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

November 04, 1992
ST-HL-AE-4255
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 92-015
Unplanned ESF Actuation of a Component Cooling Water
Pump on October 3, 1992 due to Operator Inattention

Pursuant to 10CFR50.73, Houston Lighting & Power (HL&P) submits the attached Unit 1 Licensee Event Report (LER 92-015) regarding an unplanned Engineered Safety Features (ESF) actuation of a Component Cooling Water (CCW) pump on October 3, 1992, due to operator inattention. This event did not have adverse effect on the health and safety of the public.

On November 2, 1992, an extension of the due date of this letter to November 4, 1992, was requested and granted, by Mr. M. A. Satorius of NRC Region IV.

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.

Warren L. Kinsey
For William J. Jump
General Manager,
Nuclear Licensing

JMP/ag

Attachment: LER 92-015 (South Texas, Unit 1)

IE22 1/1

cc:

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Revised 10/11/91

L4/NRC/

NRC FORM 366 (6-89) U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OMB NO. 3150-0104
EXPIRES 4/30/92
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 (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.

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
South Texas, Unit 1	0 5 0 0 0 4 9 8	1 OF 0 4

TITLE (4) Unplanned ESF Actuation of a Component Cooling Water Pump on October 3, 1992, Due to Operator Inattention

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 3	9 2	9 2	— 0 1 5	— 0 0	1 1	0 4	9 2		0 5 0 0 0
										0 5 0 0 0

OPERATING MODE (9)	6
POWER LEVEL (10)	0 0 0

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

	20.402(b)		20.405(c)	X	50.73(a)(2)(iv)
	20.405(a)(1)(i)		50.36(c)(1)		50.73(a)(2)(v)
	20.405(a)(1)(ii)		50.36(c)(2)		50.73(a)(2)(vii)
	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)(x)

	73.71(b)
	73.71(c)
	OTHER (Specify in Abstract below and in Text, NRC Form 366A)

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER (AREA CODE)
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 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)				
X	NO				

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

On October 3, 1992, at 0433 hours, Unit 1 was in Mode 6 while in a refueling outage. The C train (1C) Component Cooling Water (CCW) pump received an automatic actuation from the miscellaneous header low pressure signal. Prior to the start, the operators had filled and vented the Engineered Safety Features (ESF) header of the 1B CCW train per the Component Cooling Water system procedure in order to restore it to an operable status. The miscellaneous header was isolated from the B train pump by closed automatic valves and the 1B pump was not yet running. The static fill and vent was completed satisfactorily and a subsequent action in the procedure was to manually start the 1B pump. When the 1B pump was started, the 1C pump started on low header pressure. The cause of this event was attributed to inattention to operating conditions exacerbated by procedural conditions which required extra attention by the operator. Corrective actions include revising the affected procedure to make the mode selector switch setting mandatory, reviewing and revising additional procedures to incorporate the mandatory mode selector switch setting, counseling the involved Operations personnel, and incorporating this event into Licensed Operator Requalification Training.

DESCRIPTION OF EVENT:

On October 3, 1992, at 0433 hours, Unit 1 was in Mode 6 while in a refueling outage. The C train (1C) Component Cooling Water (CCW) pump received an automatic actuation from the miscellaneous header low pressure signal. Prior to the start, the operators had filled and vented the Engineered Safety Features (ESF) header of the 1B CCW train per the Component Cooling Water system procedure in order to restore it to an operable status. The miscellaneous header was isolated from the B train pump by closed automatic valves and the 1B pump was not yet running. The static fill and vent was completed satisfactorily and a subsequent action in the procedure was to manually start the 1B pump. When the 1B pump was started, the 1C pump started on low header pressure.

Prior to the steps in the procedure which actually start the fill and vent process, a note stated "IF the Unit/Shift Supervisor desires, THEN the CCW pump mode selector switches may be placed in the OFF position while the fill and vent is being performed." This step had been added as part of a corrective action to a prior unrelated CCW pump actuation which resulted in a reportable ESF actuation (see Unit 1 LER 92-010). When the operator performing this evolution came to that note, he felt that it was unnecessary to put the switches in the OFF position since the fill and vent would be time consuming and he considered the several hours without header pressure protection to be excessive. This was brought to the attention of his supervisor and the mode selector switches were not placed in OFF position at this time. During this time 1A CCW pump was providing the needed CCW header flow. In this mode 1A was supplying refueling heat loads, while 1C was in standby (not running), and 1B was in maintenance.

The static fill and vent was successful as evidenced by a lack of air in the vent paths. The fill and vent process lasted approximately three hours. When the fill and vent was complete a dynamic fill and vent was called for which required that the CCW pump be manually started to sweep remaining air from the system. By design, when the CCW pump starts the miscellaneous header supply and return valves automatically open, which in this case caused a quantity of trapped air to be swept from the stagnant section of piping. The operator knew from previous experience that some volume of water would be displaced from the CCW surge tank to replace expelled air and was ready for that occurrence. However, he had forgotten by this time about the mode selector switches note with the result that the opening of the miscellaneous header valves caused a low header pressure signal when the air was displaced.

DESCRIPTION OF EVENT: (Con't)

Operations Management immediately changed the procedure to add a mandatory check-off step which required the pumps' mode selector switches to be put in the OFF position before proceeding with the fill and vent. Subsequently, Operations personnel reviewed all procedures which caused any manipulations of CCW pumps, for similar conditions.

CAUSE OF EVENT:

The cause of this event was attributed to inattention to operating conditions exacerbated by procedural conditions which required extra attention by the operator. The corrective actions developed as a result of Unit 1 LER 92-010, were ineffective to prevent recurrence of a similar problem. After two prior CCW pump actuation events, the Component Cooling Water system procedure was modified to allow use of the mode selector switches in the OFF position. This included the section in use for this event. However, the note which gave the allowance to do this action was placed significantly prior to the step for the actual start of the pump due to the concern that some of the other fill and vent actions could also cause a low pressure actuation. The extensive time period between the beginning of the fill and vent process and the time the pump was started allowed the operator to forget the note about the mode selector switches.

ANALYSIS OF EVENT:

The 1C CCW pump start is considered an ESF actuation and is reportable pursuant to 10CFR50.73(a)(2)(iv). The CCW system supports the ESF functions of systems as described in the STPEGS Updated Final Safety Analysis Report. Placing the mode selector switch in "OFF" does not prevent valid ESF signals from starting the pump as designed. There is no safety significance to this event since the automatic signal in this event is not safety related and the pump started and operated properly.

CORRECTIVE ACTIONS:

1. The affected procedure was modified to make the mode selector switch setting mandatory. Additional procedures were identified and revised to incorporate the mandatory mode selector switch setting.

2. The involved Operations personnel have been counseled by management.

3. As an interim measure, the Operations Department has instituted a procedure review checklist to be completed by procedure performers before and after procedure usage. This checklist is intended to identify additional procedural guidance required to ensure procedure adherence and prevent ESF actuations.

4. This event will be covered in Licensed Operator Requalification training emphasizing the importance of attention to operating conditions during the performance of procedural activities. This training will be completed by March 26, 1993.

5. To address the ineffective corrective action, this event will be provided as lessons learned to qualified event investigators by December 10, 1992. Additionally, this event will be incorporated into the introductory investigator training as a lessons learned by June 30, 1993.

6. Guidance to event investigators will be enhanced to ensure effective corrective actions are taken to prevent recurrence of a similar problem. This guidance will be revised by February 12, 1993.

ADDITIONAL INFORMATION:

Unplanned ESF actuations involving CCW pump starts that have been reported to the NRC within the last two years were:

- Unit 1 LER 92-005 Unplanned ESF actuation of a Component Cooling Water pump due to an inadequate procedure.

- Unit 1 LER 92-010 Inadvertent ESF actuation due to a Component Cooling Water pump start.