

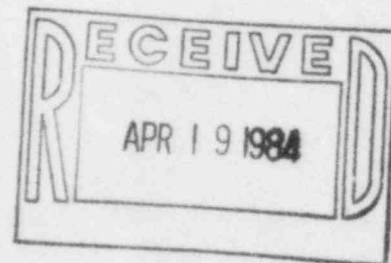
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April 12, 1984

W3K84-0844
Q-3-A35.07.94

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



REFERENCE: LP&L Letter W3K84-0821 dated April 9, 1984

Dear Mr. Collins:

SUBJECT: Waterford SES Unit No. 3
Docket No. 50-382
Significant Construction Deficiency No. 94
"Chemical Volume Control System (CVCS) Heat Trace Temperature Drift"
Final Report

In accordance with the requirement of 10CFR50.55(e), we are hereby providing two copies of the Final Report of Significant Construction Deficiency No. 94, "Chemical Volume Control System (CVCS) Heat Trace Temperature Drift".

If you have any questions, please advise.

Very truly yours,

T. F. Gerrets
Corporate Quality Assurance Manager

TFG:CNH:SSTG

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

Director
Office of Management
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U. S. Nuclear Regulatory Commission
Washington, D.C. 20555

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FINAL REPORT OF
SIGNIFICANT CONSTRUCTION DEFICIENCY NO. 94
"CHEMICAL VOLUME CONTROL SYSTEM (CVCS) HEAT TRACE TEMPERATURE DRIFT"

INTRODUCTION

This report is submitted pursuant to 10CFR50.55(e). It describes a deficiency in safety related heat tracing controllers. 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

The safety related heat tracing controllers were exhibiting the inability to remain within calibration over a period of time. This was due to the controller's sensitivity to changing ambient conditions. Secondly, approximately 66% of the "A" and "B" train heat trace circuits, for Boric Acid Make-up, required rework due to faulty construction or inadequate design.

SAFETY IMPLICATIONS

If left uncorrected, these two conditions could result in deviations from the Technical Specification requirements to maintain minimum boration line temperatures.

CORRECTIVE ACTION

The vendor (Raychem) provided a modification to prevent the safety related controllers from "drifting" out of calibration. This modification was necessary to thermally connect the terminal block to the sensor. This was accomplished by moving the Temperature Control Module (TCM) sensor to the opposing circuit board face. The High Temperature Modules (HTMs) are already installed in this manner. Installation of a heat sink to the terminal block and insulation about the sensor was also required. The heat sink allows changes in ambient to be transmitted to the terminal block which ensures the sensor reading terminal block temperature. The insulation will provide a stable environment for the sensor and guard against sensing rapid ambient temperature changes. This work has been performed by LP&L under vendor supervision using vendor provided parts. The heat trace circuits which did not maintain the required design temperatures were reworked. The rework consisted of providing the correct thermocouple orientation, rewiring heater cables on piping and reworking of faulty insulation. FCR-E-3458 has been issued to incorporate the modifications in the vendor drawings. Also, an acceptable operating pipe temperature range was established per the engineering requirements of DCN-E-967-R2.

This report is submitted as the Final Report.