



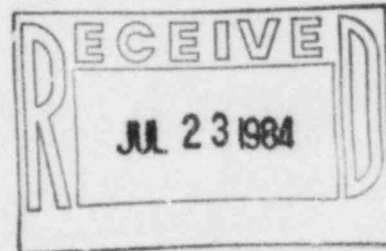
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July 17, 1984

W3K84-1640
Q-3-A35.07.109

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



REFERENCE: a) LP&L letter W3K84-1140 dated May 11, 1984
b) Telecon C. Hooper (LP&L) and Eric Johnson (NRC IV) on
May 25, 1984
c) Telecon C. Hooper (LP&L) and M. Murphy (NRC IV) on
June 6, 1984

Dear Mr. Collins:

SUBJECT: Waterford SES Unit No. 3
Docket No. 50-382
Significant Construction Deficiency No. 109
"Inadequate Design of QSPDS/PPS Circuit Interface"
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. 109, "Inadequate Design of QSPDS/PPS Circuit Interface".

If you have any questions, please advise.

Very truly yours,

T. F. Gerrets
Corporate Quality Assurance Manager

TFG:CNH:VBR

Attachment

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

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Mr. John T. Collins

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cc: Director
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U. S. Nuclear Regulatory Commission
Washington, D.C. 20555

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FINAL REPORT OF
SIGNIFICANT CONSTRUCTION DEFICIENCY NO. 109
"INADEQUATE DESIGN OF QSPDS/PPS CIRCUIT INTERFACE"

INTRODUCTION

This report is submitted pursuant to 10CFR50.55(e). It describes the electrical grounds on signal common for Channels "C" and "D" of PPS.

To the best of our knowledge, this deficiency has not been reported to the USNRC pursuant to 10CFR21.

DESCRIPTION

In the original design, Channels "C" and "D" of the low pressurizer pressure signals were connected from the Process Analog Control cabinets (PAC) CP27 and CP28 to the indicators in CP-7 without isolation. When the QSPDS inputs were incorporated into the existing design to meet the requirements of NUREG-0737, Item I.D.2, the signals for the QSPDS were paralleled with the CP-7 indicators, since both signals are in the same safety channels (SMC and SMD). The existing grounding arrangement in the QSPDS was overlooked.

This connection introduced an electrical ground on a signal common in Channels "C" and "D" of the PPS (which is designed to float) causing Channels "C" and "D" signals to fail high (indicating maximum pressure), thereby preventing initiation of a low pressurizer pressure PPS trip for Channels "C" and "D".

Channels "A" and "B" of the same parameter (Pressurizer Pressure) were unaffected and were operating correctly. The problem with the ground was noticed under the initial test program before the subject instruments were placed in service.

SAFETY IMPLICATIONS

If the above ground problem was left uncorrected, following an actual low pressurizer pressure event, Channels "C" and "D" would fail high and would not initiate a PPS trip.

CORRECTIVE ACTION TAKEN

Station Modification Package (SMP) 84-180 and CIWA L-7919 were issued to isolate the QSPDS signal common ground to the PPS by adding Westinghouse NLP-3 isolation cards inside PAC panels CP-27 and CP-28. All field work is complete and testing has proven that a PPS trip will be initiated upon receipt of a "Lo" pressurizer pressure signal from Channels "C" and "D".

Functional testing of the PPS has been completed and no additional grounding deficiencies similar to that described above have been identified. Therefore, this is considered an isolated case.

In order to prevent recurrence of deficiencies of this nature, PMP 302, Preparation of Station Modification Packages, has been revised to include grounding requirements for all changes which interface with the Plant Protection System. In addition the modification program requires that any future design changes be functionally tested prior to placing in service.

This report is submitted as the Final Report.