

The Light company

Houston Lighting & Power

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

May 24, 1991

ST-HL-AE-3777

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 91-014

Regarding Erratic Containment

Extended Range Pressure Channel Output

Pursuant to 10CFR50.73, Houston Lighting & Power Company (HL&P) submits the attached Licensee Event Report (LER 91-014) regarding erratic containment extended range pressure channel output. This event did not result in an adverse impact on the health and safety of the public.

An extension of the due date for this LER to May 24, 1991, was granted on May 21, 1991, by Mr. A. Howell of NRC Region IV.

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.

William J. Jump

William J. Jump
Manager,
Nuclear Licensing

PLW/amp

Attachment: LER 91-014 (South Texas, Unit 1)

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A Subsidiary of Houston Industries Incorporated

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Houston Lighting & Power Company
South Texas Project Electric Generating Station

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Revised 01/29/91

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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		
TITLE (4) Erratic Containment Extended Range Pressure Channel Output																
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 (5)			
0 4	2 0	9 1	9 1	0 1 4		0 0	0 5	2 0	0 5 0 0 0				0 5 0 0 0			
OPERATING MODE (9)		THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 5. (Check one or more of the following) (11)														
1		20 402(b)				20 405(i)				50 734(2)(ii)				73 716(i)		
POWER LEVEL (10)		20 406(a)(1)(i)				50 361(i)(5)				50 734(2)(k)				73 716(i)		
1 10 10		20 406(a)(1)(ii)				50 361(i)(2)				50 734(2)(iii)				OTHER (Specify in Abstract Below and on Text NRC Form 366A)		
		20 406(a)(1)(iii)				X 50 734(2)(iii)				50 734(2)(iv)						
		20 406(a)(1)(iv)				50 734(2)(ii)				50 734(2)(v)						
		20 406(a)(1)(v)				50 734(2)(ii)				50 734(2)(vi)						
LICENSEE CONTACT FOR THIS LER (12)																
NAME Charles Ayala - Supervising Licensing Engineer										TELEPHONE NUMBER 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	MANUFAC TURE	REPORTABLE TO NRC		CAUSE	SYSTEM	COMPONENT	MANUFAC TURE	REPORTABLE TO NRC						
B I	P P	D T	I 2 0 4	Yes												
SUPPLEMENTAL REPORT EXPECTED (14)																
X YES (If yes, complete EXPECTED SUBMISSION DATE)										NO		EXPECTED SUBMISSION DATE (15)		MONTH	DAY	YEAR
														0 9	2 0	9 1

ABSTRACT (Limit to 1800 spaces; i.e., approximately 3000 single-space typewritten lines) (16)

On April 20, 1991, Unit 1 was in mode 1 at 100% power. At 0406 hours, while conducting a containment supplemental purge to lower the containment pressure in response to a Containment High Pressure alarm, containment extended range pressure channel 9759 was found to read 5 psig while channel 9760 read 0 psig. Channel 9759 was declared inoperable at 0407 hours. Review of historical computer records indicated that the channel had been inoperable in excess of the seven-day allowed outage time. After initial recalibration, subsequent channel check surveillance revealed an additional erratic output signal by the transmitter. The transmitter control card was replaced and the transmitter was calibrated. Channel checks will be performed weekly for one month to confirm the channel is repaired.

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LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (3)			PAGE (3)	
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER		
South Texas, Unit 1	0500049891	0	14	00	2	OF 04

TEXT (if more space is required, use additional NRC Form 365A's) (17)

DESCRIPTION OF EVENT:

On April 20, 1991, Unit 1 was in mode 1 at 100% power. At 0402 hours, the Containment High Pressure annunciator was received in the Control Room. At 0406 hours, containment supplemental purge was commenced to lower the containment pressure. Periodic purging to control containment pressure is part of normal operation at South Texas. Containment pressure may increase due to warming of containment air during plant heatup or due to normal flow of instrument air into containment. While monitoring the containment pressure indications, an operator noticed that containment extended range pressure channel 9759 read 5 psig and channel 9760 read 0 psig. The channel check acceptance value for the difference between the two channels is 4 psig. Consequently, at 0407 hours, extended range pressure monitor 9759 was declared inoperable based on channel check acceptance criteria.

Pressure transmitter 9759 was calibrated on April 21, 1991, and returned to service. It was declared operable at 2250 hours on April 21. The loop was monitored for three days with no abnormal indications. The monthly channel check surveillance was performed on April 29, 1991, and channel 9759 again read about 5 psig. The channel was declared inoperable at 0819 hours. The control card was replaced and the instrument was recalibrated.

Extended-range containment pressure instrumentation is required to be operable by Technical Specification 3.3.3.6 for use in post-accident monitoring. If one less than the two available channels is operable, the inoperable channel must be returned to service within seven days or the plant must be shut down within the next 12 hours. The channels are channel-checked monthly and calibrated every refueling outage. Review of historical plant computer records revealed that channel 9759 had been erratic since March 1991 and exceeded the channel check acceptance criteria on March 23, 1991. However, when the monthly channel check was performed on March 24, 1991, the instrument had drifted back to specification limits and passed the channel check.

Since the erratic channel had existed for more than the seven days allowed, the NRC was notified at 0108 hours on April 21, 1991.

The control card was examined and was found to have a cracked thermistor; however, the erratic behavior of the pressure transmitter cannot be positively attributed to this thermistor.

CAUSE OF EVENT:

This channel failed due to a bad control card. The specific failure mechanism for the control card is unknown, but may be due to a cracked thermistor.

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LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
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TEXT (if more space is required, use additional NRC Form 365A 2 (1/7))

ANALYSIS OF EVENT:

Monitoring of containment pressure is important during an accident to ensure containment integrity. The consequences of this instrument malfunction are an increased risk of inappropriate actions in an accident condition due to erroneous indication. However, instrument redundancy was provided by channel 9760. This event did not result in any adverse safety or radiological concerns, nor did it threaten the safety of the public at any time. Reportability of this event was discussed with the Senior Resident Inspector and Mr. J. Crooks of the NRC. Since firm evidence in computer historical data was available regarding the length of time the channel was out-of-service, Question 2.3 of NUREG-1022, Supplement 1, was found to apply. Accordingly, this event represents operation in a condition prohibited by Technical Specifications, which is reportable pursuant to 10CFR50.73(a)(2)(i)(B).

CORRECTIVE ACTIONS:

The following corrective actions are being taken as a result of this event:

1. After the first discovery of the inoperable channel, the channel was calibrated and returned to service on April 21, 1991.
2. After the second discovery of the inoperable channel, the channel was removed from service, the control card was replaced, and the channel was returned to service on May 3, 1991.
3. Weekly channel checks will be performed until May 31, 1991, to verify that the channel has been repaired by the card replacement.
4. HL&P will evaluate the failure rate of Barton Model 752 pressure transmitters at STP as it compares to the industry failure rate. A supplemental report will be submitted by September 20, 1991, addressing apparent causes and corrective actions.
5. Procedures will be clarified to ensure that plant operators check the extended range containment pressure readings when Containment High Pressure is annunciated in the Control Room. This action is being taken to minimize the potential for exceeding the allowed outage time of the extended range containment pressure channel. The changes will be effective by July 1, 1991.

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LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED FOR NRC NO. 3530-0104

EXPIRES 8/31/95

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		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER		
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TEXT (if more space is required, use additional NRC Form 360A's) (17)

ADDITIONAL INFORMATION:

The affected transmitter is a Barton Model 752. No corrective maintenance has previously been required on the Barton Model 752 for containment pressure channel 9759. Necessary information will be submitted to NPRDS by September 1, 1991.

NPRDS includes seven previously reported failures at STP which required transmitter repair or replacement since December 1988, four from STP Unit 1 and three from STP Unit 2.

There have been no previous LERs due to transmitter failure.

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