

# The Light company

Houston Lighting & Power South Texas Project Electric Generating Station P. O. Box 289 Wadsworth, Texas 77483

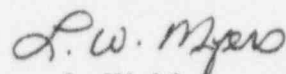
September 28, 1995  
ST-HL-AE-5177  
File No.: G26  
10CFR50.73

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

South Texas Project  
Unit 1  
Docket No. STN 50-498  
Licensee Event Report 95-009  
Reactor Trip due to Loss of Reactor Coolant Flow

Pursuant to 10CFR50.73, Houston Lighting & Power submits the attached Unit 1 Licensee Event Report 95-009 regarding a reactor trip due to a loss of Reactor Coolant flow. This event did not have an adverse effect on the health and safety of the public but clearly does not meet the standards for expected operational performance.

If you should have any questions on this matter, please contact Mr. S. M. Head at (512) 972-7136 or me at (512) 972-8664.



L. W. Myers  
Unit 1 Plant Manager

KJT/lf

Attachment: LER 95-009 (South Texas, Unit 1)

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S PDR

LER-955177

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



Houston Lighting & Power Company  
South Texas Project Electric Generating Station

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c:

Leonard J. Callan  
Regional Administrator, Region IV  
U. S. Nuclear Regulatory Commission  
611 Ryan Plaza Drive, Suite 400  
Arlington, TX 76011-8064

Rufus S. Scott  
Associate General Counsel  
Houston Lighting & Power Company  
P. O. Box 61067  
Houston, TX 77208

Thomas W. Alexion  
Project Manager  
U. S. Nuclear Regulatory Commission  
Washington, DC 20555-0001 13H15

Institute of Nuclear Power  
Operations - Records Center  
700 Galleria Parkway  
Atlanta, GA 30339-5957

David P. Loveless  
Sr. Resident Inspector  
c/o U. S. Nuclear Regulatory Comm.  
P. O. Box 910  
Bay City, TX 77404-0910

Dr. Joseph M. Hendrie  
50 Bellport Lane  
Bellport, NY 11713

J. R. Newman, Esquire  
Morgan, Lewis & Bockius  
1800 M Street, N.W.  
Washington, DC 20036-5869

Richard A. Ratliff  
Bureau of Radiation Control  
Texas Department of Health  
1100 West 49th Street  
Austin, TX 78756-3189

K. J. Fiedler/M. T. Hardt  
City Public Service  
P. O. Box 1771  
San Antonio, TX 78296

U. S. Nuclear Regulatory Comm.  
Attn: Document Control Desk  
Washington, D. C. 20555-0001

J. C. Lanier/M. B. Lee  
City of Austin  
Electric Utility Department  
721 Barton Springs Road  
Austin, TX 78704

J. R. Egan, Esquire  
Egan & Associates, P.C.  
2300 N Street, N.W.  
Washington, D.C. 20037

Central Power and Light Company  
ATTN: G. E. Vaughn/C. A. Johnson  
P. O. Box 289, Mail Code: N5012  
Wadsworth, TX 77483

J. W. Beck  
Little Harbor Consultants, Inc.  
44 Nichols Road  
Cohasset, MA 02025-1166

**LICENSEE EVENT REPORT (LER)**

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

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS MANDATORY INFORMATION COLLECTION REQUEST: 50.0 HRS. REPORTED LESSONS LEARNED ARE INCORPORATED INTO THE LICENSING PROCESS AND FED BACK TO INDUSTRY. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (T-6 F33), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555-0001, AND TO THE PAPERWORK REDUCTION PROJECT

FACILITY NAME (1)  
South Texas, Unit 1

DOCKET NUMBER (2)  
05000 498

PAGE (3)  
1 OF 4

TITLE (4)  
Reactor Trip due to Loss of Reactor Coolant Flow

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
08	29	95	95	-- 009	-- 00	09	28	95		05000
										05000

OPERATING MODE (9)	POWER LEVEL (10)	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)			
1	100	20.2201(b)	20.2203(a)(2)(v)	50.73(a)(2)(i)	50.73(a)(2)(viii)
		20.2203(a)(1)	20.2203(a)(3)(i)	50.73(a)(2)(ii)	50.73(a)(2)(x)
		20.2203(a)(2)(i)	20.2203(a)(3)(ii)	50.73(a)(2)(iii)	73.71
		20.2203(a)(2)(ii)	20.2203(a)(4)	<input checked="" type="checkbox"/> 50.73(a)(2)(iv)	OTHER
		20.2203(a)(2)(iii)	50.36(c)(1)	50.73(a)(2)(v)	Specify in Abstract below or in NRC Form 366A
		20.2203(a)(2)(iv)	50.36(c)(2)	50.73(a)(2)(vii)	

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER (Include Area Code)
Scott M. Head - Sr. Consulting Engineer	(512) 972-7136

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)	<input checked="" type="checkbox"/>	NO					

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

On August 29, 1995, Unit 1 was in Mode 1 at 100% power. At approximately 1127 hours, Unit 1 experienced a reactor trip on Loss of Flow due to a loss of power to 1C Reactor Coolant Pump. At the time of this occurrence, preventive maintenance of a ground relay in the 13.8 kV switchgear was being conducted. During the performance of the preventive maintenance activity, a lockout relay was inadvertently actuated causing the feeder breaker to an auxiliary bus to open and loss of power to 1C Reactor Coolant Pump. The principal cause of this event was inadequate supervisory practices, inattention to detail, failure to self check, improper work practices during performance of maintenance activities, and ineffective execution of the Work Risk Assessment process. Corrective actions include providing lessons learned from this event to maintenance personnel and developing and providing expectations and clarifications of the Work Risk Assessment process to first-line supervision.

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

FACILITY NAME (1)	DOCKET	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
South Texas, Unit 1	05000 498	95	-- 009	-- 00	2 OF 4

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

DESCRIPTION OF EVENT:

On August 29, 1995, Unit 1 was in Mode 1 at 100% power. At approximately 1127 hours, Unit 1 experienced a reactor trip on Loss of Flow due to a loss of power to 1C Reactor Coolant Pump. At the time of this occurrence, preventive maintenance on a ground relay in the 13.8 kV switchgear was being conducted.

During relay installation as part of the performance of the preventive maintenance activity, difficulty was experienced with the "B" phase seal-in relay flag. Upon installation of the last relay, the flag reset mechanism on the cover was not properly aligned with the flag reset arm of the seal-in relay. The Supervisor proceeded to make adjustments to align the mechanism. The first two attempts were properly performed by removing the relay contact plug and the relay from the relay case prior to making adjustments. These attempts were unsuccessful in correcting the alignment problem. On the third attempt, the relay cover was removed. Without removing the relay contact plug and the relay from the relay case, the Supervisor pressed up on the seal-in contacts closing them. Since the relay was still in the relay case and the relay contact plug was still installed, the closed relay contact energized a lockout relay. This lockout relay, which is designed to protect the bus from overload conditions, opened the feeder circuit breaker to the 13.8 kV 1H Auxiliary Bus. When the feeder circuit breaker was opened, power was lost to 1C Reactor Coolant Pump. This resulted in a reactor trip due to loss of flow in one loop.

In this event, the supervisor performed the task which interfered with his overview role. An assessment of supervisory behavior during the performance of previous maintenance and training activities was conducted to find out if the behavior demonstrated in this event should have been anticipated by management. The assessment determined that the supervisor's inappropriate involvement in work activities was not a routine occurrence and that he had satisfactorily completed all phases of Supervisory Training and also participated in Supervisory Continuing Training.

The event review found the following generic implications:

- A. Expectations regarding "hands on" supervision are not consistently understood by managers and supervisors.
- B. Although supervisory "hands on" involvement in maintenance activities is not a general trait, other supervisors have on occasion performed "hands on" work activities.
- C. Some supervisors have been rewarded for their "hands on" involvement in work activities.

**LICENSEE EVENT REPORT (LER)**  
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FACILITY NAME (1)	DOCKET	LER NUMBER (6)			PAGE (3)
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South Texas, Unit 1	05000 498	95	-- 009	-- 00	3 OF 4

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

DESCRIPTION OF EVENT: (CONTINUED)

The Work Risk Assessment form completed for the task documented "no risk" that a reactor trip would be caused by this work activity. The following Work Risk Assessment process problems were identified:

- A. Expectations of the purpose for and the method of completing the Work Risk Assessment form were not clearly understood.
- B. Some questions on the Work Risk Assessment form could be improved to make their intent more clear.

CAUSE OF EVENT:

The principal cause of this event was inadequate supervisory practices. Other causes were inattention to detail, failure to self check, improper work practices during performance of maintenance activities, and ineffective execution of the Work Risk Assessment process.

ANALYSIS OF EVENT:

Reactor trips are reportable pursuant to 10CFR50.73(a)(2)(iv). Lo-Lo Steam Generator levels were received on all four Steam Generators following the Reactor trip. This resulted in an Engineered Safety Features actuation of the Auxiliary Feedwater System which is expected with a Reactor Trip from high power levels. All systems functioned as designed. There were no adverse safety or radiological consequences of this event.

CORRECTIVE ACTIONS:

1. The preventive maintenance activity on the ground relay in the 13.8 kV Switchgear was stopped and the cause of the reactor trip was reported to the Control Room.
2. Lessons learned from this event were provided to maintenance personnel. They included:
  - A. A discussion of the causes of the unanticipated transient.
  - B. A review of self-verification requirements.
  - C. For electrical personnel, a review of the expected method for disabling GE relays prior to performing work.

LICENSEE EVENT REPORT (LER)  
TEXT CONTINUATION

FACILITY NAME (1)	DOCKET	LER NUMBER (6)			PAGE (3)
South Texas, Unit 1	05000 498	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	4 OF 4
		95	-- 009	-- 00	

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

CORRECTIVE ACTIONS: (CONTINUED)

3. A discussion was conducted with supervisors on:
  - A. The importance of proper supervisory involvement during performance of work activities.
  - B. The Work Risk Assessment process.
  - C. Management's expectations pertaining to actual "hands on" work performed by supervision.
4. The lessons from this event have been presented sitewide during human performance training.
5. Expectations and clarification of the Work Risk Assessment process were developed and provided to first-line supervision.

ADDITIONAL INFORMATION:

A similar event was reported by the South Texas Project (Licensee Event Report 1-91-004). The unit was in a refueling outage with no fuel in the reactor vessel. During maintenance activities on an overcurrent protection relay a trip contact was inadvertently touched causing the supply breaker to the 13.8 kV Standby Bus 1H to open. The cause of this event was lack of attention to work performance methods.

There were no previous events reported by the South Texas Project to the Nuclear Regulatory Commission within the last three years regarding a reactor trip as a result of loss of Reactor Coolant flow.