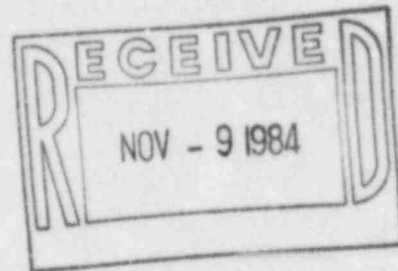


# The Light company

Houston Lighting & Power P.O. Box 1700 Houston, Texas 77001 (713) 228-9211

November 2, 1984  
ST-HL-AE-1145  
File Number: G12.214

Mr. Robert D. Martin  
Regional Administrator, Region IV  
Nuclear Regulatory Commission  
611 Ryan Plaza Drive, Suite 1000  
Arlington, Texas 76012



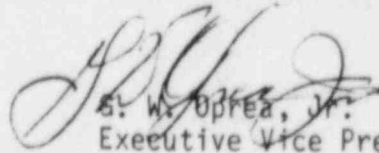
Dear Mr. Martin:

South Texas Project  
Units 1 & 2  
Docket Nos. STN 50-498, STN 50-499  
Final Report Concerning  
Rosemount Pressure  
Transmitters

On October 3, 1984, Houston Lighting & Power Company (HL&P), pursuant to 10CFR50.55(e), notified your office of an item concerning pressure transmitters supplied to the South Texas Project (STP) by Rosemount. Attached is the final report on that item. We have determined that this item does not meet the criteria for reportability under 10CFR50.55(e).

If you should have any questions concerning this matter, please contact Mr. Michael E. Powell at (713)993-1328.

Very truly yours,

  
S. W. Upree, Jr.  
Executive Vice President

MEP/wjb


Attachment: Final Report Concerning Rosemount Pressure Transmitters

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PDR ADOCK 05000498  
S PDR

W1/LNRC/i

DESIGNATED ORIGINAL

Certified By

  
original NOT sent

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cc:

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Docketing & Service Section  
Office of the Secretary  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555

South Texas Project  
Units 1 & 2  
Final Report Concerning  
Rosemount Pressure  
Transmitters

I. Summary

Rosemount identified a potential leakage path in the seal of the threaded connection between the sensor module and the electronics housing of model 1153B transmitters which could allow inleakage of moisture when subjected to a Loss of Coolant Accident (LOCA) or High Energy Line Break (HELB) environment. This condition resulted from improper application of a sealant material as well as inadequate torquing of the lock nut during final assembly. Affected units are to be disassembled, cleaned, and reassembled using a sufficient quantity of sealant prior to curing and subsequent torquing of the lock nut. All of the affected transmitters are located outside the containment building and do not pose a safety problem in their present configuration.

II. Description of the Incident

On October 3, 1984, HL&P informed NRC Region IV of an item concerning Rosemount model 1153B pressure and differential pressure transmitters manufactured after January 10, 1984 being subject to potential inleakage of moisture during abnormal operating conditions. The moisture could cause the transmitter to stop functioning. This condition in no way affects the pressure integrity of the transmitter pressure boundary since the leak occurs at the neck seal between the sensor module and the electronics housing.

As part of a Rosemount periodic process control audit, a number of transmitters are tested for electronic housing pressure integrity. The test is performed using a test rig to pressurize the internal electronics housing to 5 psig. During the most recent audit in June, 1984, a leak was observed on 2 of 12 transmitters selected at random. A follow-up 72-hour LOCA simulation test on other samples resulted in inleakage and accumulation of moisture in the electronics housing of 5 of 8 units tested.

III. Corrective Action

Forty units previously shipped to the STP jobsite are affected by this condition (i.e., the transmitters are located in the vicinity of a high energy line). These units and also those not affected by a potential harsh environment will be returned to Rosemount for disassembly, cleaning, repair, and reassembly. The repair has been performed on 6 test units; a follow-up LOCA simulation test performed on these 6 units revealed no evidence of inleakage. STP units currently at Rosemount will be reworked using the qualified repair procedure.

IV. Recurrence Control

Rosemount has stated that the only affected units are Rosemount 1153B transmitters. This appears to be an isolated incident and no recurrence control is required. It is not known whether other plants are affected.

V. Safety Analysis

Thirty-one of the forty transmitters located in the vicinity of a high energy line perform a monitoring function only. The remaining nine transmitters are all located in the Isolation Valve Cubicle (IVC). Five transmitters regulate operation of the main steam power-operated relief valves. The remaining four transmitters regulate auxiliary feedwater flow (AFW). There is no potential for common mode failure. In the unlikely event of an HELB in one of the four IVC cubicles the Physical design of equipment and structural walls in the IVC cubicle could cause or deficient transmitter to isolate the AFW train in the cubicle. A worst case single failure resulting in loss of the ESF actuation train A signal would leave only one AFW train operable (i.e., as a result of the loss of the ESF actuation train A signal, one motor-driven and one turbine driven AFW pump would be lost in addition to the AFW train which is impacted by the high energy line break). Therefore, even if the transmitters were not repaired, this one train is sufficient to meet requirements for safe shutdown of the plant. Therefore, this condition is not reportable.