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

February 26, 1993
ST-HL-AE-4348
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 93-002
Unplanned ESF Actuation of an ECW Screen Wash Booster Pump

Pursuant to 10CFR50.73, Houston Lighting & Power (HL&P) submits the attached Unit 2 Licensee Event Report 93-002 regarding an unplanned Engineered Safety Features (ESF) actuation of an Essential Cooling Water (ECW) Screen Wash Booster Pump. This event did not have an adverse effect on the health and safety of the public.

If you should have any questions on this matter, please contact Mr. J. M. Pinzon at (512) 972-8027 or me at (512) 972-7921.

W. H. Kinsey, Jr.
Vice President,
Nuclear Generation

JMP/sr

Attachment: LER 93-002 (South Texas, Unit 2)

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LER\93047001.U2 Project Manager on Behalf of the Participants in the South Texas Project

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PDR ADOCK 05000499
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cc:

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U.S. Nuclear Regulatory Comm.
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NRC FORM 366 (5-92) U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB NO. 3150-0104
EXPIRES 5/31/95

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (MNBB 7714), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555-0001, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

LICENSEE EVENT REPORT (LER)

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

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
South Texas, Unit 2	05000499	1 OF 04

TITLE (4)

Unplanned ESF Actuation of an ECW Screen Wash Booster Pump

EVENT DATE (5)			LER NUMBER (6)			REPORT NUMBER (7)			OTHER FACILITIES INVOLVED (8)	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	MONTH	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
										05000
01	28	93	93	002	00	02	26	93	FACILITY NAME	DOCKET NUMBER 05000

OPERATING MODE (9)	1
POWER LEVEL (10)	65

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

20.402(b)	20.405(c)	X 50.73(a)(2)(iv)	73.71(b)
20.405(a)(1)(i)	50.36(c)(1)	50.73(a)(2)(v)	73.71(c)
20.405(a)(1)(ii)	50.36(c)(2)	50.73(a)(2)(vii)	OTHER
20.405(a)(1)(iii)	50.73(a)(2)(i)	50.73(a)(2)(viii)(A)	(Specify in Abstract below and in Text, NRC Form 366A)
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)	

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER (Include Area Code)
Jairo M. Pinzon - Senior Engineer	(512) 972-8027

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)

	YES (If yes, complete EXPECTED SUBMISSION DATE)	X	NO

EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR

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

On January 28, 1993, Unit 2 was in Mode 1 at 65% power. At 2250 hours, Instrumentation and Control (I&C) technicians were performing preventive maintenance activities on the Essential Cooling Water (ECW) system when an unplanned Engineered Safety Features (ESF) actuation of the ECW Screen Wash Booster pump occurred. The cause of this event was that the Preventive Maintenance instructions did not specifically state the correct type equipment to be used for the application. The technician used the wrong type of test equipment for the calibration causing a false signal to be sent. Contributing causes were that the preventive maintenance instruction did not specifically identify parallel process connected ESF actuation equipment and less than adequate labeling of the instrument cabinet. Additionally, the I&C Technicians did not recognize the proper test equipment for the specific application. Corrective actions include revising the preventive maintenance activity to provide a caution that specifies the correct type of test equipment, placing labels on instrument cabinets, discussing this event with I&C personnel, evaluating the need for additional training on Measuring and Testing Equipment and performing a review of other preventive maintenance activities to identify similar problems.

DESCRIPTION OF EVENT:

On January 28, 1993, Unit 2 was in Mode 1 at 65% power. At approximately 2250 hours, an unplanned Engineered Safety Features (ESF) actuation occurred when the Screen Wash Booster pump started while maintenance personnel were performing a Preventive Maintenance (PM) activity. The PM was being performed to calibrate the instruments that measure and record the Essential Cooling Water (ECW) traveling screen differential water level. The Instrumentation and Control (I&C) technicians were assigned the task and a pre-job briefing was held by the crew leader. The technicians obtained the Work Start approval to perform the task and the Unit Supervisor approved the instruments removal from service. The technicians removed the level transmitter from service and connected test equipment. The transmitter was calibrated and test equipment disconnected. Test equipment included the use of a Wet Calibrator (WC). The WC is used to fill the transmitters capsule assembly with water. This transmitter does not require the use of a WC as it is a dry leg application. The technicians began venting and draining the water from the transmitter but it did not appear to be venting or draining so the manifold valve was opened more. The technicians observed water bubbles coming from the transmitter vents and realized this was a dry leg type transmitter hook-up. The Screen Wash Booster Pump started due to actuation of a level differential switch which is connected in parallel with the level transmitter. While venting the transmitter sensing lines, the setpoint was exceeded. The differential level switch sensed the false signal and initiated the unplanned EFS actuation of the Screen Wash Booster pump. The system was then restored for normal operations.

The USNRC was notified on January 29, 1993, at approximately 0023 hours.

CAUSE OF EVENT:

The cause of this event was that the PM instructions did not specifically state the correct type equipment to use for the application. The I&C Technicians used the wrong type of test equipment for the application. Most applications of level transmitters are wet leg type and require use of a WC. This installation is dry leg type and does not require the WC.

A contributing cause was that the PM instructions did not specifically identify parallel process-connected ESF actuation equipment. Additionally, the I&C Technicians did not recognize the proper test equipment for the specific application. Another contributing cause was less than adequate labeling of the instrument cabinet that indicate presence of ESF actuation equipment. The ESF related switch is not labeled or tagged as ESF actuation equipment.

ANALYSIS OF EVENT:

The event is reportable pursuant to 10CFR50.73(a)(2)(iv). There were no adverse radiological or safety consequences as a result of this event. Engineered Safety Features functioned as designed and no unexpected post actuations occurred.

CORRECTIVE ACTIONS:

1. The PM instructions were revised to add a caution statement that specifies the correct type of test equipment on this instrumentation for all trains in both Units.

2. ESF actuation labels have been placed on local instrument cabinets for ECW trains in both Units. Additionally, ESF actuation labels have been affixed to the ESF actuation instruments inside the cabinet.

3. The PM instructions will be revised to add steps in the precautions notifying the performer of the parallel process-connected ESF actuation instruments. This action will be completed prior April 7, 1993.

CORRECTIVE ACTIONS: (Con't)

4. This event has been discussed with I&C personnel. This discussion covered aspects of this event with regards to attention to the type of work performed and the equipment being worked on. Additionally, job ownership, work habits, and attention to detail were discussed.

5. HL&P will perform an evaluation to determine if the need for additional training on the use of Measuring and Testing Equipment is required. This evaluation will be completed by June 1, 1993.

&P will perform a review of similar PM activities to ensure t proper cautions exist so that the correct type of ration is used for the application. This action will be ted by March 10, 1993.

ORMATION:

t that was reported to the NRC involving the use equipment which resulted in an unplanned ESF 2 LER 90-014. This event was regarding a on Isolation due to the use of improper test ming a surveillance test on the spent fuel

CORRECTIVE ACTIONS: (Con't)

4. This event has been discussed with I&C personnel. This discussion covered aspects of this event with regards to attention to the type of work performed and the equipment being worked on. Additionally, job ownership, work habits, and attention to detail were discussed.

5. HL&P will perform an evaluation to determine if the need for additional training on the use of Measuring and Testing Equipment is required. This evaluation will be completed by June 1, 1993.

6. HL&P will perform a review of similar PM activities to ensure that proper cautions exist so that the correct type of calibration is used for the application. This action will be completed by March 10, 1993.

ADDITIONAL INFORMATION:

One previous event that was reported to the NRC involving the use of the wrong test equipment which resulted in an unplanned ESF actuation was Unit 2 LER 90-014. This event was regarding a Containment Ventilation Isolation due to the use of improper test equipment while performing a surveillance test on the spent fuel pool radiation monitors.