

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) South Texas, Unit 1	DOCKET NUMBER (2) 0 5 0 0 0 4 9 8	PAGE (3) 1 OF 0 4
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TITLE (4)
Standby Diesel Generator Actuation

EVENT DATE (5)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)							
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	MONTH	DAY	YEAR	FACILITY NAMES		DOCKET NUMBER(S)					
1	2	09	8	7	8	7	0	2	5	0	0	0	5	0	0	0
1	2	09	8	7	8	7	0	2	5	0	0	0	5	0	0	0

OPERATING MODE (9) 4

POWER LEVEL (10) 0 0 0

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 5. (Check one or more of the following) (11)

<input type="checkbox"/> 20.402(b)	<input type="checkbox"/> 20.406(c)	<input checked="" type="checkbox"/> 50.73(a)(2)(iv)	<input type="checkbox"/> 73.71(b)
<input type="checkbox"/> 20.406(a)(1)(i)	<input type="checkbox"/> 50.36(a)(1)	<input type="checkbox"/> 50.73(a)(2)(v)	<input type="checkbox"/> 73.71(c)
<input type="checkbox"/> 20.406(a)(1)(ii)	<input type="checkbox"/> 50.36(a)(2)	<input type="checkbox"/> 50.73(a)(2)(vi)	<input type="checkbox"/> OTHER (Specify in Abstract below and in Text, NRC Form 366A)
<input type="checkbox"/> 20.406(a)(1)(iii)	<input type="checkbox"/> 50.73(a)(2)(i)	<input type="checkbox"/> 50.73(a)(2)(vii)(A)	
<input type="checkbox"/> 20.406(a)(1)(iv)	<input type="checkbox"/> 50.73(a)(2)(ii)	<input type="checkbox"/> 50.73(a)(2)(vii)(B)	
<input type="checkbox"/> 20.406(a)(1)(v)	<input type="checkbox"/> 50.73(a)(2)(iii)	<input type="checkbox"/> 50.73(a)(2)(ix)	

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER
Charles Ayala - Supervising Licensing Engineer	5 1 2 9 7 2 1 8 6 2 8

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPROS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPROS
X									

SUPPLEMENTAL REPORT EXPECTED (14)

YES (If yes, complete EXPECTED SUBMISSION DATE) NO

EXPECTED SUBMISSION DATE (15)

MONTH	DAY	YEAR

ABSTRACT (Limit to 1400 spaces, i.e., approximately fifteen single space typewritten lines) (16)

At 0424 hours on December 9, 1987 with Unit 1 in Mode 4, prior to initial criticality, a Train A Loss of Offsite Power (LOOP) actuation occurred. This caused an Engineered Safety Feature (ESF) Train A bus strip, standby diesel generator start and subsequent sequencing of the Train A ESF components. Normal power was restored to the bus and the diesel generator was removed from service at 0455 hours. The root cause of this actuation could not be conclusively established; however, the most likely causes are procedural errors coupled with a hardware failure. The ESF Train component actuations occurred as designed. A number of corrective actions have been or will be implemented to address the most likely causes of the event. There were no adverse safety or radiological consequences as a result of this event.

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LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

FACILITY NAME (1) South Texas, Unit 1	DOCKET NUMBER (2) 0 5 0 0 0 4 9 8	LER NUMBER (6)			PAGE (3)	
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER		
		8 7	- 0 2 5	- 0 0	0 2	OF 0 4

If more space is required, use additional NRC Form 366A's (17)

DESCRIPTION OF OCCURRENCE:

At 0424 hours on December 9, 1987 with Unit 1 in Mode 4, a Train A Loss of Offsite Power (LOOP) actuation occurred. This resulted in a Train A Engineered Safety Feature (ESF) bus strip, standby diesel generator (SDG) start and subsequent loading of the required bus 1A loads. Normal power was restored to the bus and the diesel was removed from service at 0454 hours.

At the time of the occurrence, an electrical surveillance test was in progress on degraded voltage relays for the 4.16 kv bus E1A. The test was discontinued by direction of the Shift Supervisor.

Actions associated with the sequencer logic, diesel start and actuated equipment performed as required. During the event it was noted that the Train A sequencer would not reset from the control board and was reset locally.

The NRC was notified pursuant to 10CFR.50.72(b)(2)(iii) at 0745 hours on December 9, 1987. There were no adverse safety or radiological consequences as a result of this event.

CAUSE OF OCCURRENCE:

The root cause of this event could not be conclusively established; however, the investigation of this event revealed the following:

- 1) The surveillance procedure being performed at the time of the event was not followed step by step. In addition, it was found that the procedure did not provide adequate direction to install and remove test equipment in the required sequence or to perform adequate SDG sequencer alarm restoration. It was not substantiated that the above problems contributed to the initiation of this event. It should be noted that this procedure had been routinely performed without incident on the three ESF busses prior to this event.
- 2) The last relay tested prior to the initiation of this event was an Agastat Timer 62Y-G. It is postulated that the relay may have failed such that the contacts on this relay could have remained closed. If that were the case and an undervoltage signal was generated due to any procedural problems described in 1) above, the 2 out of 4 logic requirements would be met for a LOOP actuation.

In addition, the following potential initiating events were considered and determined not to be causes of this event:

- 1) 125VDC or 120VAC voltage transients,

NL.LER87025

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

FACILITY NAME (1) South Texas, Unit 1	DOCKET NUMBER (2) 0 5 0 0 0 4 9 8 8 7 - 0 2 5 - 0 0 0 3	LER NUMBER (6)			PAGE (3)	
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER		
					OF	

TEXT (If more space is required, use additional NRC Form 366A's) (17)

- 2) Malfunction of the E1A 4KV bus feeder breaker,
- 3) Radio interference,
- 4) Personnel errors, specifically technicians working on or monitoring the wrong relay, bumping or inadvertently tripping a relay, and inadvertently tripping the E1A feeder breaker,
- 5) Sequencer malfunction,
- 6) Inadvertent trip of the E1A feeder breaker from the control room,
- 7) Loss of power to the 13.8 KV bus,
- 8) Starting of equipment,
- 9) Other tests in progress which may have conflicted with the electrical surveillance test.

ANALYSIS OF EVENT:

This event, an ESF actuation, was reportable pursuant to 10CFR50.73(a)(2)(iv).

There were no adverse safety or radiological consequences of this event since the plant had not yet been critical and no radioactivity had been produced. The ESF systems for Train A actuated and functioned as designed. If the event had occurred at full power no additional risk to the public would have resulted.

CORRECTIVE ACTION:

Although no conclusive cause of this event could be identified, the following actions have been or will be taken to address the most probable causes:

1. The specific relay test procedure has been revised to correct the deficiencies noted above.
2. Agastat Timer relay (62Y-G) has been replaced. Documentation for the completed work is in the final review process.
3. Additional surveillances have been performed on the undervoltage relays to verify their reliability.

NL.LER87025

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		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER		
		8 7	0 2 5	0 0	0 4	OF 0 4

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4. A review of other relay surveillance test procedures have been performed to ensure that they are adequate.
5. Maintenance Department electricians have been re-instructed to the need for compliance with procedures.
6. Tests will be performed to verify correct operation of the main control board sequencer reset pushbutton by January 31, 1988.

ADDITIONAL INFORMATION:

One other reportable event similar to this event has occurred at South Texas Project Electric Generating Station and is documented in LER 37-021.

NL.LER87025

The Light company

Houston Lighting & Power

P.O. Box 1700 Houston, Texas 77001 (713) 228-921

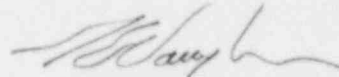
January 8, 1988
ST-HL-AE-2473
File No.: G26
10CFR50.73

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
Licensee Event Report 87-025 Regarding
Standby Diesel Generator Actuation

Pursuant to 10CFR50.73, Houston Lighting & Power submits the attached Licensee Event Report (LER 87-025) regarding a standby diesel generator actuation. There were no adverse safety or radiological consequences as a result of this event.

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



G. E. Vaughn
Vice President
Nuclear Plant Operations

GEV/SMH/clr

Attachment: Licensee Event Report 87-025
Regarding Standby Diesel
Generator Actuation

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cc:

Regional Administrator, Region IV
Nuclear Regulatory Commission
611 Ryan Plaza Drive, Suite 1000
Arlington, TX 76011

N. Prasad Kadambi, Project Manager
U. S. Nuclear Regulatory Commission
7920 Norfolk Avenue
Bethesda, MD 20814

Dan R. Carpenter
Senior Resident Inspector/Operations
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

R. L. Range/R. P. Verret
Central Power & Light Company
P. O. Box 2121
Corpus Christi, TX 78403

R. John Miner (2 copies)
Chief Operating Officer
City of Austin Electric Utility
721 Barton Springs Road
Austin, TX 78704

R. J. Costello/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 1700
Houston, TX 77001