The Light company Houston Lighting & Power P.O. Box 1700 Houston, Texas 77001 (713) 228-9211

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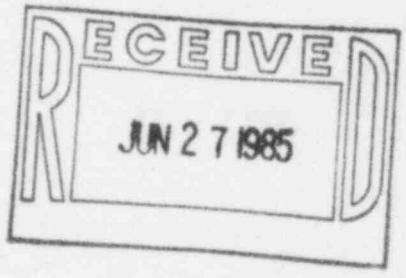

Mr. Robert D. Martin
Regional Administrator, Region IV
Nuclear Regulatory Commission
611 Ryan Plaza Drive, Suite 1000
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South Texas Project
Units 1 & 2
Docket Nos. STN 50-498, STN 50-499
Final Report Concerning Cracks In
Structural Steel Used in HVAC Supports

Dear Mr. Martin:

On March 15, 1985 Houston Lighting & Power (HL&P) notified your office, pursuant to 10CFR50.55(e), of an item concerning cracks found in structural steel used in the fabrication of HVAC supports. Enclosed please find our Final Report on this item.

If you should have any questions on this matter, please contact Mr. Michael E. Powell at (713) 993-1328.

Very truly yours,

J. H. Goldberg
Group Vice President, Nuclear

JSP/as

Attachment: Final Report Concerning Cracks in
Structural Steel Used In HVAC Supports

85-530

IE-27

1/1

W2/NRC2/k

cc:

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Office of the Secretary
U.S. Nuclear Regulatory Commission
Washington, DC 20555

South Texas Project
Units 1 & 2
Final Report Concerning Cracks in
Structural Steel Used on HVAC Supports

I. Summary

On March 15, 1985 Houston Lighting & Power Company (HL&P) notified the NRC Region IV of a potentially reportable deficiency concerning cracks found in W6x25 steel shapes being used to fabricate HVAC supports. The deficiency was discovered during fabrication of the supports.

A potential safety hazard exists since the steel is used to support safety-related HVAC ductwork. Failure of the ductwork supports could interfere with the safety function of the HVAC system.

II. Description of Deficiency

On March 15, 1985, HL&P notified the NRC Region IV of a potentially reportable deficiency concerning cracked structural steel shapes used by a site contractor (Intermech) to fabricate Seismic Category I supports for HVAC ductwork. During fabrication of HVAC supports in the Intermech shop a crack was discovered in the web-to-flange junction of a piece of W6x25 steel shape. The crack ran intermittently along the twenty foot length of the piece. In some locations the crack was visible to the unaided eye; in others it was concealed by the galvanized coating.

These particular structural shapes are used to fabricate HVAC ductwork supports. Some of the ductwork is safety-related and some of it is Seismic Category II/I.

Intermech established that W6x25 shapes of four different material heat numbers had been received from Northwestern Steel under a purchase order (P.O.) initiated on May 2, 1984. Ultrasonic testing has been performed on samples from the four heat numbers received under the P.O. The test results indicate that the cracking is limited to the single suspect Heat No. 81191.

III. Corrective Action

An inspection program was implemented on the affected steel shapes utilizing an ultrasonic testing technique proven to be effective for the detection of cracks.

In the first stage of the program a sample inspection of the four material heat numbers of the P.O. was performed and it was established that the cracking problem was restricted to Heat No. 81191.

In the second stage of the program all of the fabricated and/or installed W6x25 pieces which were directly identified to be from Heat No. 81191 or which could not be identified as not being from Heat No. 81191 were inspected visually and by ultrasonic testing. The inspection results indicated cracks in five fabricated and installed pieces, in one fabricated piece in the Intermech shop, and in one fabricated piece in the laydown area. These pieces were dispositioned to be rejected and replaced. The two pieces of stock material from Heat No. 81191 where the cracking was initially discovered were also rejected.

Fabricated pieces and stock material from the other three heat numbers of the P.O. were dispositioned as acceptable for use based on successful results from ultrasonic testing and visual examination.

IV. Recurrence Control

The cracks are regarded to be irregularities of non-specific origin restricted in occurrence to a particular mill rolling operation that may be evidenced in a single heat number. It has been determined that augmented visual examination, implemented upon receipt of the material, is not effective to detect such cracks under the galvanized coating. The detection and control of these cracks is achieved by visual examination of the material prior to galvanizing. The QA program at Intermech has been reviewed and found adequate. In addition Intermech has been directed to investigate the adequacy of Northwestern Steel's QA Program and insure that the program contains an effective examination to detect cracks and/or rolling irregularities in the rolled raw material prior to galvanizing.

V. Safety Analysis

A safety hazard is assumed to have existed since some of the material has already been accepted and used to fabricate supports. If this deficiency had remained uncorrected, it could have adversely affected the safety of operations and is considered to be reportable pursuant to 10CFR50.55(e).

As a result of the corrective action, all of the defective pieces have been identified and have been rejected and/or replaced.