:B8 bolts be removed and replaced with bolts of a tensile and yield strength equal to or greater than originally supplied SAE GR 5 bolts.

The bolt type procured in accordance with this disposition is ASTM A193, Class 2:B8, which has a yield strength of 100 KSI (minimum) and a tensile strength of 125 KSI (minimum). Corrective action will be accomplished and a Final Report submitted no later than October 30, 1981.