

The Light company

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

October 09, 1992
ST-HL-AE-4231
File No.: G26
10CFR50.73

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

South Texas Project
Unit 2
Docket No. STN 50-499
Licensee Event Report 92-007
Regarding an Unplanned Engineered Safety Feature Actuation of an
Isolation Valve for the Above Seat Drain Line

Pursuant to 10CFR50.73, Houston Lighting & Power (HL&P) submits the attached Licensee Event Report (LER 92-007) regarding an unplanned Engineered Safety Feature (ESF) actuation of an isolation valve for the above seat drain line. This event did not have an 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 or me at (512) 972-7205.

William J. Jump
William J. Jump
General Manager,
Nuclear Licensing

JMP/ag

Attachment: LER 92-007 (South Texas, Unit 2)

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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 10/11/91

L4/NRC/

LICENSEE EVENT REPORT (LER)

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (F-630), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503

FACILITY NAME (1)

South Texas, Unit 2

DOCKET NUMBER (2)

0 5 0 0 0 4 9 9 1 OF 0 6

PAGE (3)

TITLE (4)

Unplanned ESF Actuation of an Isolation Valve for the
Above Seat Drain Line

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)												
0	9	1	2	9	2	0	0	1	0	0	9	9	2			0	5	0	0	0		

OPERATING
MODE (9)

1

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

POWER LEVEL (10)	20.402(b)	20.405(c)	50.73(a)(2)(iv)	73.71(b)
1	20.405(a)(1)(i)	50.36(c)(1)	50.73(a)(2)(v)	73.71(c)
0	20.405(a)(1)(ii)	50.36(c)(2)	50.73(a)(2)(vi)	OTHER (Specify in Abstract below and in Text, NRC Form 366A)
0	20.405(a)(1)(iii)	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)(ix)	

LICENSEE CONTACT FOR THIS LER (12)

NAME

TELEPHONE NUMBER

Charles Ayala - Supervising Licensing Engineer

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 NRC	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRC

SUPPLEMENTAL REPORT EXPECTED (14)

EXPECTED
SUBMISSION
DATE (15)

MONTH	DAY	YEAR
1	2	1
6	9	2

☒ YES (If yes, complete EXPECTED SUBMISSION DATE)☐ NO

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

On September 12, 1992, Unit 2 was in Mode 1 at 100% power. Operators were performing quarterly Main Steam system valve operability testing of the solenoid operated containment isolation valve. An operator was dispatched to the Isolation Valve Cubicle (IVC) building to open the Main Steam upstream manual drain isolation valve. At 0535 hours, approximately one minute after the valve was manually opened the above seat drain line valve on the Main Steam line "D" (MS7903A) indicated open in the Control Room. No intentional action was taken to open MS7903A. The exact cause of the apparent unexpected opening and subsequent slow closure of the isolation valve is unknown at this time. Corrective actions include performing troubleshooting activities on MS7903A in an attempt to replicate the conditions reported. A supplemental report will be submitted which addresses final investigation results and will include further corrective actions deemed necessary.

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LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 500 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-530), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, 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)	
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER		
South Texas, Unit 2	0500049922	92	007	00	02	OF 06

TEXT (If more space is required, use additional NRC Form 356A's) (17)

DESCRIPTION OF EVENT:

On August 31, 1992, a Unit 2 Equipment Clearance Order (ECO) was written for Unit 2 to close the Main Steam drain isolation valve (MS0546), a normally locked open valve and the isolation valve for the above seat drain line on Main Steam line "D" (MS7903A) to isolate a leak on a down stream valve. MS0546 was manually closed and the Control Room handswitch for MS7903A was placed in the "CLOSE" position. MS7903A is a normally energized open Solenoid Operated Valve (SOV) and automatically closes on a Containment Isolation signal. (See Figure)

On September 12, 1992, Unit 2 was in Mode 1 at 100% power. Operators were performing quarterly Main Steam system valve operability testing. A partial release of the Unit 2 ECO was obtained to open MS0546 so that the test of the isolation valve for the above seat drain line on the Main steam line "D" (MS7903A) could be performed under pressure. The Control Room handswitch for MS7903A remained in the closed position and the valve indicated closed. An operator was dispatched to the Isolation Valve Cubicle (IVC) building to open MS0546. At 0535 hours, approximately one minute after the valve was manually opened, MS7903A indicated open in the Control Room. A few minutes later, both position indicator lights went out, signifying either a loss of power, a SOV reed switch misalignment, or an SOV in an indeterminate position. While the operators were checking power supplies and Technical Specifications, the MS7903A close position indication re-illuminated.

Following return of position indication, a stroke time check of MS7903A was performed. The required stroke time was not achieved, but no indicator problems occurred. Because of the failure to achieve required stroke time, MS7903A was declared inoperable and was re-isolated by closing MS0546 in accordance with Technical Specification 3.6.3, "Containment Isolation Valves."

As a result of the unexpected indication that MS7903A had opened when its handswitch was in the "CLOSE" position, a four hour notification was made to the NRC at 0704 hours.

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ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 500 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH, (P-530), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1)	DOCKET NUMBER (2)										LSR NUMBER (6)						PAGE (3)					
											YEAR		SEQUENTIAL NUMBER		REVISION NUMBER			OF				
South Texas, Unit 2	0	5	0	0	0	4	9	9	9	2	--	0	0	7	--	0	0	0	3	OF	0	6

NRC Form 366A (6-89)

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 500 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-530), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

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		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER		
South Texas, Unit 2	0 5 0 0 0 4 9 9 9 2	—	0 0 7	—	0 0 0 4	OF 0 6

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

CAUSE OF EVENT: (Con't)

The position indication for SOV MS7903A is provided by magnetically operated reed switches. The permanent magnet is contained inside the valve bonnet and is connected to the solenoid plunger. High temperatures or strong impacts can partially demagnetize some permanent magnets. Stray magnetic fields can be produced when the coil is energized and can affect reed switch operation, particularly when the coil is DC powered. The coil magnetic field is contained in the SOV core, enclosure, flux, washer, etc.

MS7903A is a piloted SOV. Piloted SOVs have small ports and tolerances which are susceptible to blockage by small particles. MS7903A is located in a carbon steel (SA-106) drain line which had been isolated upstream for approximately two weeks. A sudden release of corrosion products when the upstream valve was opened would not be unexpected.

ANALYSIS OF EVENT:

Unplanned actuation of an Engineered Safety Feature (ESF) is reportable pursuant to 10CFR50.73(a)(2)(iv). At STPEGS, the Containment Isolation system is an ESF system as described in the Updated Final Safety Analysis Report. Unplanned individual actuations of containment isolation valves are conservatively established to be reportable. While any unnecessary challenge to an ESF is undesirable, actuation of the of the containment isolation valve for the above seat drain line (MS7903A) represented a minimal hazard since it did not cause, worsen, or prevent mitigation of any accident.

Although reportable for the above reason, containment integrity has been maintained by the manual closing of MS0546 pending repair of MS7903A.

CORRECTIVE ACTIONS:

1. Administrative controls, via the Operability Tracking Log, have been placed on MS7903A and MS0546. These valves have been tagged out to ensure that containment integrity is maintained.

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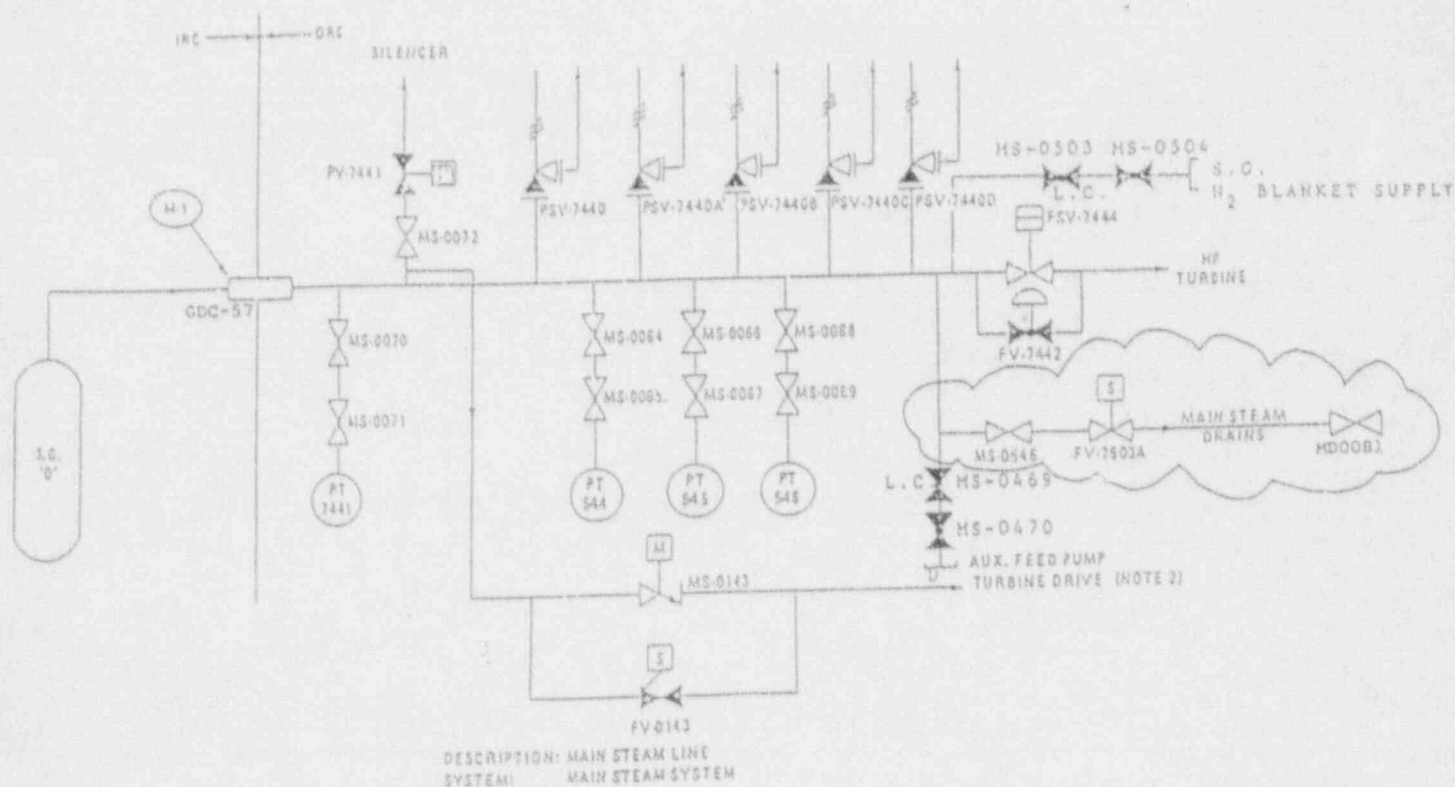
ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 500 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (F530), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

TEXT (If more space is required, use additional NRC Form 3654's) (17)

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATIONESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS
INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD
COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS
AND REPORTS MANAGEMENT BRANCH (P-530), U.S. NUCLEAR
REGULATORY COMMISSION, WASHINGTON, DC 20555, 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)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
South Texas, Unit 2	0500049992	-007	-0006		OF	06	

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



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