

The Light company

Houston Lighting & Power

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

November 13, 1989

ST-HL-AE- 3291

File No.: G26

10CFR50.73

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

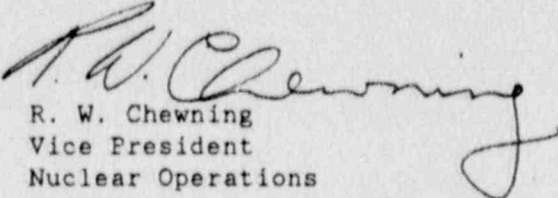
South Texas Project Electric Generating Station
Unit 2

Docket No. STN 50-499

Licensee Event Report 89-025 Regarding
Technical Specification Violation Due to Failure to
Properly Calibrate Power Range Nuclear Instrumentation

Pursuant to 10CFR50.73, Houston Lighting & Power (HL&P) submits the attached Licensee Event Report 89-025 regarding a Technical Specification violation due to the failure to properly calibrate power range nuclear instrumentation. This event did not have any adverse impact on the health and safety of the public.

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


R. W. Chewning
Vice President
Nuclear Operations

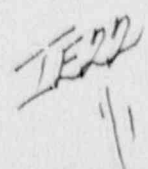
RWC/BEM/nl

Attachment: LER 89-025, South Texas, Unit 2

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A Subsidiary of Houston Industries Incorporated



Houston Lighting & Power Company

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LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) South Texas, Unit 2										DOCKET NUMBER (2) 0 5 0 0 0 4 9 9 1 OF 0 4										PAGE (3)															
TITLE (4) Technical Specification Violation Due to Failure to Properly Calibrate Power Range Nuclear Instrumentation																																			
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	0	0	6	8	9	8	9	-	0	2	5	-	0	0	1	1	1	3	8	9											0 5 0 0 0				
OPERATING MODE (9)			THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 81. (Check one or more of the following) (11)																																
1			20.402(b)						20.405(e)						50.73(a)(2)(iv)						73.71(b)														
POWER LEVEL (10)			20.405(a)(1)(i)						50.36(e)(1)						50.73(a)(2)(v)						73.71(e)														
1 0 0			20.405(a)(1)(ii)						50.36(e)(2)						50.73(a)(2)(vii)						OTHER (Specify in Abstract below and in Text, NRC Form 365A)														
			20.405(a)(1)(iii)						X 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															
Charles Ayala - Supervising Licensing Engineer																				AREA CODE 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 NPD	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPD	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPD	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPD	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPD	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPD						
SUPPLEMENTAL REPORT EXPECTED (14)																				EXPECTED SUBMISSION DATE (15)															
YES (If yes, complete EXPECTED SUBMISSION DATE)																				MONTH DAY YEAR															
X NO																																			

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

On October 6, 1989, Unit 2 was in Mode 1 at 100 percent power. At approximately 1406 hours, during the performance of power range nuclear instrumentation calibrations, one channel was incorrectly calibrated. This condition, which rendered the channel inoperable, was not discovered until approximately 2340 hours. Failure to place the inoperable channel in the tripped condition within six hours of its becoming inoperable is a violation of Technical Specification 3.3.1. The cause of this event was the assignment of a technician to perform the calibration who was not adequately trained. In addition, no means existed to confirm that the calibration was correct. A Maintenance Qualification Program has been developed to ensure that only qualified individuals will be assigned to perform specific maintenance tasks. A method to verify that the power range nuclear instrumentation is properly calibrated will be incorporated in the appropriate procedures.

NL.LER89025.U2

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OMB NO. 3150-0104

EXPIRES 8/31/85

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

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

DESCRIPTION OF EVENT:

On October 6, 1989, Unit 2 was in Mode 1 at 100 percent power. During the performance of power range nuclear instrumentation calibrations, one channel was incorrectly calibrated. This condition, which rendered the channel inoperable, was not discovered for approximately nine hours. Failure to place the channel in the tripped condition within six hours of its becoming inoperable is a violation of Technical Specification 3.3.1. This event was determined to be reportable on October 13, 1989 and the NRC was notified at 1520 hours.

On October 5, 1989, Incore-Excore nuclear instrumentation measurements were performed in accordance with Technical Specifications to determine the target axial flux difference and new excore power range monitor calibration parameters at 92 Effective Full Power Days. At approximately 0703 hours on October 6, 1989, recalibration of excore power range monitors was commenced to optimize the axial flux difference outputs to the new parameters. Upon completion of power range channel NI-41 recalibration at approximately 1406 hours, it was observed to indicate an axial flux difference of approximately 5 percent greater than the other power range channel indicators. Personnel performing the test concluded that since the indication was within the axial flux difference target range, and the redundant channels remained to be optimized, there was no reason to suspect any error in the channel. At 1542 hours, channel NI-42 was removed from service for recalibration to its new parameters. When completed at approximately 1900 hours, this indicated an axial flux difference approximately 5 percent less than channel NI-41. At 2054 hours, a second recalibration of the channel NI-42 was performed to determine which of the two channels was in error. At approximately 2340 hours, the channel NI-42 was verified correct and channel NI-41 was declared inoperable.

During recalibration of channel NI-41, technicians discovered that a calibration error had occurred during a critical initial step of the calibration procedure which accounted for the observed difference between the two power range channels. The calibration error was corrected. No other values were found out of tolerance and the channel was returned to service at 0228 hours on October 7, 1989. The HL&P technician who performed the initial calibration had previous experience with other power range instrumentation calibrations, however, he had not performed this calibration in the past. The surveillance procedure was properly followed and has been determined to be adequate for properly trained individuals.

NL.LER89025.U2

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

APPROVED OMB NO. 3150-0104

EXPIRES 8/31/85

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)	
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER		
South Texas, Unit 2	05000499	89	025	00	03	OF 04

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

DESCRIPTION OF EVENT Cont:

Most calibrations are verified to be correct by comparing the output of the calibrated channel to a redundant, operable channel. Power range nuclear instrumentation is configured such that each channel monitors a different quadrant of the reactor core. Therefore, when new parameters are entered, a comparison of a calibrated channel to other channels is not valid for determining operability. At the time this calibration was performed, no means existed to verify the accuracy of the calibrated channel which prevented Operations and Maintenance personnel from determining if the calibration had been performed correctly.

CAUSE OF EVENT:

The cause of this event was improper calibration of the excore power range nuclear instrument channel due to inadequate training of the maintenance technician who was assigned to perform the calibration. This problem was not immediately detected because the calibration procedure did not provide a means to verify that the calibration was performed correctly.

ANALYSIS OF EVENT:

Each power range nuclear instrumentation channel provides an input to the respective overtemperature delta temperature input to the Reactor Trip System. Technical Specification 3.3.1 allows power operation to continue with one channel inoperable provided the channel is tripped within six hours. During this event, power operation continued from 1406 hours to 2340 hours on October 6, 1989 with channel NI-41 set nonconservatively, but not tripped. At least two channels of power range nuclear instrumentation remained operable throughout this event.

Operation prohibited by Technical Specifications is reportable pursuant to 10CFR50.73(a)(2)(i)(B). This event did not have any adverse impact on the health and safety of the public.

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LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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

TEXT (if more space is required, use additional NRC Form 706A's) (17)

CORRECTIVE ACTION:

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

1. HL&P has developed a Maintenance Qualification Program which will ensure that only qualified individuals will be assigned to perform specific maintenance tasks. This program is currently scheduled to be implemented on December 1, 1989.
2. A method to verify that the power range nuclear instrumentation is properly calibrated has been incorporated in the appropriate procedures.

ADDITIONAL INFORMATION:

There have been no previous events reported regarding improper calibration of nuclear instrumentation which caused Technical Specification violations.

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