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**The Light
company**

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

July 17, 1981
ST-HL-AE-702
SFN: V-0530



Mr. Karl Seyfrit
Director, Region IV
Nuclear Regulatory Commission
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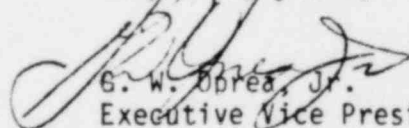
Dear Mr. Seyfrit:

South Texas Project
Units 1 & 2
Docket Nos. STN 50-498, STN 50-499
Final Report Concerning Welding of the
Main Steam Line Pipe Whip Restraint

On September 26, 1980, pursuant to 10CFR50.55(e), Houston Lighting & Power Company notified your office of an item concerning welding of the main steam line pipe whip restraints. Our final report is attached.

If there are any questions, please contact Mr. Michael E. Powell at (713) 676-8592.

Very truly yours,


G. W. Oprea, Jr.
Executive Vice President

RRH/flj
Attachment

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July 17, 1981
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Page 2

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Revision Date 7-2-81

FINAL REPORT CONCERNING WELDING OF THE
MAIN STEAM LINE PIPE WHIP RESTRAINT

I. Summary:

On September 26, 1980, Houston Lighting & Power Company notified your office concerning welds not meeting the requirements of American Welding Society D1.1-1977 code for the South Texas Project main steam line pipe whip restraints. A re-inspection program has been completed which examined all fabricated pipe whip restraints. The results of the re-inspection program have been documented and evaluated by Engineering. The re-inspection program did identify welds requiring rework; however, in no case was a weld deviation found to cause either an overstress condition or failure of the individual restraint.

II. Description of The Incident:

On September 26, 1980, Houston Lighting & Power Company identified to your office an item concerning welds not meeting the requirements of the American Welding Society (AWS D1.1-1977) Code in the main steam line pipe whip restraints. The first indications of the nonconforming condition were first identified by Brown & Root Vendor Surveillance personnel at a painting subcontractor facility. This resulted in B&R Quality Control Inspectors at the South Texas Project site lay down yard identifying nonconforming welds subsequent to receipt of the restraints from the fabricator. Upon identification of this nonconforming condition a "hold" was placed on all pipe whip restraints until individually approved for further processing through the re-inspection program.

III. Corrective Action:

In order to accurately assess the condition of the subject pipe whip restraints, a 100% visual re-inspection of all welds within the fabricated units was conducted. The re-inspection of the fabricated pipe whip restraints was conducted by qualified B&R Quality Control and Vendor Surveillance Inspectors under the direction of Quality Engineers. This re-inspection program included restraints received at the South Texas Project, those located at an offsite painting shop, and those awaiting shipment from the fabricator. The objective of the re-inspection was to confirm compliance with AWS D1.1-1977 code requirements. Welds identified as not meeting the code requirements were documented on nonconformance reports showing the location, nature, size and shape of the deviation. However, pipe whip restraints located at the fabricator's shop have been inspected by a B&R Vendor Surveillance Inspector before acceptance and release from the fabricator's facility, in order to ensure conformance to project requirements.

A total of thirteen nonconformance reports have been written on twenty-one restraints located at the offsite paint shop, and twenty-seven nonconformance reports have also been written on fifty-one restraints located on site. In general the weld deviations identified in the nonconformance reports were found to be of a small size and not considered by HL&P and B&R Engineering to be of a structurally significant nature. In order to evaluate the effect of a weld deviation on the adequacy of an individual restraint, Engineering has distinguished between cosmetic deviations and those which would require a structural evaluation. Those characteristics determined by Engineering to be of a non-cosmetic nature include:

- 1) base metal defects
- 2) base metal surface lamination
- 3) base metal cracks
- 4) weld cracks
- 5) craters
- 6) undersize welds
- 7) insufficient throat
- 8) excessive concavity

B&R Engineering has completed its review and the dispositioning of all nonconformance reports resulting from the re-inspection program at this time. Weld deviations identified as significant have been dispositioned by Engineering as requiring "Rework as Noted" and those deviations considered to be structurally insignificant have been dispositioned "Use as Is". Additionally, in all instances in which Engineering required "Rework as Noted", the rework was to correct the individual deviation and not the entire weld. Restraints having no deviations as well as those dispositioned "Use as Is" will be released in accordance with project procedures. Those restraints requiring "Rework as Noted" will be released for construction upon completion of the repair.

IV. Safety Evaluations:

An engineering evaluation has been performed on the nonconforming weld deviations identified in the re-inspection program for the South Texas Project pipe whip restraints. In no case was a deviation identified (including those for rework) which would prevent the individual pipe whip restraint from performing as intended, cause an overstress condition, or cause a safety hazard if left uncorrected. Therefore the initial item of concern would not represent a significant safety hazard, if left uncorrected.