

# The Light company

Houston Lighting & Power

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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 October 27, 1988

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 October 27, 1988.

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

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G. E. Vaughn  
Vice President  
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GEV/BEM/n1

Attachment: Special Report Regarding a Diesel  
Generator Nonvalid Failure on  
October 27, 1988

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Unit 1  
Docket No. STN 50-498  
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A Diesel Generator Nonvalid Failure on October 27, 1988

Description of Event:

On October 27, 1988, Unit 1 was in Mode 1 at 100% power. Standby Diesel Generator (SDG) #11 was out of service for maintenance. Technical Specification 3.8.1.1.b requires that the remaining two diesel generators be started within 24 hours to verify their operability. At 2335 hours, SDG #13 was started to comply with the surveillance requirement. It attained rated speed and voltage within ten seconds as required. Approximately one minute later it tripped when released from the emergency mode. No alarms were present which would have indicated an emergency mode trip.

Trouble shooting was performed to identify the source of the trip. Since the "Master Trip Circuit" light was on at the local control panel, the trip was determined to have been caused by the non-emergency mode shutdown circuit. Operations personnel conducted checks on engine systems and verified that there were no abnormal conditions present which could have caused the trip. Operations personnel did not indicate that any alarms were present prior to starting the diesel which would have resulted in a non-emergency mode shutdown. Instrumentation was connected to the shutdown air header and the engine was restarted. The engine continued to run when released from the emergency mode and no malfunctions of the shutdown controls were detected. The instrumentation was removed and the diesel was started two more times. In both cases, the diesel continued to run when released from the emergency mode. The trouble shooting did not identify any specific cause of the non-emergency mode shutdown.

The operability test of SDG #13 was successfully performed on October 28, 1988 at 1922 hours and the diesel was declared operable at 2126 hours.

ROOT CAUSE:

No specific root cause could be determined for this event. However, two potential causes were identified as follows:

1. A non-emergency mode trip was present which was not reset prior to starting the diesel. Interviews with operations personnel did not confirm the existence of any non-emergency mode trip.
2. A non-emergency mode trip spuriously operated while the diesel was in the emergency mode. Repeated attempts were made to re-create the trip conditions, however, the diesel continued to run when placed in the non-emergency mode.

ANALYSIS OF EVENT:

This failure occurred as a result of a trip which is not present during the emergency mode of operations. Per the criteria in Reg. Guide 1.108 this event is classified as a nonvalid failure. In the event of an actual challenge of the Standby Diesel Generator, it would have performed its safety function without tripping.

CORRECTIVE ACTION:

Subsequent to this occurrence, SDG #13 was started three times for troubleshooting and two times for surveillance testing. No non-valid failures occurred. Monitoring instrumentation did not detect any spurious control actuations. No further corrective action is planned.

ADDITIONAL INFORMATION:

Per the criteria of Reg. Guide 1.108, the failure described in this report has been classified as a nonvalid failure. As such, the test interval for SDG #13 remains 31 days. There have been twenty-six (26) valid tests performed on SDG #13 since the Unit 1 license became effective and, to date, no valid failures have occurred. This was the first nonvalid failure which could not be attributed to a specific trip or spurious actuation.