NRC Form 366
(0-83)

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 3

TITLE (4) Fuel Handling Building Ventilation System Auto-actuation to Filtration Mode Due to an Apparent Equipment Failure of a Radiation Monitor

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 5 0 0 0
0 9	2 6	8 7	8 7	— 0 1 0	— 0 0	1 0	2 6	8 7		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 1 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	

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)

On September 26, 1987 at approximately 1610 hours with the plant in Mode 5, a Fuel Handling Building (FHB) Ventilation System auto-actuation to filtration mode occurred due to an apparent equipment failure of a FHB atmosphere radiation monitor. The FHB Ventilation System auto-actuation to the filtration mode is an Engineered Safety Feature (ESF) actuation. The radiation monitor is a noble gas monitor provided by G. A. Technologies as part of the digital radiation monitoring system. Following the event, the operators verified the proper FHB Ventilation System damper alignment. Subsequent investigation of the event indicated that the radiation monitor had a "Loss of Counts" making the radiation monitor inoperable; however, the investigation of the cause of the "Loss of Counts" was inconclusive. The radiation monitor recorded no counts for approximately one hour on September 26, 1987, but has operated satisfactorily since that time. The radiation monitor's printed circuit boards have been inspected, their contacts cleaned, the input/output and preamplifier printed circuit boards have been replaced and the calibration surveillance procedure has been performed in an effort to prevent recurrence of the event.

NL.LER87010

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

DESCRIPTION OF OCCURRENCE:

On September 26, 1987 at approximately 1610 hours with the plant in Mode 5, a Fuel Handling Building (FHB) Ventilation System auto-actuation to filtration mode occurred due to a "Loss of Counts" by a FHB atmosphere radiation monitor (RT-8035). The auto-actuation of the FHB Ventilation System to filtration mode is an Engineered Safety Feature (ESF) actuation. Monitor RT-8035 is a noble gas monitor supplied by G. A. Technologies as part of the digital radiation monitoring system. A "Loss of Counts" occurs when the radiation monitor does not record any radiation counts in a five minute period. Normal background for monitor RT-8035 is approximately 20 counts per minute; therefore, a "Loss of Counts" is indicative of an equipment failure. The monitor's microprocessor sensed this "Loss of Counts" and initiated the FHB Ventilation System auto-actuation to filtration mode.

Following the event, the control room operators (NRC-licensed) verified the proper FHB Ventilation System damper alignment and initiated an investigation of the cause of the event.

The NRC was notified on September 26, 1987 at 1743 hours that an ESF actuation had occurred pursuant to 10CFR50.72(B)(2)(ii). The plant is in initial startup with no spent fuel in the FHB and monitor RT-8035 is required to be operable only when there is spent fuel in the spent fuel pool per Technical Specification 3.3.2; therefore, there were no safety consequences as a result of the event.

CAUSE OF OCCURRENCE:

A "Loss of Counts" had previously occurred on Monitor RT-8035 on July 20, 1987 (prior to issuance of the operating license) and at that time the monitor was checked and all components were found to be functioning properly, no root cause for the "Loss of Counts" could be determined. The detector's high voltage power supply was replaced at that time in an effort to prevent recurrence of the problem. The monitor operated without any "Loss of Counts" until this event occurred on September 26, 1987.

On September 26, 1987 monitor RT-8035 experienced a "Loss of Counts" and no counts were received for approximately one hour, then subsequently, even though no corrective action was taken, the monitor began to function properly. After verifying the monitor's components were operating correctly, the monitor was returned to normal operation.

After observing monitor RT-8035 operate correctly for three days, although there was no evidence of the cause of failure, the following preventative actions were taken on September 29, 1987 and September 30, 1987: a) the printed circuit (PC) boards were inspected and their contacts cleaned and (b) the input/output (I/O) and preamplifier PC boards were replaced. On October 14, 1987 the calibration surveillance procedure was satisfactorily performed for monitor RT-8035.

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

The root cause of the ESF actuation is an equipment failure of monitor RT-8035. The failed monitor RT-8035 appears to be due to a problem with the monitor's microprocessor although it is unknown what caused the monitor to have a "Loss of Counts". Monitor RT-8035 is one of eight similar monitors at South Texas Project Electric Generating Station (STPEGS) Unit 1 and monitor RT-8035 is the only monitor, of the eight, which has experienced this type of failure. The monitor has functioned properly since the event on September 26, 1987.

CORRECTIVE ACTIONS:

The following corrective actions have been performed to prevent recurrence of the event:

1. The PC boards in monitor RT-8035 have been inspected and the contacts have been cleaned.

2. The I/O and preamplifier PC boards for monitor RT-8035 have been replaced.

3. The calibration surveillance procedure for monitor RT-8035 has been satisfactorily performed.

4. The I/O and preamplifier PC boards removed from monitor RT-8035 following the event will be returned to G. A. Technologies for evaluation.

ADDITIONAL INFORMATION:

A similar "Loss of Counts" for monitor RT-8035 occurred at STPEGS on July 20, 1987 (prior to the issuance of the operating license).

Other ESF actuations have been initiated by the Radiation Monitoring System, but the cause of the events of July 20, 1987 and September 26, 1987 are unique.

No similar events have occurred at STPEGS since September 26, 1987.

The Light company Houston Lighting & Power P.O. Box 1700 Houston, Texas 77001 (715) 228-9211

October 26, 1987
ST-HL-AE-2396
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 Regarding a Fuel Handling Building
Ventilation System Auto-actuation to Filtration Mode
Due to an Apparent Equipment Failure of a Radiation Monitor

Pursuant to 10CFR50.73, Houston Lighting & Power Company (HL&P) submits the attached Licensee Event Report (LER 87-010) regarding a fuel handling building ventilation auto-actuation to filtration mode due to an apparent equipment failure of a radiation monitor.

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

for G. E. Vaughn
Vice President
Nuclear Plant Operations

GEV/KMS/eg

Attachment: Licensee Event Report Regarding a Fuel Handling Building
Ventilation Auto-actuation to Filtration Mode
Due to an Apparent Equipment Failure of a Radiation Monitor.

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cc:

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