

The Light company

Houston Lighting & Power

South Texas Project Electric Generating Station P. O. Box 289 Wadsworth, Texas 77463

July 8, 1992
ST-HL-AE-4151
File No.: G26
10CFR50.73

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

South Texas Project
Unit 1
Locket No. STN 50-498
Licensee Event Report 92-005
Unplanned ESF Actuation Due to a Component Cooling
Water Pump Start due to Inadequate Procedure

Pursuant to 10CFR50.73, Houston Lighting & Power (HL&P) submits the attached Licensee Event Report 92-005 regarding an unplanned Engineered Safety Feature (ESF) actuation due to a Component Cooling Water pump start due to inadequate procedure. This event did not have 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
Manager,
Nuclear Licensing

JMP/ag

Attachment: LER 92-005 (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 10/11/91

L4/NRC/

LICENSEE EVENT REPORT (LER)

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 300 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (F530), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20545 AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1) South Texas, Unit 1 DOCKET NUMBER (2) 050004981 OF 04 PAGE (3)

TITLE (4) Unplanned ESF Actuation due to a Component Cooling Water Pump Start due to Inadequate Procedure

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)
06	08	92	92	005		06	07	92			050000
											050000

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

OPERATING MODE (8)	20.402(b)	20.406(e)	50.73(a)(2)(iv)	73.71(b)
1		<input checked="" type="checkbox"/>		
POWER LEVEL (10) <u>100</u>	20.406(a)(1)(i)	50.36(a)(1)	50.73(a)(2)(v)	73.71(c)
	20.406(a)(1)(ii)	50.36(a)(2)	50.73(a)(2)(vi)	OTHER (Specify in Abstract below and in Text NRC Form 368A)
	20.406(a)(1)(iii)	50.73(a)(2)(i)	50.73(a)(2)(vii)(A)	
	20.406(a)(1)(iv)	50.73(a)(2)(ii)	50.73(a)(2)(vii)(B)	
	20.406(a)(1)(v)	50.73(a)(2)(iii)	50.73(a)(2)(viii)	
	20.406(a)(1)(vi)	50.73(a)(2)(iv)	50.73(a)(2)(ix)	

LICENSEE CONTACT FOR THIS LER (12)

NAME Charles Ayala - Supervising Licensing Engineer TELEPHONE NUMBER 512972-8628

AREA CODE

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

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPROS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPROS

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 June 8, 1992 Unit 1 was in Mode 1 at 100% power, when an inadvertent start of a Component Cooling Water (CCW) pump occurred. This event occurred when the discharge header pressure went below the setpoint for starting the standby pump. The discharge header pressure decreased because of a high flow condition when one of two running pumps was manually shut down during performance of a surveillance test. The flow condition was caused by inadvertently leaving a large valve open. The cause of this event was that inadequate procedural guidance was available for performance of the test lineup. The possibility of this type of actuation was not recognized and was not incorporated in procedures. Corrective actions include performing an evaluation to determine which plant procedures need to be reviewed for insufficient procedural steps to operate plant equipment, revising the appropriate procedures to incorporate appropriate guidance for proper system configurations and to support the conduct of testing, and developing a clear plant directive, for Operations personnel, emphasizing that safety equipment manipulations must be governed by written guidance and that procedural changes must be implemented before work proceeds when written guidance is lacking.

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 20545, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1) South Texas, Unit 1	DOCKET NUMBER (2) 0 5 0 0 0 4 9 8	LER NUMBER (6)			PAGE (3)	
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER		
		9 2	- 0 0 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 June 8, 1992 Unit 1 was in Mode 1 at 100% power, when an inadvertent start of a Component Cooling Water (CCW) pump occurred. This occurred when the discharge header pressure went below the setpoint for starting the standby pump. The discharge header pressure decreased because of a high flow condition when one of two running pumps was manually shut down during the performance of a surveillance test. The low flow condition was caused by inadvertently leaving a large valve open.

At 0045 hours on June 8, 1992, Operators started a surveillance test to do start-up time tests on miscellaneous CCW valves, with the "A" train pump running. At 0052 hours, the Operator started a second pump, "C" train, as required by the procedure, and opened the CCW flow control valve for the "A" train RHR heat exchanger. At 0113 hours, the Operator determined that the second pump was no longer required for the completion of the testing and took the "C" pump handswitch to stop. The "C" pump restarted when the switch was released but tripped immediately on overcurrent. This was most likely due to switching transient conditions on the motor. If a fast restart of a motor happens when the residual voltage is significantly out of phase with the supply voltage, a much larger than normal peak starting current pulse will be caused. The Operator immediately realized the error and shut the CCW valve which had remained open. The pump was declared inoperable because of the pump trip and Technical Specification section 3.7.3 action statement was entered. The pump was subsequently tested and verified operable.

CAUSE OF EVENT:

The root cause for the unplanned pump start was that inadequate procedural guidance was available for performance of the test lineup. When testing certain types of valves which crosstie the pumps to the miscellaneous loads header, two trains of CCW pumps must be running to maintain adequate flow to the loads. Normally only one pump is running to maintain adequate flow to the loads. As such, a second pump was started per the appropriate procedure. With two pumps running, there is inadequate flow with normal loads to maintain minimum pump flow requirements.

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LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.9 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 1	DOCKET NUMBER (2) 0500049892	LER NUMBER (6)			PAGE (3)	
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER		
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TEXT (If more space is required, use additional NRC Form 366A's) (17)

CAUSE OF EVENT: (Con't)

Therefore, it is normal practice to add a large load to increase flow on the pumps. In this case, the operator opened the flow control valve for the CCW to the RHR heat exchanger. The requirement to maintain adequate flow on the pumps is specified by the procedure but the method for maintaining the flow is not delineated. The Plant Procedure Writer's Guide, OPGP03-ZA-0039, states that all steps which could cause protective system actuations should be noted. OPGP03-ZE-0005, Plant Surveillance Procedure Preparation, requires that procedures which can inadvertently cause automatic actuations should provide instructions to preclude those actuations. The possibility of the type of actuation reported here was not recognized. These requirements were not incorporated in the procedures.

This particular test is performed on a quarterly basis and the operator had personally performed it several times. The operator was aware of the required manual actions to compensate for the inadequate flow attributed to normal operation of the pump. The operator did not recognize that manipulation of plant equipment which are required to perform plant procedures require procedural controls to govern the evolution.

ANALYSIS OF EVENT:

The start of the pump is an Engineered Safety Features (ESF) actuation and is reportable per 10CFR50.73(a)(2)(iv).

This ESF actuation did not challenge Solid State Protection System or Reactor Protection System (RPS) control circuits since it was initiated via a non-ESF pathway. No valid ESF or RPS signals existed so that there is no safety significance to this event beyond the fact that an ESF component was actuated.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 900 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 (150-0104) OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1) South Texas, Unit 1	DOCKET NUMBER (2) 0 5 0 0 0 4 9 8 9 2	LER NUMBER (3)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
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TEXT (If more space is required, use additional NRC Form 366A's) (17)

CORRECTIVE ACTIONS:

1. Plant Operations Management will develop a clear plant directive emphasizing that safety equipment manipulations must be governed by written guidance and that procedural changes must be implemented before work proceeds when written guidance is lacking. This will be provided to affected Operations personnel by July 30, 1992.
2. Component Cooling Water System Operating procedures, 1(2)POP02-CC-0001, will be changed to incorporate appropriate guidance for proper system configurations. This will be completed by August 28, 1992.
3. Component Cooling Water System Miscellaneous Valve Operability Test procedures, 1(2)PSP03-CC-0010, will be changed to incorporate appropriate guidance for proper system configurations to conduct the testing. This will be completed by August 28, 1992.
4. HL&P will perform an evaluation to determine which plant procedures need to be reviewed for insufficient procedural steps to operate plant equipment. It is HL&P's intent to ensure that safety related equipment manipulations are governed by written guidance. The evaluation will also consider procedures for non-safety related equipment which could impact safety related equipment. This evaluation will be completed by August 28, 1992. Additional corrective actions will be developed as necessary.

ADDITIONAL INFORMATION:

Previous events involving ESF actuations that have been reported within the last three years, which were attributed to inadequate procedures/guidance were:

- Unit 2 LER 89-001; Partial Loss of Offsite Power when Fire Protection deluge operated. Attributed to a lack of procedures for Fire Protection restoration.
- Unit 1 LER 91-008; Loss of Offsite Power on a pilot wire relay actuation, with a switchyard lockout. Attributed to inadequate maintenance procedures.
- Unit 1 LER 91-013; B-Train ESF equipment actuation from the Sequencer. Attributed to inadequate troubleshooting instructions due to a deficient technical review.