

# The Light company

Houston Lighting & Power

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

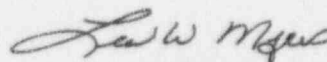
February 17, 1995  
ST-HL-AE-4979  
File No.: G26  
10CFR50.73

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

South Texas Project  
Unit 1  
Docket No. STN 50-498  
Voluntary Licensee Event Report 94-017  
Gaseous Effluent Monitor Setpoints  
Not Calculated in Accordance With the Offsite Dose Calculation Manual

Pursuant to 10CFR50.73, Houston Lighting & Power submits the attached Unit 1 Voluntary Licensee Event Report 94-017 regarding the gaseous effluent monitor setpoints not calculated in accordance with the Offsite Dose Calculation Manual. Although, this event did not have an adverse effect on the health and safety of the public, it does not meet our standards for expected operational performance.

If you should have any questions on this matter, please contact Mr. J. M. Pinzon at (512) 972-8027 or me at (512) 972-7239.



L. W. Myers  
Plant Manager,  
Unit 1

JMP/lf

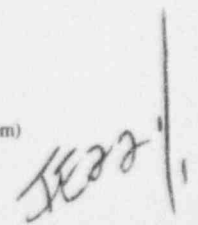
Attachment: LER-94-017 (South Texas, Unit 1)

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LER-94-94017.U1

Project Manager on Behalf of the Participants in the South Texas Project

02/15/95 (1:07pm)



c:

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**LICENSEE EVENT REPORT (LER)**

(See reverse for required number of digits/characters for each block)

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (MNB 7714), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555-0001, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

<b>FACILITY NAME (1)</b> South Texas Unit 1	<b>DOCKET NUMBER (2)</b> 05000 498	<b>PAGE (3)</b> 1 OF 4
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**TITLE (4)** Gaseous Effluent Monitor Setpoints Not Calculated in Accordance with the Offsite Dose Calculation Manual

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 NAME	DOCKET NUMBER
10	11	94	94	-- 017 --	00	02	17	95	SOUTH TEXAS, UNIT 2	05000 499
									FACILITY NAME	DOCKET NUMBER
										05000

<b>OPERATING MODE (9)</b> 1	<b>THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §:</b> (Check one or more) (11)									
<b>POWER LEVEL (10)</b> 100	<input type="checkbox"/> 20.402(b)	<input type="checkbox"/> 20.405(c)	<input type="checkbox"/> 50.73(a)(2)(iv)	<input type="checkbox"/> 73.71(b)						
	<input type="checkbox"/> 20.405(a)(1)(i)	<input type="checkbox"/> 50.36(c)(1)	<input type="checkbox"/> 50.73(a)(2)(v)	<input type="checkbox"/> 73.71(c)						
	<input type="checkbox"/> 20.405(a)(1)(ii)	<input type="checkbox"/> 50.36(c)(2)	<input type="checkbox"/> 50.73(a)(2)(vii)	<input checked="" type="checkbox"/> OTHER						
	<input type="checkbox"/> 20.405(a)(1)(iii)	<input type="checkbox"/> 50.73(a)(2)(i)	<input type="checkbox"/> 50.73(a)(2)(viii)(A)	(Specify in Abstract below and in Text, NRC Form 366A)						
	<input type="checkbox"/> 20.405(a)(1)(iv)	<input type="checkbox"/> 50.73(a)(2)(ii)	<input type="checkbox"/> 50.73(a)(2)(viii)(B)							
<input type="checkbox"/> 20.405(a)(1)(v)	<input type="checkbox"/> 50.73(a)(2)(iii)	<input type="checkbox"/> 50.73(a)(2)(x)								

**LICENSEE CONTACT FOR THIS LER (12)**

<b>NAME</b> Jairo Pinzon - Staff Engineer	<b>TELEPHONE NUMBER (Include Area Code)</b> (512) 972-8027
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**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

<b>SUPPLEMENTAL REPORT EXPECTED (14)</b>				<b>EXPECTED SUBMISSION DATE (15)</b>	MONTH	DAY	YEAR
YES (If yes, complete EXPECTED SUBMISSION DATE).			<input checked="" type="checkbox"/> NO				

**ABSTRACT** (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines) (16)

On October 11, 1994, Unit 1 and Unit 2 were both in Mode 1 at 100% power. During a routine Quality Assurance Audit, the alarm setpoints for the Unit Vent Noble Gas Activity Monitors were evaluated using the Offsite Dose Calculation Manual. The evaluation showed that the gaseous effluent monitor setpoints had not been calculated in accordance with the Offsite Dose Calculation Manual calculational methodology. Upon further investigation, it was determined that the actual setpoint had not been recalculated as a result of revisions to the Offsite Dose Calculation Manual. Two revisions to the Offsite Dose Calculation Manual were made during January 1989 through January 1994, which changed the effluent monitor setpoint calculational methodology but never resulted in a change to the actual setpoint. The cause of this event was a failure to revise related change documents. A contributing cause was inadequate management follow-up. Corrective actions include verifying the Unit 1 and Unit 2 gaseous effluent monitors were operable with the current alarm setpoints. In addition, the procedure which governs changes to the Offsite Dose Calculation Manual has been revised to ensure that management follow-up action is taken when the effluent monitor setpoint calculational methodology has been revised, utilizing the Corrective Action Program.

**LICENSEE EVENT REPORT (LER)**  
**TEXT CONTINUATION**

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (MNB 7714), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555-0001, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)
South Texas, Unit 1	05000 498	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	2 OF 4
		94	-- 017 --	00	

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

DESCRIPTION OF EVENT:

On October 11, 1994, Unit 1 and Unit 2 were both in Mode 1 at 100% power. During a routine Quality Assurance Audit, the alarm setpoints for the Unit Vent Noble Gas Activity Monitors were evaluated using the Offsite Dose Calculation Manual. The evaluation showed that the gaseous effluent monitor setpoints were not calculated in accordance with the Offsite Dose Calculation Manual calculational methodology. Upon further investigation, it was determined that two revisions to the Offsite Dose Calculation Manual were made during January 1989 through January 1994, which changed the effluent monitor setpoint calculation methodology but never resulted in a change to the actual setpoint.

Offsite Dose Calculation Manual Revision 3, which was revised in January 1989, changed the gaseous effluent monitor setpoint calculation by including a safety factor and an allocation factor. This change resulted in the calculated setpoints being lower than the monitors' actual setpoint. The monitors' setpoints of 5.20E+04 µCi/sec were non-conservative for the period of January 1989 to June 1991. The non-conservative setpoint (5.20E+04 µCi/sec) was three times greater than the calculated setpoint (1.76E+04 µCi/sec). The highest release during this time frame was 787 µCi/sec; this is five percent of the setpoint.

Offsite Dose Calculation Manual Revision 4, which was revised in June 1991, changed the basis for the gaseous effluent monitor setpoint calculation from Maximum Permissible Concentration at the site boundary to the whole body and skin dose rate limits of Technical Specification 3.11.2.1 (before January 1993) resulting in the calculated alarm setpoint being higher than the monitor's actual setpoint. In this case the setpoint was found to be conservative. From June 1991 to January 1994, two additional revisions were made to the Offsite Dose Calculation Methodology but did not result in changes to the setpoint calculation methodology.

During December 23, 1988 through February 23, 1990, the gaseous effluent monitor setpoints were evaluated every month during the performance of the Offsite Dose surveillance test. The unit vent noble gas effluent setpoint was evaluated using the Unit Vent Noble Gas Effluent Setpoint Change procedure. This procedure provided a method to estimate the monitor response and alarm setpoints for the noble gas effluent monitor which was consistent with the methodology of the Offsite Dose Calculation Manual. This method provided a means to evaluate and change the alarm setpoints via a database change request. Database change requests were generated for those conditions where the setpoint was found to be less conservative than the calculation, however, the alarm setpoints were never changed. For those conditions where the setpoint was found to be more conservative than the calculated setpoint, no database change requests were submitted. In February 23, 1990 a revision to the Offsite Dose surveillance procedure did not include the requirement to evaluate the alarm setpoints. As a result, the monthly requirement to evaluate the setpoint of the monitor was discontinued.

A review of actual release data was performed which concluded that the dose rate due to noble gases had not exceeded the limits of Technical Specification 3.11.2.1 or Offsite Dose Calculation Manual 3.11.2.1 during the affected time period of January 1989 to October 1994.

**LICENSEE EVENT REPORT (LER)**  
**TEXT CONTINUATION**

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FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)
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South Texas, Unit 1	05000 498	94	-- 017 --	00	3 OF 4

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

CAUSE OF EVENT:

The cause of this event was a failure to revise related change documents. A contributing cause was inadequate management follow-up. The setpoints were evaluated using the Offsite Dose Calculation Manual, but the setpoints were never changed because database change requests were not tracked to completion.

ANALYSIS OF EVENT:

This report is being submitted as a Voluntary Licensee Event Report. The alarm setpoint which was set to ensure the limits of Technical Specification 3.11.2.1 and the Offsite Dose Calculation Manual section 3.11.2.1 were not exceeded for the time period of January 1989 to October, 1994. During this time, the unit vent noble gas monitor hourly histories were reviewed daily to check for increasing trends. Based on actual release data, the dose rate did not exceed the limits of Technical Specification or the Offsite Dose Calculation Manual during this time period. The failure to update the setpoint was administrative in nature. The gaseous effluent monitors setpoints were periodically evaluated but the setpoints were never changed. There was no affect on the operation of the plant or the safety of the public.

The Offsite Dose Calculation Manual Control Action 3.3.3.11.b requires that an explanation be provided in the next Annual Radioactive Effluent Release Report. The gaseous effluent monitors of both units are currently operable as the alarm setpoint is set to ensure the limits of the Offsite Dose Calculation Manual Control 3.11.2.1 are not exceeded.

CORRECTIVE ACTIONS:

The following corrective actions will be taken or have been taken as a result of this event:

1. The Unit 1 and Unit 2 gaseous effluent monitors were verified to be operable with the current alarm setpoints which were determined to be more conservative than the calculated setpoints.
2. A review was performed to determine if previous revisions of the Offsite Dose Calculation Manual were also affected. Two revisions to the Offsite Dose Calculation Manual were found which impacted the setpoint calculation methodology. In both these cases, the effluent monitor setpoints were not changed. Evaluation of the setpoint determined that the dose rate due to noble gas did not exceed the limits of the Technical Specification or the Offsite Dose Calculation Manual.
3. The procedure which governs changes to the Offsite Dose Calculation Manual has been revised to ensure that management follow up action is taken when the effluent monitor setpoint calculational methodology has been revised, utilizing the Corrective Action Program.

**LICENSEE EVENT REPORT (LER)**  
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (MNRB 7714), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555-0001, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)
South Texas, Unit 1	05000 498	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	4 OF 4
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TEXT (If more space is required, use additional copies of NRC Form 366A) (17)

CORRECTIVE ACTIONS: (Continued)

- In accordance with the requirements of the Offsite Dose Calculation Manual, an explanation of why this inoperability of the monitor (due to the setpoint being in the non-conservative condition from January 1989 to June 1991) was not corrected within the time specified in the Offsite Dose Calculation Manual, will be provided in the next Annual Radioactive Effluent Release Report.

ADDITIONAL INFORMATION :

Unit 1 Licensee Event Report 88-53 was submitted to the Nuclear Regulatory Commission documenting a non-conservative calculation of the gaseous effluent monitor alarm setpoint. The cause of that event was determined to be an inadequate review of the Offsite Dose Calculation Manual revision for the effects on gaseous effluent radiation monitor setpoints prior to receipt of the Operating License.