

The Light company

Houston Lighting & Power

South Texas Project Electric Generating Station P. O. Box 289 Wadsworth, Texas 77483

November 20, 1992

ST-HL-AE-4270

File No.: G02

10CFR50

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

South Texas Project
Unit 1

Docket No. STN 50-498

Special Report Regarding a Non-Valid Failure of
Standby Diesel Generator 12 on October 22, 1992

Pursuant to the South Texas Project Electric Generating Station (STPEGS) Technical Specifications 4.8.1.1.3 and 6.9.2, Houston Lighting & Power submits the attached Special Report regarding a non-valid failure of Standby Diesel Generator 12 which occurred on October 22, 1992.

If you should have any questions on this matter, please contact Mr. C. A. Ayala at (512) 972-8628 or me at (512) 972-7205.

W. J. Jump
for William J. Jump
General Manager,
Nuclear Licensing

MAC/ag

Attachment. Special Report Regarding a Non-Valid
Failure of SDG 12 on October 22, 1992

000065

JE22

Houston Lighting & Power Company
South Texas Project Electric Generating Station

ST-HL-AE-4270
File No.: G02
Page 2

cc:

Regional Administrator, Region IV
Nuclear Regulatory Commission
611 Ryan Plaza Drive, Suite 400
Arlington, TX 76011

George Dick, Project Manager
U.S. Nuclear Regulatory Commission
Washington, DC 20555

J. I. Tapia
Senior Resident Inspector
c/o U. S. Nuclear Regulatory
Commission
P. O. Box 910
Bay City, TX 77414

J. R. Newman, Esquire
Newman & Holtzinger, P.C.
1615 L Street, N.W.
Washington, DC 20036

D. E. Ward/T. M. Puckett
Central Power and Light Company
P. O. Box 2121
Corpus Christi, TX 78403

J. C. Lanier/M. B. Lee
City of Austin
Electric Utility Department
P.O. Box 1088
Austin, TX 78767

K. J. Fiedler/M. T. Hardt
City Public Service Board
P. O. Box 1771
San Antonio, TX 78296

Rufus S. Scott
Associate General Counsel
Houston Lighting & Power Company
P. O. Box 61867
Houston, TX 77201

INPO
Records Center
1100 Circle 75 Parkway
Atlanta, GA 30339-3064

Dr. Joseph M. Hendrie
50 Bellport Lane
Bellport, NY 11713

D. K. Lacker
Bureau of Radiation Control
Texas Department of Health
1100 West 49th Street
Austin, TX 78756-3189

Revised 10/11/91

L4/NRC/

South Texas Project
Unit 1
Docket No. STN 50-498
Special Report Regarding a Non-Valid Failure of
Standby Diesel Generator 12 on October 22, 1992

DESCRIPTION OF EVENT:

On October 22, 1992, Unit 1 was in no mode during a refueling outage. At 2102 hours, Standby Diesel Generator (SDG) 12 was started in the emergency mode to perform the SDG operability surveillance test. The SDG was released from emergency to the test mode and an attempt was made to parallel the SDG with the offsite power source. The SDG output breaker was cycled shut and reopened. Two additional attempts were made to close the breaker with similar results. The SDG was placed in cooldown and the test suspended. The Generator Breaker Lockout Relay (86GB) was found tripped at the local control panel.

The 86GB relay can be energized by any one of eight protective relays associated with individual generator fault conditions such as reverse power, loss of field, underfrequency, overcurrent and overvoltage. The presence of one of these conditions, which would lead to a trip of the 86GB relay, would be indicated by a flag on the associated protective relay, an alarm at the local panel, and a summary alarm on the Emergency Response Facility Data Acquisition Display System (ERFDADS) and in the Control Room. No flags were noted on the protective relays following this event and no alarms were received in the Control Room or on ERFDADS.

Troubleshooting was conducted on the circuits associated with relay 86GB and the related protective relays. Each protective relay was manually operated to verify that the 86GB relay tripped, the protective relay flag came in and the alarm was received in the Control Room. Each relay operated satisfactorily. The 86GB relay was tested to verify that the mechanical flag could not be cleared prior to opening the electrical contacts. There was no flag movement prior to the contacts opening. The control panels were checked for loose, burned or broken wiring. None were found. The generator breaker was cycled satisfactorily. The breaker closed as required during the post maintenance test. No physical problem could be identified to account for failure of the breaker to remain closed during the surveillance test.

DESCRIPTION OF EVENT: (Con't)

A 24 hour run of SDG 12 had been successfully completed on October 22 at 0128 hours. A review of work packages indicated that the Negative Phase Sequence Overcurrent Relay (46) was calibrated during the time between the two SDG runs. Relay 46 can actuate to trip the 86GB relay. Relay 46 is removed from the case during the calibration process. The possibility exists that upon restoration of the relay following calibration, the relay inadvertently tripped, tripping the 86GB relay. The operator at the local control panel indicated he checked the panel for trip flags and none were observed prior to the test conducted at 2102 hours. However, the operator did observe the trip flag during the subsequent attempts to close the output breaker. A standby lineup, which includes verifying lockout relays are reset, was not required to be performed prior to this test. This lineup is located in the SDG operating procedures. If this lineup had been requested, a problem with the 86GB relay could have been detected.

CAUSE OF EVENT:

The event was most likely caused by the 86GB relay being in the tripped condition prior to the start of the surveillance test. This may have occurred during calibration of the 46 relay. This conclusion is based upon satisfactory operation of the protective relay circuits and the 86GB relay during troubleshooting. In addition, no protective relay flags or alarms were received during the event. The action of the breaker during this event (attempting to close then reopening) is consistent with the circuit design with a locked-in trip signal. The protective relays, associated slave relays and relay 86GB energize to actuate, which minimizes the occurrence of spurious operation. The surveillance procedures on the SDGs do not require the performance of the standby lineup prior to operation.

ANALYSIS OF EVENT:

This event is classified as a non-valid failure since the SDG operated satisfactorily in the emergency mode, and if challenged, would have performed its safety function. The actuation of the 86GB relay to open the generator breaker is bypassed in the emergency mode.

CORRECTIVE ACTIONS:

1. Troubleshooting of the 86GB relay and related protective relay circuits was completed. No discrepancies were noted with the system operation.
2. The appropriate surveillance procedures on the SDGs will be revised to require the performance of the SDG standby lineup prior to performing the surveillance. This action will be completed by April 27, 1993.

ADDITIONAL INFORMATION:

Per STPEGS Technical Specification 4.8.1.1, there has been 1 valid failure in the last 20 valid tests of SDG 12. The number of valid failures within the last 100 valid tests is less than or equal to 4. Therefore, the testing frequency for SDG 12 remains at once per 31 days.