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

May 19, 1993
ST-HL-AE-4452
File No.: G02.04
10CFR2.201

Director, Office of Enforcement
U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, DC 20555

South Texas Project
Units 1 and 2
Docket Nos. STN 50-498; STN 50-499
Reply to Notice of Violation and
Proposed Imposition of Civil Penalty
Inspection Report 93-08; Enforcement Action 93-047

Houston Lighting & Power Company (HL&P) has reviewed the Notice of Violation and Proposed Imposition of Civil Penalty dated April 19, 1993, and submits the attached replies to violations I.A. and I.B. HL&P is submitting the reply to violation II, which was not assessed a civil penalty, in a separate letter.

HL&P does not intend to protest the proposed civil penalty. An electronic wire transfer has been made, payable to the Treasurer of the United States, for this civil penalty.

In the cover letter to the Notice of Violation, the NRC expressed concern with HL&P's corrective action program. As presented to the NRC in March 8, 1993, Enforcement Conference, significant changes to this program are in progress. However, in light of the NRC's concern, HL&P is reviewing the corrective action program to identify additional enhancements. These additional enhancements will be discussed at the briefing requested by the NRC's Confirmatory Action Letter Supplement.

Also in the cover letter to the Notice of Violation, the NRC recommended that HL&P examine the frequency of grease inspections for motor operated valves (MOVs). HL&P believes that the current inspection interval of five years is adequate. HL&P believes that old grease had not been removed from the spring pack of MOV SI-31A during a previous refurbishment, which allowed the grease to harden in the spring pack over a period of time well in excess of five years and subsequently caused the motor failure.

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Current diagnostic testing now includes a process called "pack mate" that compresses the spring pack to assure proper operation. Compression of the spring pack essentially removes the old grease and precludes accumulation of old grease as occurred in SI-31A. Hence, with the "pack mate" process as part of the diagnostic testing, the current inspection interval of five years is adequate to assure that hardened grease does not accumulate in the MOV spring packs.

If you have any questions, please contact C. A. Ayala at (512) 972-8628 or me at (512) 972-7921.

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

DNB/sr

Attachments: 1. Affidavit

2. Reply to Notice of Violation and Proposed Imposition of Civil Penalty EA 93-047, Violation I.A.

3. Reply to Notice of Violation and Proposed Imposition of Civil Penalty EA 93-047, Violation I.B.

c:

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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

In the Matter	)	
	)	
Houston Lighting & Power	)	Docket Nos. 50-498
Company, et al.,	)	50-499
	)	
South Texas Project	)	
Units 1 and 2	)	

AFFIDAVIT

I, W. H. Kinsey, Jr., being duly sworn, hereby depose and say that I am Vice President, Nuclear Generation, of Houston Lighting & Power Company; that I am duly authorized to sign and file with the Nuclear Regulatory Commission the attached Reply to Notice of Violation and Proposed Imposition of Civil Penalty (NRC Inspection Report 93-08; Enforcement Action 93-047); that I am familiar with the content thereof; and that the matters set forth therein are true and correct to the best of my knowledge and belief.

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

STATE OF TEXAS)
)
)

Subscribed and sworn to before me, a Notary Public in and for the State of Texas, this 19th day of May, 1993.

SHERRIE L. ROSE
Notary Public, State of Texas
My Commission Expires 06-08-1996

Sherrie L. Rose
Notary Public in and for the
State of Texas

Reply to Notice of Violation and Proposed
Imposition of Civil Penalty EA 93-047, Violation I.A.

I. Statement of Violation I.A:

10 CFR 50, Appendix B, Criterion XVI, states that "measures shall be established to assure that conditions adverse to quality, such as failures, malfunctions, deficiencies, deviations, defective material and equipment, and nonconformances are promptly identified and corrected. In the case of significant conditions adverse to quality, the measures shall assure that the cause of the condition is determined and corrective action taken to preclude repetition. The identification of the significant condition adverse to quality, the cause of the condition, and the corrective action taken shall be documented and reported to appropriate levels of management."

Contrary to the above, in April 1989 and November 1989, the licensee identified a significant condition adverse to quality related to an inoperable motor on Unit 2 safety-related valve SI-31A, but did not replace the motor until October 1990. Further, the licensee did not determine the cause of the failure and take action to preclude recurrence, or document and report the condition to appropriate levels of management until the motor failed again under similar circumstances on February 9, 1993.

II. Houston Lighting & Power Position, Violation I.A:

HL&P concurs that the cited violation occurred.

III. Reason for Violation I.A:

The cause of this event was less than adequate operability determination and identification of corrective actions to correct the root causes of motor failures.

IV. Corrective Actions, Violation I.A:

1. HL&P has made significant improvements to the Operability Determination process since occurrence of the original event. The MOV motor failure on February 9, 1993, which was correctly determined to be inoperable under the current process, demonstrates that the improvements made to this process assure that appropriate operability determinations are being made.

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IV. Corrective Actions, Violation I.A: (Cont'd)

2. HL&P reviewed outstanding operability tracking logs and work documents on Unit 1, in effect or in progress, and ensured that current operability determinations are adequate. The purpose of the review was to confirm the condition of plant equipment.

3. HL&P will review historical operability tracking logs and sample key safety related service requests to determine if there are any additional cases of improper operability determination for either Unit. The purpose of this review is to determine if historical operability or reportability issues exist. This review will be completed by June 1, 1993.

4. HL&P will upgrade the program used to analyze and trend equipment history to assure that repetitive component degradation and failures are identified, and corrective actions are effective in preventing recurrence. This plan will be developed by June 17, 1993, and will be fully implemented by March 31, 1994.

5. HL&P will conduct training to increase personnel awareness of the definition of non-conforming conditions and the necessity of prompt corrective action. This training will be completed by August 31, 1993.

6. HL&P will revise appropriate plant procedures to include specific examples of non-conforming conditions and specific instructions for dealing with forms that document non-conforming conditions. These revisions will be completed by June 30, 1993.

V. Additional Information:

The failure of the motor on SI-31A on February 9, 1993, has been attributed to grease hardening in the spring pack. HL&P believes that grease hardening in the spring pack caused the MOV torque switch to delay motor tripping at the appropriate torque level and the MOV was shut with excessive force. Because the MOV was shut with excessive force, the motor failed later while attempting to open the MOV.

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V. Additional Information: (Cont'd)

To address the generic implications of this failure, HL&P has assessed the MOVs with actuators that rely on a torque switch to turn off the motor. Of ninety-eight MOVs in Units 1 and 2 that are actuated by torque switches, only thirteen MOVs in Unit 1 do not have a diagnostic test. At the end of 2RE03, all Unit 2 MOVs will have a diagnostic test. The diagnostic test demonstrates that the spring pack is functioning properly and not experiencing hydraulic effects from grease or hardened grease in the spring pack.

The thirteen Unit 1 MOVs that do not have a diagnostic test will be diagnostically tested, which will include the "pack mate" process, in the next refueling outage to assure proper operation of the spring packs. Although the diagnostic testing has not been completed on thirteen MOVs, HL&P has determined that there is adequate assurance that without a diagnostic test in advance of the next refueling outage, the subject MOVs will perform their safety function.

The basis for this determination is that historical data and South Texas Project experience in the diagnostic testing of other MOVs have indicated that the magnitude of grease hardening in SI-31A is an isolated occurrence. Although a few minor occurrences of grease hardening have been discovered during the diagnostic testing to date, none of the occurrences have been of the magnitude of grease hardening found in SI-31A nor have the occurrences affected proper operation of the MOV.

HL&P has additional assurance that hardened grease in the MOV spring pack will not be a problem because the current diagnostic test includes a process called "pack mating" where the spring pack is removed from the actuator and compressed to verify that it performs to manufacturers' specifications. If hardened grease is in the spring pack, then the process indicates an anomaly through increased stiffness or less than minimum compression. The "pack mate" process, because of the compression, squeezes the old grease out of the spring pack.

Reply to Notice of Violation and Proposed
Imposition of Civil Penalty EA 93-047, Violation I.A.

V. Additional Information: (Cont'd)

There is the possibility that limit switch closed gate valve MOVs may be affected by grease hardening in the spring pack if the torque switch is not jumpered out. Since the torque switch on these MOVs is set at a very low level, the possibility is remote that grease hardening in the spring pack would affect proper operation of the MOV. However, HL&P will electronically disable the torque switch from the circuit in the next refueling outage.

VI. Date of Full Compliance, Violation I.A:

HL&P is in full compliance.

Reply to Notice of Violation and Proposed
Imposition of Civil Penalty EA 93-047, Violation I.B.

I. Statement of Violation I.B:

Technical Specification 3.5.2 requires for operation in Modes 1, 2, and 3, that three independent Emergency Core Cooling System (ECCS) subsystems shall be operable with each subsystem comprised of, in part, one operable Low Head Safety Injection (LHSI) pump and an operable flowpath capable of taking suction from the containment sump during the recirculation phase of operation through a LHSI pump and its respective RHR heat exchanger into the Reactor Coolant System. An inoperable ECCS subsystem must be restored to an operable status within 72 hours or the unit must be placed in hot standby within the next 6 hours and in hot shutdown within the following 6 hours.

Contrary to the above, from April 1989 to October 1990, Unit 2 was operated for one fuel cycle, predominantly in Mode 1, with the Train A ECCS LHSI subsystem inoperable. Motor-operated valve SI-31A, cold leg injection isolation for the Train A LHSI pump, was inoperable during this period of time because of a failed motor; consequently, the valve, normally open, could not have been closed electrically or manually following a loss of coolant accident to enable initiation of hot leg recirculation, a safety function assumed in the updated safety analysis report.

II. Houston Lighting & Power Position, Violation I.B:

HL&P concurs that the cited violation occurred.

III. Reason for Violation I.B:

1. Technical Specification 3.5.2, regarding Emergency Core Cooling System subsystems, was misinterpreted with regard to motor operated valve SI-MOV-31A. The interpretation did not consider the operability requirements for this valve during hot leg recirculation following a Loss of Coolant Accident.

2. The programmatic controls for making operability determinations in April 1989 were less than adequate.

IV. Corrective Actions, Violation I.B:

1. To assure that Technical Specification 3.5.2 is properly interpreted in the future, this event will be added to the Licensed Operators Requalification Training. This action will be completed by August 10, 1993.

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IV. Corrective Actions, Violation I.B: (Cont'd)

2. HL&P has made significant changes to the processes for determining operability since occurrence of the original event. HL&P has reviewed the current programmatic controls regarding operability determinations and concluded that the processes are adequate to prevent recurrence of this event. Revisions to the work control and problem identification processes have been developed which also serve to enhance the process for operability determinations by reducing the administrative burden on the Shift Supervisors and Control Room. These revisions will be implemented before startup of Unit 1 from the current outage.

V. Date of Full Compliance, Violation I.B:

HL&P is in full compliance.