NRC Form 366
(9-83)

U.S. NUCLEAR REGULATORY COMMISSION
APPROVED OMB NO. 3150-0104
EXPIRES 8/31/88

LICENSEE EVENT REPORT (LER)

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

TITLE (4): Control Room Ventilation Actuation to Recirculation Mode Due to Improper Operator Action

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)
0 1	0 6	8 8	8 8	— 0 0 3	— 0 0	0 2	0 5	8 8		0 5 0 0 0
										0 5 0 0 0

OPERATING MODE (9)		THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)			
5		20.402(b)	20.405(c)	X 50.73(a)(2)(iv)	73.71(b)
POWER LEVEL (10)		20.405(a)(1)(i)	50.36(c)(1)	50.73(a)(2)(v)	73.71(c)
0 0 0		20.405(a)(1)(ii)	50.36(c)(2)	50.73(a)(2)(vii)	OTHER (Specify in Abstract below and in Text, NRC Form 366A)
		20.405(a)(1)(iii)	50.73(a)(2)(i)	50.73(a)(2)(viii)(A)	
		20.405(a)(1)(iv)	50.73(a)(2)(ii)	50.73(a)(2)(viii)(B)	
		20.405(a)(1)(v)	50.73(a)(2)(iii)	50.73(a)(2)(x)	

LICENSEE CONTACT FOR THIS LER (12)

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

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

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS		CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS	
A											

SUPPLEMENTAL REPORT EXPECTED (14)

		EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
YES (If yes, complete EXPECTED SUBMISSION DATE)	X NO				

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

At approximately 2257 hours on January 5, 1988 with the Unit 1 in Mode 5, the primary power supply undervoltage relay associated with Transfer Switch ESW002 failed. This relay failure transferred the non-class 1E Distribution Panel DP002 to an emergency power supply. At approximately 1021 hours on January 6, 1988 an operator (non-licensed) was sent to transfer the distribution panel back to the preferred power supply. Improper operator action and procedure inadequacies resulted in a loss of the emergency power supply with the subsequent loss of control power to the Toxic Gas Monitor actuation relays. This caused an automatic actuation of the Control Room Ventilation System to the recirculation mode. The corrective actions which are being taken include retraining the operators and revising the operating procedures.

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NL.LER88003

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

DESCRIPTION OF OCCURRENCE:

At approximately 2257 hours on January 5, 1988 with Unit 1 in Mode 5 prior to initial criticality, an undervoltage relay associated with Transfer Switch ESW002 failed. This failure resulted in the transfer switch automatically transferring to the emergency power supply.

At approximately 0900 hrs. on January 6, 1988 a routine tour of the Electrical Auxiliary Building (EAB) was being conducted by a Senior Reactor Operator (SRO). During the tour the SRO noticed that the Distribution Panel DP002 was being supplied from the emergency AC source (the voltage regulating transformer) even though the preferred power supply (the inverter) appeared to be available.

This power source lineup was discussed with the Control Room Unit Supervisor and a Reactor Operator (RO). It was decided to return Distribution Panel DP002 to its preferred power supply and to do so the inverter was to be shutdown, restarted, and a manual transfer performed to place DP002 on the inverter.

The EAB operator (non-licensed) was directed to use procedure 1POP02-NA-0001 even though the intent of the procedure was to startup the inverter after an outage. A procedure for transferring between preferred and emergency power supplies did not exist at the time. The procedure which was used required three power supply breakers to be opened (CB1, CB2, and the AC power supply breaker to the AC voltage regulating transformer as shown on Figure 1). However, there was a warning in the procedure directing the operator NOT to open the AC power supply breaker to the voltage regulating transformer if it was supplying emergency power to the panel DP002, as was the case. The operator did not heed the warning because the warning was written as the last part of a step which first required that the breaker be opened and the operator failed to read the entire step through, before performing the first action.

At approximately 1021 hours, the EAB operator opened the AC power supply breaker to the voltage regulating transformer, and power was lost to Distribution Panel DP002. As DP002 provides the control power to the Toxic Gas Monitor Actuation Relays, this action resulted in a Engineered Safety Feature (ESF) Control Room Ventilation Isolation Actuation.

The Toxic Gas Monitoring System is a non-class 1E system and failure of the transfer switch did not and would not render this system incapable of performing its intended Safety Function. The Toxic Gas Monitor actuation relays fail in the safe direction causing an ESF actuation in the event both preferred and emergency power supplies are lost.

There were no adverse safety consequences as a result of this event. At 1100 hours the Control Room Ventilation System was returned to its normal operating configuration.

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The NRC was notified of this ESF actuation pursuant to 10CFR50.72 (b) (2) (ii) at 1145 hrs. on January 6, 1988.

CAUSE OF OCCURRENCE:

The root cause of this event was failure of an operator to follow a procedure. A contributing cause was the fact that the procedure chosen to operate the equipment was not intended for the conditions and that the procedure was not adequate from a human factors standpoint.

ANALYSIS OF EVENT:

No toxic gas releases occurred during the period while the monitors were inoperable and no unusual fumes or reports of unusual effects on control room personnel were identified during this time. Additionally, since Unit 1 had not yet been critical and no radioactive material had been produced, there were no safety consequences to the general public due to this occurrence.

This event was reportable pursuant to 10CFR50.73(a)(2)(iv) since a ESF actuation occurred due to the Toxic Gas Monitors.

CORRECTIVE ACTIONS:

To prevent recurrence of the event, the following corrective actions are being taken:

1. The operating procedure will be revised to properly direct transfer switch, AC emergency power supply, and inverter operation following failure of the transfer switch. The procedure will also be revised to correct human factors deficiencies. This will be completed on a schedule to support corrective action number 2.

2. Training sessions for operators (licensed and non-licensed) will be implemented to review this incident and the revised procedure and explain the proper operation of the transfer switches and their associated inverters. This training will emphasize contacting maintenance if there appears to be an equipment failure. This training is scheduled for completion on March 15, 1988.

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

ADDITIONAL INFORMATION:

Although not specifically related to this event, there have been two other reportable events at the South Texas Project Electric Generating Station due to auto actuations of the control room ventilation to recirculation mode as a result of personnel error specifically related to causing loss of power to the Toxic Gas Monitors (LER 87-005 and 87-013).

Though this event was caused by operator error and misjudgment on the appropriate use of a procedure, another issue discovered during the investigation was that the operators failed to determine why the transfer switch was not aligned to the preferred power source. The proper course of action would have been to troubleshoot and repair the transfer switch.

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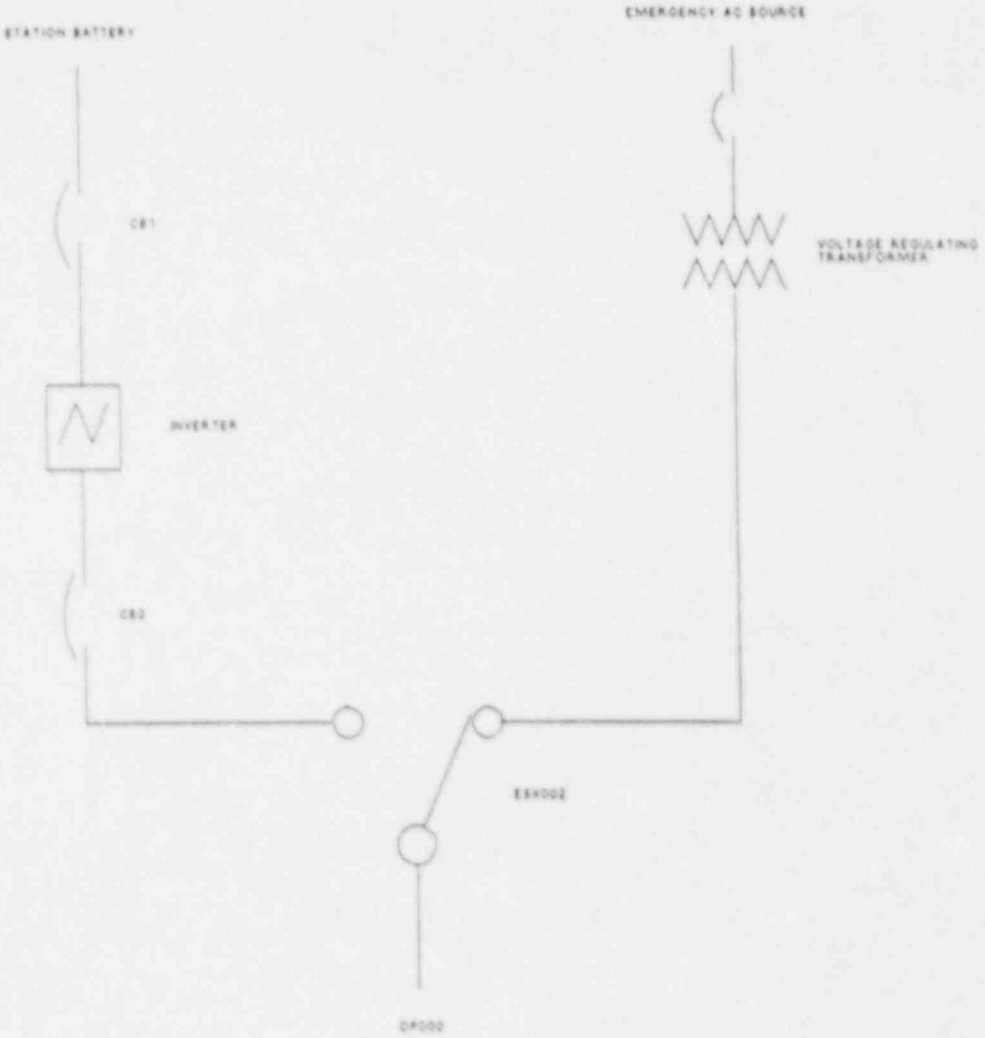
TEXT (If more space is required, use additional NRC Form 366A's) (17)

FIGURE 1



The Light company
Houston Lighting & Power

P.O. Box 1700 Houston, Texas 77001 (713) 228-9211

February 05, 1988
ST-HL-AE-2496
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 88-003 Regarding
Control Room Ventilation Actuation to
Recirculation Mode Due to Improper Operator Action

On January 6, 1988, Houston Lighting & Power (HL&P) notified the NRC pursuant to 10CFR50.72 of a reportable event regarding a Control Room Ventilation actuation to the recirculation mode due to improper operator action (operator error). The event did not have any adverse impact on the health and safety of the public. In accordance with 10CFR50.73 HL&P submits the attached Licensee Event Report (LER 88-003).

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/CAA/eeg

Attachment: Licensee Event Report 88-003 Regarding
Control Room Ventilation Actuation to
Recirculation Mode due to Improper
Operator Action

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1/1

cc:

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