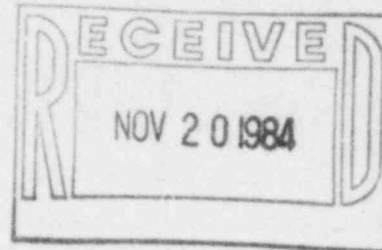


# The Light company

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

November 15, 1984  
ST-HL-AE-1151  
File No. G12.168

Mr. Robert D. Martin  
Regional Administrator, Region IV  
Nuclear Regulatory Commission  
611 Ryan Plaza Drive, Suite 1000  
Arlington, Texas 76012



Dear Mr. Martin:

South Texas Project  
Units 1 & 2  
Dockets Nos. STN 498, STN 50-499  
Fourth Interim Report Concerning  
Corrosion in a Safety Injection System Weld

On October 20, 1983, pursuant to 10CFR50.55(e), Houston Lighting & Power Company (HL&P) notified your office of an item concerning corrosion in a pipe weld at the South Texas Project (STP). Attached is the fourth interim report concerning this item. The next report concerning this item will be submitted by March 31, 1985.

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

Very truly yours,

*J. T. Oprea, Jr.*  
G. W. Oprea, Jr.  
Executive Vice President

MEP/mg

Attachment: Fourth Interim Report Concerning Corrosion in  
a Safety Injection System Weld

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cc:

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Docketing & Service Section  
Office of the Secretary  
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Washington, DC 20555

Revised 10/01/84

South Texas Project  
Units 1 & 2  
Fourth Interim Report Concerning  
Corrosion In a Safety Injection System Weld

I. Summary

Voids were discovered in two welds in the portion of the Safety Injection System (SIS) piping between the Refueling Water Storage Tank (RWST) and the SI pumps located in the Fuel Handling Building (FHB). A portion of one weld was removed for analysis to determine the extent of the defects and the cause. Investigations of the defects showed through-wall penetration. Analysis of the physical appearance of the pipe section and microscopic analysis of samples taken from defects indicated the presence of microbiologically influenced corrosion (MIC).

As noted in the last report (ST-HL-AE-1121), the investigation of the source of bacteria and the inspection program for a sample population of piping have been completed.

An investigation and inspection program is ongoing for the field-erected stainless steel tanks.

Corrective actions, described below, include replacement of welds and piping materials where evidence of MIC was found.

Additionally, recurrence controls involve use of housekeeping and MIC monitoring programs and ozonation of plant water systems.

II. Description

Refer to the third interim report (reference ST-HL-AE-1121) which was submitted by letter dated August 10, 1984.

III. Investigative Measures

As summarized in the previous interim report (ST-HL-AE-1121) investigative measures have been completed in all areas with the exception of the field erected stainless steel tanks. Detailed development and implementation of this effort is continuing.

In addition, a Nonconformance Report (NCR) has recently been written against the pump outer barrels (part of the pressure boundary) of the containment spray system (CSS) and the high head & low head safety injection system (HHSI & LHSI) which identifies that probable microbiological induced corrosion may be active. This NCR is currently being evaluated. The exterior surfaces are being visually examined for signs of corrosion. The next report will provide the results of these inspections.

#### IV. Corrective Actions

As a result of the evaluation of this item, the following corrective actions are being implemented.

- (a) Each weld in the Safety Injection (SI) and Containment Spray (CS) piping systems, located in the lower elevations of the Unit I Fuel Handling Building (FHB), which were identified by the investigation as having suspected MIC will be cut out and replaced with pup pieces.
- (b) The Auxiliary Feedwater (AF) System piping embedded in the Isolation Valve Cubicle (IVC) slabs of both units which was identified as having suspected MIC will be abandoned in place and replacement piping will be rerouted to provide the same function.
- (c) No corrective actions are necessary for the one aluminum-bronze Essential Cooling Water (ECW) line as described in our previous report (reference ST-HL-AE-1121).

Corrective actions for field erected stainless steel tanks and the CSS, LHSI and HHSI pump outer barrels are still being developed at this time and will be addressed in the next report.

#### V. Recurrence Controls

Recurrence control measures for the safety-related stainless steel piping are as follows:

- (a) Housekeeping and cleanliness procedures will be used to avoid stagnant water in plant piping. In most cases this requires cleaning or draining of pipe lines. In situations where we have determined that this cannot be accomplished (i.e. those piping systems with low points which are not accessible), special chemical treatments will be considered.
- (b) An MIC monitoring program is being initiated. Where stagnant water is found, the water will be analyzed for microbial content.
- (c) A permanent plant ozonation system will be added to treat well water that enters the Settling Basin. This provides microbial killing power to the source of plant water systems.

#### VI. Safety Analysis

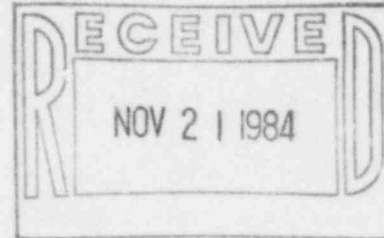
A detailed safety analysis has not been performed. Since the corrosion was found to exist in the SI and AFW systems which required replacement and/or rerouting of piping, it is conservatively assumed that a safety hazard would exist if this condition had been left uncorrected. The final report will provide an evaluation of the safety implications for the stainless steel tanks and the identified pump outer barrels.

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W1/L001/h

*Dupe of*  
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