

# The Light company

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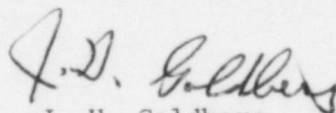
March 18, 1987  
ST-HL-AE-1952  
File No.: G12.364, G2.2  
10CFR50.55(e)

U. S. Nuclear Regulatory Commission  
Attention: Document Control Desk  
Washington, DC 20555

South Texas Project  
Units 1 and 2  
Docket Nos. STN 50-498, STN 50-499  
First Interim Report Concerning  
Electrical Splices Using Raychem Heat Shrink

On February 19, 1987, Houston Lighting & Power Company notified your office pursuant to 10CFR50.55(e) of an item concerning electrical splices using Raychem heat shrink insulation material. Enclosed is our First Interim Report on this item. Our next report will be submitted by May 15, 1987.

If you should have any questions on this matter, please contact Mr. C. A. Ayala at (512) 972-8628.



J. H. Goldberg  
Group Vice President, Nuclear

SDP/hg

Attachments: First Interim Report Concerning  
Electrical Splices Using Raychem Heat Shrink

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Houston Lighting & Power Company

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South Texas Project  
Units 1 and 2  
Docket Nos. STN 50-498, STN 50-499  
First Interim Report Concerning  
Electrical Splices Using Raychem Heat Shrink

I. Summary

On February 19, 1987, Houston Lighting & Power (HL&P) notified NRC Region IV, pursuant to 10CFR50.55(e), of a reportable item concerning safety related electrical splices using incorrectly installed Raychem heat shrink insulation material. This deficiency affects various safety related power and control circuits. If left uncorrected, the safe operation of the plant could have been affected.

II. Description of Deficiency

During an NRC Electrical Audit, Raychem heat shrink material used for in-line splices was discovered to have been installed incorrectly. Shims required by existing procedures which are necessary to assure proper installations were omitted. Installations did not consistently follow vendor instructions. Additionally, site procedures did not require Raychem installations to be inspected for conformance with vendor instructions. As a result, deficient splices were installed on inboard containment electrical penetration leads. Subsequently, a review of the Class 1E termination cards of safety related splices to inboard penetration leads was conducted which identified twenty deficient splices. An additional ten splices to electrical penetration leads require further evaluation to determine acceptability. Installations determined to be deficient will be reworked.

III. Corrective Action

The deficient splices have been documented on nonconformance reports. An investigation is in process to determine the total number of incorrectly installed splices by analyzing all Class 1E termination cards (in addition to those discussed in the description above) to verify that the correct Raychem material was utilized. The investigation will be completed by May 1, 1987. Where information on the termination card is not adequate, further verification will be made to obtain the data necessary to determine acceptability of the individual installations. Installations determined to be deficient will be reworked. All rework will be accomplished prior to fuel load.

IV. Recurrence Control

- 1) Craft, Field Engineers, and Field Quality Control (FQC) personnel have been reinstructed on the use of Raychem material in accordance with project procedures and drawings.
- 2) Site Standard Procedure 26 "Termination of Electrical Cable" will be revised to require that Class 1E Raychem splices be installed and inspected to approved engineering details. The procedure change will be issued and effective by March 31, 1987.



As an interim measure Raychem material will continue to be installed and documented under the present program. However, each Class 1E cable-to-cable termination installation will be reviewed to verify correct usage of Raychem material until the change to the existing procedure becomes effective.

V. Safety Analysis

The deficient splices are in power and control circuits for various safety related systems. The potential exists that circuit malfunctions (shorts, grounds, or opens) could occur and cause associated equipment or instrumentation failure. For example, a failure of the Raychem heat shrink insulation to maintain the electrical integrity of the cables could result in malfunction of associated motor operated valves (MOVs). Had these deficiencies remain uncorrected, failure of MOV's to operate properly could have affected safe operations of the plant. Therefore, HL&P has determined that this item is reportable pursuant to 10CFR50.55(e).