



MIDDLE SOUTH
UTILITIES SYSTEM

LOUISIANA
POWER & LIGHT

142 DELARONDE STREET
NEW ORLEANS, LOUISIANA

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November 14, 1984

W3P84-3192
3-A1.01.04
A4.05

Director of Nuclear Reactor Regulation
Attention: Mr. G. W. Knighton, Chief
Licensing Branch No. 3
Division of Licensing
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Mr. Knighton:

Subject: Waterford 3 SES
Docket No. 50-382
Plant Protection System (PPS)/Plant Monitoring
Computer (PMC) Interface

- References:
- 1) LP&L letter W3P84-2891 dated 10/17/84, subject: Meeting with NRC Staff on 10/11/84 regarding SCD-118.
 - 2) LP&L letter W3P84-2972 dated 10/31/84, subject: Final Report on SCD-118.

This letter addresses the questions on the subject matter raised by the NRC Staff personnel during a telephone conference on November 8. It provides for further understanding on the corrective action for SCD-118 (reference 2 - copy attached) and commits LP&L to obtain NRC prior approval for reconfiguration of the PPS/PMC interface.

The following on a question/response basis gives the additional information on the Waterford 3 PPS/PMC interface requested by the Staff:

1. Question: What is the basis for disconnecting the analog setpoint signals?

Response: The original design included computer monitoring of a large number of plant parameters, some of which are considered operational enhancement items. The analog setpoint values are in the category of enhancements. These setpoint values were

8411160375 841114
PDR ADOCK 05000382
S PDR

Bool
11

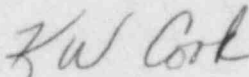
1. Response: monitored by the PMC and cross channel compared with a deviation resulting in a computer CRT alarm and a hard copy printout. PPS trip setpoints are based on the drift of bistables without taking credit for cross channel comparison. LP&L has received the concurrence of both Ebasco and Combustion Engineering that disconnection of the analog setpoint signals is an acceptable alternative.

2. Question: What will be the startup configuration?

Response: The corrective action stated in the SCD-118 Final Report (i.e., disconnect the cables) is now implemented and will be the fuel load startup configuration. LP&L will obtain prior approval from the NRC for reconfiguration of these analog setpoint signals with the plant computer.

Please contact G.E. Waller at (504) 464-3499 if you have any questions on the above matter or need additional information.

Very truly yours,



K.W. Cook
Nuclear Support & Licensing Manager

KWC:GEW:pcl

cc: E.L. Blake, W.M. Stevenson, J.T. Collins, D.M. Crutchfield, J.H. Wilson,
G.L. Constable, T.A. Flippo, G. Holahan, J.T. Beard, R.W. Stevens, Jr.



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October 31, 1984

W3P84-2972
Q-3-A35.07.118
3-A1.01.04

Mr. John T. Collins
Regional Administrator, Region IV
U.S. Nuclear Regulatory Commission
611 Ryan Plaza Drive, Suite 1000
Arlington, Texas 76011

Dear Mr. Collins:

Subject: Waterford 3 SES
Docket No. 50-382
SIGNIFICANT CONSTRUCTION DEFICIENCY NO. 118
"Failure to Meet Plant Protection System(PPS)/Plant
Monitoring Computer (PMC) Interface Design Criteria"
Final Report

- Reference: 1. Telecon - G.E. Wuller (LP&L) to W.A. Crossman (NRC-Region IV)
dated September 28, 1984.
2. LP&L letter W3P84-2891 dated October 17, 1984.

LP&L verbally notified the NRC of the subject deficiency on September 28, 1984 and confirmed it via the reference 1 telephone documentation. The reference 2 letter confirmed positions discussed with the NRC Staff personnel during a meeting in Bethesda, Md. on October 11 regarding the subject deficiency. In accordance with 10CFR50.55(e)(3), enclosed are two copies of the LP&L final report on SCD-118.

Very truly yours,

K.W. Cook
Nuclear Support & Licensing Manager

KWC:GEW:sms

Enclosure

cc: NRC, Director, Office of I&E (15 copies)
NRC, Director, Office of Management
G.W. Knighton, NRC-NRR
E.L. Blake
W.M. Stevenson
W.A. Cross
INPO (D.L. Gillispie)

CDR ~~8411140336~~

FINAL REPORT OF
SIGNIFICANT CONSTRUCTION DEFICIENCY NO. 118

"FAILURE TO MEET PPS/PLANT COMPUTER INTERFACE DESIGN CRITERIA"

INTRODUCTION

This report is submitted pursuant to 10CFR50.55(e). It describes a deficiency in the isolation of analog setpoint signals from the Plant Protection System (PPS) to the Plant Monitoring Computer (PMC).

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

DESCRIPTION OF PROBLEM

While troubleshooting an apparent grounding condition on the PMC which was causing an intermittent grounding condition in the PPS, a failed "Mercury wetted relay" was discovered in the PMC loop. Subsequent, a Failure Mode and Effects Analysis (FMEA) was performed assuming a common mode failure of other mercury wetted relays. This analysis determined that the tying together of the commons or connecting them to ground could bypass one of two dropping resistors in the transmitter current loop, altering the analog process input signals. The analog process input signals affected are Steam Generator 1 and 2 Level, Steam Generator 1 and 2 pressure, and Containment pressure for each of the four protection channels. To the best of our knowledge, this failure mode event never actually occurred but was simulated in the field confirming the results of this analysis.

SAFETY IMPLICATION

A common mode failure in the non-safety plant computer circuitry for the Steam Generator Level and pressure setpoint inputs for all four channels would result in the generation of conservatively lower process input signals. A common mode failure for the high containment pressure setpoint inputs for all four channels would result in the generation of lower than actual process input signals and the failure to initiate reactor trip when containment pressure exceeds the setpoint value (5 PSIG). Therefore, if left uncorrected the safety of the plant would be adversely affected.

CORRECTIVE ACTION

A review of the above configuration with other PPS interfaces has been accomplished. LP&L has obtained concurrence from both CE and Ebasco that disconnecting the PPS analog setpoint signal cables from the plant computer is acceptable and satisfies the isolation concern. This action has been completed.