

# The Light company

Houston Lighting & Power South Texas Project Electric Generating Station P. O. Box 289 Wadsworth, Texas 77483

March 9, 1990

ST-HL-AE- 3399

File No.: G02

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

South Texas Project Electric Generating Station  
Unit 1  
Docket No. STN 50-498  
Special Report Regarding  
A Diesel Generator Nonvalid Failure on February 9, 1990

Pursuant to the South Texas Project Electric Generating Station Technical Specifications 4.8.1.1.3 and 6.9.2, Houston Lighting & Power submits the attached Special Report regarding a diesel generator nonvalid failure which occurred on February 9, 1990.

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

G.E. Vaughn

G. E. Vaughn  
Vice President  
Nuclear Operations

by *W. H. Hunsley*

BEM/nl

Attachment: Special Report Regarding a Diesel  
Generator Nonvalid Failure on  
February 9, 1990

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^ Subsidiary of Houston Industries Incorporated

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Houston Lighting & Power Company  
South Texas Project Electric Generating Station

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South Texas Project Electric Generating Station  
Unit 1  
Docket No. STN 50-498  
Special Report Regarding A Nonvalid  
Failure of #11 Standby Diesel Generator on February 9, 1990

DESCRIPTION OF EVENT:

On February 9, 1990, Unit 1 was in Mode 1 at 100 percent power. At 1445 hours Standby Diesel Generator 11 was started to satisfy Technical Specification surveillance requirements. It was then paralleled with offsite power and loaded for approximately 55 minutes. At that time reactive load dropped from 4125 kVARs to 600 kVARs. The reactive power was adjusted back to 4200 kVARs, however, within approximately two minutes the kVAR meter pegged high and then indicated negative reactive power. The generator output breaker automatically tripped on reverse power and the test was terminated.

Troubleshooting of the voltage regulator was performed to determine the cause of the failure. Some carbonization was found in the socket of relay 3UP which may have caused it to spuriously operate resulting in erratic voltage regulator response. The carbonization was the result of a short circuit arc which occurred during the tightening of a lug on the socket of the relay earlier that day. The adjacent circuitry was checked for damage following the short circuit; however, the carbonization inside the relay socket was not noticed. The relay socket and base were cleaned and SDG 11 was successfully tested at 0538 hours on February 10, 1990.

CAUSE OF EVENT:

The cause of this nonvalid failure was carbonization of the 3UP relay socket and base due to an inadvertent short circuit during the tightening of a lug.

CORRECTIVE ACTION:

The 3UP relay socket and base were cleaned and the diesel was successfully tested.

ADDITIONAL INFORMATION:

Per the criteria of Regulatory Guide 1.108, the failure described herein has been classified as a nonvalid failure. There have been a total of 55 valid tests of SDG 11 since the completion of the diesel generator reliability demonstration. As such, the test interval for SDG 11 remains at once per 31 days.