

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) South Texas Unit 1	DOCKET NUMBER (2) 050004198	PAGE (3) 1 OF 13
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TITLE (4)
Cable Assemblies For Neutron Flux Monitoring Which Failed Qualification Testing

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)		
05	09	88	88	03	1	00	06	08	88	South Texas unit 2	050004199	050	

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 5: (Check one or more of the following) (11)

OPERATING MODE (9) 5	<input type="checkbox"/> 20.402(b)	<input type="checkbox"/> 20.406(c)	<input type="checkbox"/> 50.73(a)(2)(iv)	<input type="checkbox"/> 73.71(b)
	<input type="checkbox"/> 20.406(a)(1)(i)	<input type="checkbox"/> 50.36(e)(1)	<input checked="" type="checkbox"/> 50.73(a)(2)(v)	<input type="checkbox"/> 73.71(c)
	<input type="checkbox"/> 20.406(a)(1)(ii)	<input type="checkbox"/> 50.36(e)(2)	<input type="checkbox"/> 50.73(a)(2)(vi)	OTHER: (if any in Abstract below and in text, NRC Form 356A)
	<input type="checkbox"/> 20.406(a)(1)(iii)	<input type="checkbox"/> 50.73(a)(2)(i)	<input type="checkbox"/> 50.73(a)(2)(viii)(A)	
	<input type="checkbox"/> 20.406(a)(1)(iv)	<input type="checkbox"/> 50.73(a)(2)(ii)	<input type="checkbox"/> 50.73(a)(2)(viii)(B)	
	<input type="checkbox"/> 20.406(a)(1)(v)	<input type="checkbox"/> 50.73(a)(2)(iii)	<input type="checkbox"/> 50.73(a)(2)(ix)	

LICENSEE CONTACT FOR THIS LER (12)

NAME Charles Ayala - Supervising Licensing Engineer	TELEPHONE NUMBER
	AREA CODE: 512 972-8628

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

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRC	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRC
B	I	P	D	E	T				No

SUPPLEMENTAL REPORT EXPECTED (14)

YES (if yes, complete EXPECTED SUBMISSION DATE) NO

EXPECTED SUBMISSION DATE (15)

MONTH	DAY	YEAR

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

On May 9, 1988 at 2104 hours with Unit 1 in Mode 5, Houston Lighting and Power Company (HL&P) notified the NRC that the Extended Range Neutron Instrumentation system in-containment cable and detector assemblies may provide erroneous readings in a harsh, accident environment. The cause of this condition was solder and threaded joint leakage which was not detected by manufacturer's acceptance testing. The Unit 1 detectors and cables were subsequently replaced with recertified components.

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		YEAR 8 8	SEQUENTIAL NUMBER - 0 1 3 1	REVISION NUMBER - 0 0	0 2	OF 0 3

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

I. DESCRIPTION OF EVENT:

On May 9, 1988 at 1800 hours with Unit 1 in Mode 5, Houston Lighting & Power Company (HL&P) Support Engineering Department personnel identified that the Extended Range Neutron Instrumentation System cable assemblies manufactured by Gamma-Metrics may not be capable of performing their required safety function in a Loss of Coolant Accident (LOCA) environment. The NRC was notified pursuant to 10CFR50.72 at 2104 hours.

On February 19, 1988, Gamma-Metrics notified the NRC pursuant to 10CFR21 that a newly manufactured Extended Range Neutron Instrumentation System in-containment cable assembly had failed qualification testing due to inadequate soldering. At that time they did not believe that any other assemblies that had been shipped or installed were defective.

On February 25, 1988, Gamma-Metrics notified HL&P of this problem. The vendor requested HL&P to return the uninstalled spare in-containment cable assemblies for evaluation. HL&P returned the two spare assemblies from Unit 1 and the two uninstalled cable assemblies from Unit 2 to the vendor.

On April 6, 1988 HL&P received a certificate of conformance from the vendor which stated that two of the cable assemblies returned for retesting met or exceeded the specifications for the original supplied equipment. No mention was made of any rework, however, an attachment to the letter included a rework report which identified that the cable assemblies had, in fact, failed the retest and had been reworked. Because the subject was a certificate of conformance and no mention was made of the pending 10CFR21 evaluation, the HL&P purchasing and quality assurance departments had no reason to take immediate action or expedite an engineering review. On May 9, 1988 engineering personnel reviewed the letter and determined that the rework had occurred. In a subsequent phone conversation with the vendor, HL&P engineering personnel confirmed the failures and subsequent rework and were advised that the detectors and their interconnecting cable should also be considered suspect.

On May 9, 1988 HL&P concluded that the Extended Range Neutron Instrumentation system Channels "A" and "C" could be inoperable for Modes 1, 2 & 3 due to the indeterminate environmental qualification of the in-containment portions of the instrument channels.

On May 17, 1988 HL&P received notification from Gamma-Metrics that they believed there was a significant possibility of leaks in the installed cable assemblies. They stated that they were developing repair kits for field installation by August 1988. By the time this letter was received, HL&P had completed the corrective actions for this deficiency.

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		88	031	00	03	OF

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

II. CAUSE OF OCCURRENCE:

The failure of the cable assemblies during testing was the result of solder joint leakage due to porosity caused by the solder flux and threaded joint leakage. This problem was detected during type testing of a newly manufactured cable assembly of a similar design to meet the LOCA profiles of another plant.

III. ANALYSIS OF EVENT:

The Extended Range Neutron Instrumentation System is required for post accident monitoring of reactor criticality and for detecting return to criticality in Modes 3 through 5. It is a Reg. Guide 1.97, Type B indication. This condition could have resulted in erroneous indication of reactor neutron flux if the detectors or cable assemblies were exposed to a harsh, accident environment.

At the time of detection of this condition, the plant was in Mode 5. An accident which could result in a harsh environment is not postulated in Mode 5; therefore, the instruments provided the proper indication from the time of detection of this condition through the replacement.

This condition is reportable pursuant to 10CFR50.73(a)(2)(v) and 10CFR50.73(a)(2)(vi).

IV. CORRECTIVE ACTIONS:

Between May 11 and May 14, 1988 the Unit 1 in-containment cable assemblies and detectors were replaced with Unit 2 components which had been returned to Gamma-Metrics for retest/repair and certification. The replacement was performed on one channel at a time to assure that Mode 5 Technical Specification requirements were satisfied.

V. ADDITIONAL INFORMATION:

There have been no previous events at STPEGS regarding erroneous indication by post accident monitoring instrumentation.

NL.LER88031

The Light company

Houston Lighting & Power

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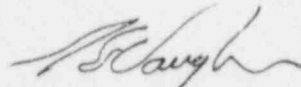
June 8, 1988
ST-HL-AE-2679
File No.: G26
10CFR50.73

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
License Event Report 88-031 Regarding Cable Assemblies
for Neutron Flux Monitors which Failed Qualification Testing.

On May 9, 1988 at 2104 hours, Houston Lighting & Power (HL&P) notified the NRC pursuant to 10CFR50.72 of a reportable event regarding cable assemblies for neutron flux monitors which failed equipment qualification testing. 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 88-031).

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



G. E. Vaughn
Vice President
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GEV/BEM/n1

Attachment:

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1/1

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