

The Light company

Houston Lighting & Power

South Texas Project Electric Generating Station P. O. Box 289 Wadsworth, Texas 77483

May 27, 1994
ST-HL-AE-4803
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
Revision 1 to Licensee Event Report 93-013
Inadvertent ESF Actuation due to a Component Cooling Water
Pump Start During a Maintenance Work Activity

Pursuant to 10CFR 50.73, Houston Lighting & Power submits the attached revision to Unit 2 Licensee Event Report regarding an inadvertent ESF Actuation due to a Component Cooling Water Pump Start during a maintenance work activity on July 19, 1993. This event did not have an adverse effect on the health and safety of the public.

This revision deletes Corrective Action 1, which was to correct the seat leakage past MOV-0236 during the Unit 2 outage. After further evaluation it was determined that the amount of leakage past the seat does not warrant breaching system boundaries and valve disassembly. Non-intrusive acoustic testing was conducted to ensure that existing leakage was as low as achievable without valve disassembly. Changes are indicated by revision bars.

The other actions of ensuring that the improved guidance on the use of the mode selector switch is consistent between procedures and the addition of the time delay to the low pressure Component Cooling Water pump automatic start signal are adequate to minimize future inadvertent Component Cooling Water pump auto-starts.

If you should have any questions on this matter, please contact Mr. J. M. Pinzon at (512) 972-8027 or me at (512) 972-8664.



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Plant Manager,
Unit 2


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Attachment: LER 93-013 (South Texas, Unit 2)
A Subsidiary of Houston Industries Incorporated

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Houston Lighting & Power Company
South Texas Project Electric Generating Station

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LICENSEE EVENT REPORT (LER)

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

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.

FACILITY NAME (1) South Texas, Unit 2	DOCKET NUMBER (2) 05000 499	PAGE (3) 1 OF 4
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TITLE (4) Inadvertent ESF Actuation due to a Component Cooling Water Pump Start During a Maintenance Work Activity

EVENT DATE (5)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)																																																																																									
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LICENSEE CONTACT FOR THIS LER (12)										
NAME Jairo Pinzon - Senior Engineer								TELEPHONE NUMBER (Include Area Code) (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)					EXPECTED SUBMISSION DATE (15)			MONTH	DAY	YEAR
YES (If yes, complete EXPECTED SUBMISSION DATE).					x	NO				

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

On July 19, 1993, at 2044 hours, Unit 2 was defueled in a refueling outage. The "B" train (2B) Component Cooling Water (CCW) pump received an automatic actuation from the non-nuclear supply header low pressure signal. The low header pressure was caused when a Motor Operated Valve (MOV-0235) was opened to equalize pressure across the valve. Due to a downstream valve, MOV-0236, being closed and indications that the piping in between the valves had been filled, it was assumed that a low header pressure condition would not occur. When the valve was opened, the CCW pump auto started and the operator stationed at the valve reported flow noises. The causes of this event were attributed to less than adequate plant impact review by the Unit Supervisor, seat leakage past MOV-0236 and untimely implementation of a recommended action from previous events. Corrective actions include placing a time delay in the CCW pump automatic starting circuit and revising the guidance for control of the CCW pump mode selector switch.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

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		93	-- 013 --	01	

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

DESCRIPTION OF EVENT:

On July 19, 1993, Unit 2 was defueled in a refueling outage. At 2044 hours, the "B" train (2B) Component Cooling Water (CCW) pump received an automatic actuation from the non-nuclear supply header low pressure signal.

Prior to the event the "A" train (2A) CCW pump was in service and the "C" train (2C) was out of service for maintenance. Maintenance had recently been completed on the non-nuclear safety (NNS) header which was drained. Motor Operated Valves (MOV's), MOV-0235, "NNS LOADS INL ISOL" and MOV-0236, "NNS LOADS INL ISOL" (configured in series) were closed due to the NNS header not being filled and vented. These valves are normally open and close on a Safety Injection signal or low CCW Surge Tank level. Maintenance personnel requested work start permission to retorquer the flange bolts to stop leakage on MOV-0235. A requirement to perform this work was to have system pressure on both sides of the valve. Operations personnel verified no other work was ongoing or Equipment Clearance Orders (ECOs) in effect that prevented them from opening MOV-0235. Control room personnel verified the downstream valve, MOV-0236, was closed and dispatched a Reactor Plant Operator (RPO) to ensure that the vent valve in between the MOV's was closed and that MOV-0235 was ready to be opened. Previous MOVATs testing had been performed on MOV-0235. During MOVATs testing, the valve is required to be stroked, therefore the control room staff assumed that the header between the MOV's was filled.

The control room operator opened MOV-0235. While MOV-0235 was opening, a momentary low pressure on the CCW common header occurred resulting in CCW pump 2B starting and associated alarms annunciating in the control room. The RPO was dispatched to the pump to ensure proper operation. Control room personnel verified conditions allowed single CCW pump operation and secured CCW pump 2B. With MOV-0235 open, work commenced to retorquer the flange.

With MOV-0235 open, a steady decrease in CCW surge tank level was observed. After work on MOV-0235 was completed, it was closed to investigate the leak. When MOV-0235 was closed the surge tank level decrease returned to nominal. Investigation revealed that MOV-0236 was leaking by its seat.

CAUSE OF EVENT:

The cause of this event was an inadequate plant impact assessment of the evolution by the Unit Supervisor and seat leakage past MOV-0236 which allowed the header to depressurize.

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CAUSE OF EVENT: (Cont'd)

Contributing causes were the untimely implementation of a recommendation from previous events and inconsistent guidance on the control of the CCW/ECW Mode selector switch. As a result of previous ESF actuations an ESF Task force was formed. The task force recommended that a modification to add a time delay to the low pressure CCW pump automatic start signal be made. Had this time delay been installed this unnecessary actuation may not have occurred.

ANALYSIS OF EVENT:

The unplanned actuation of an Engineered Safety Feature (ESF) is reportable pursuant to 10CFR50.73(a)(2)(iv). The CCW system provides cooling to support ESF functions and receives ESF actuation signals, as such. The CCW pump start was the result of a non-safety grade, non-ESF signal due to a momentary low pressure condition on the CCW common header. Since this was a non-ESF signal no other ESF equipment changed state. There was no adverse impact on plant or public safety as a result of this event.

STP utilizes a three position mode selector switch for each train of CCW/ECW. When selected to STANDBY, an automatic CCW/ECW pump start signal is generated on a CCW common header (non-ESF) low pressure condition or an ECW low pressure condition on 2 of 3 ECW trains. These are non-ESF signals. With the mode selector switch in OFF these signals are bypassed. Reliability is ensured by placing one train of CCW in service and at least one additional train placed in service or in the Stand-by mode.

CORRECTIVE ACTIONS:

1. Deleted
2. Guidance for the control of the mode selector switch is being reviewed for consistency. This action will be completed by November 1, 1993.
3. A modification to add a time delay to the low pressure CCW pump automatic start signal will be completed for each Unit prior to startup from the current outages. It can not be proven that a time delay would have prevented this actuation; however, in coincidence with the guidance on the use of the CCW/ECW Mode selector switch, it is believed that future CCW pump auto-starts could be minimized

The Corrective Action Process is currently under review to ensure that corrective actions are appropriately developed and implemented.

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ADDITIONAL INFORMATION:

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

- Unit 1 LER 92-005 regarding an unplanned ESF actuation of a CCW pump due to an inadequate procedure.
- Unit 1 LER 92-010 regarding an inadvertent ESF actuation of a CCW pump due to a lack of procedural guidance.
- Unit 1 LER 92-015 regarding an unplanned ESF actuation of a CCW pump due to operator inattention.
- Unit 1 LER 92-016 regarding an unplanned ESF actuation of a CCW pump due to an inadequate procedure.