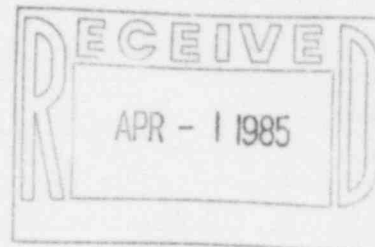


The Light company

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

March 29, 1985
ST-HL-AE-1211
File No.: G12.168

Mr. Robert D. Martin
Regional Administrator, Region IV
Nuclear Regulatory Commission
611 Ryan Plaza Drive, Suite 1000
Arlington, Texas 76011



Dear Mr. Martin:

South Texas Project
Units 1 & 2
Docket Nos. STN 50-498, STN 50-499
Fifth 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 fifth interim report concerning this item. The next report concerning this item will be submitted by August 30, 1985.

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

Very truly yours,

A handwritten signature in cursive script that reads "J.H. Goldberg".

J.H. Goldberg
Group Vice President, Nuclear

CAA/ch

Attachment: Fifth 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
U.S. Nuclear Regulatory Commission
Washington, DC 20555

South Texas Project
Units 1 & 2
Docket Nos. STN 50-498, STN 50-499
Fifth 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 third interim report (ST-HL-AE-1121 dated August 10, 1984), the investigation of the source of bacteria and the inspection program for a sample population of piping have been completed.

Corrective actions for effected piping materials were described in the fourth interim report (ST-HL-AE-1151 dated November 15, 1984). Corrective actions for effected tanks include detailed identification, blasting and/or grinding, repair of deep pits and cleanup.

Additionally, recurrence controls involve use of housekeeping and MIC monitoring programs and ozonation and/or chlorination of the well water.

II. Description

Refer to the third interim report which was submitted by letter ST-HL-AE-1121.

III. Investigative Measures

Investigative measures have been completed for all piping areas and were described in ST-HL-AE-1121.

A Nonconformance Report (NCR) has 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 MIC may be active. The nine pump cans for Unit 2 were removed from their installed positions and inspected. Only a small discoloration, characteristic of MIC, (approximately 1/2 inch long by 1/4 inch wide) was observed at the corner edge at the bottom of two of the nine cans. The nine pump cans for Unit 1 will be inspected in a place using a fiberscope for a complete visual examination.

Each of the sixteen (16) stainless steel field-erected tanks have been inspected for evidence of MIC. Seven (7) have severe pitting; five (5) have moderate pitting; three (3) have light to moderate pitting; and one (1) has very light pitting.

IV. Corrective Action

The following corrective actions are being implemented as reported in our last report (ST-HL-AE-1151) and are repeated for completeness:

- (a) Each weld in the Safety Injection (SI) and Containment Spray (CS) piping systems, located in the lower elevations of the Unit 1 Fuel Handling Building (FHB), which was identified by the investigation as having suspected MIC will be cut out and replaced with a pup piece;
- (b) The Auxiliary Feedwater (AFW) 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 the third interim report (ST-HL-AE-1121).

Corrective action for the CSS, LHSI and HHSI pump outer barrels for Unit 2 will be to buff-out the discolorations. Corresponding Unit 1 corrective actions will be established, if necessary, following completion of inspections.

Corrective actions for the sixteen (16) stainless steel field-erected tanks include:

- o MIC identification and marking;
- o Abrasive blasting and/or initial grinding;
- o Identification, removal, and repair of deep MCI pitting;
- o Tank cleanup after repair; and
- o Code NDE examination after repair for ASME tanks (8).

V. Recurrence Controls

Recurrence control measures for the safety-related stainless steel piping, reported in the last report (ST-HL-AE-1151), are being implemented, and are equally applicable to tanks, pumps and other safety-related stainless steel materials:

- (a) Housekeeping and cleanliness procedures will be used to avoid stagnant water. In most cases this requires cleaning and draining. 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) A MIC monitoring program is being initiated. Where stagnant water is found in contact with safety-related stainless steel, the water will be analyzed for microbial content or will be visually inspected for MIC damage if easily accessible. (Note that this is a clarification of our previous commitment given in the last report, ST-HL-AE-1151.)
- (c) A permanent plant ozonation system will be added to treat well water that enters the Settling Basin.

VI. Safety Analysis

Refer to the fourth interim report which was submitted by letter ST-HL-AE-1151. As committed in that report, the final report will provide an evaluation of the safety implications for the stainless steel tanks and the effected pump outer barrels.