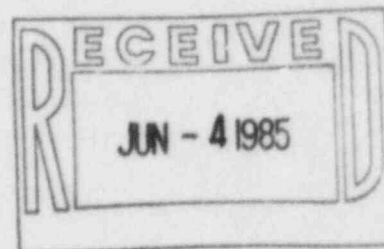


# The Light company

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

May 30, 1985  
ST-HL-AE-1254  
File No.: G12.229

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  
Final Report Concerning the  
Component Cooling Water System Design

On February 20, 1985, Houston Lighting & Power Company (HL&P), pursuant to 10CFR50.55(e), notified your office of an item concerning the effects of a postulated failure of a reactor coolant pump thermal barrier heat exchanger combined with the single active failure of the component cooling water return isolation valve. Please find attached the 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*  
J. H. Goldberg  
Group Vice President, Nuclear

JSP/as

Attachment: Final Report Concerning the Component  
Cooling Water System Design

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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  
Final Report Concerning the Component  
Cooling Water System Design

I. Summary

Failure of a reactor coolant pump (RCP) thermal barrier heat exchanger combined with single active failure of the component cooling water (CCW) return isolation valve could allow reactor coolant to enter the CCW system. If this deficiency were to remain uncorrected, the existing design of the CCW system provides no capability to isolate this flow path nor to prevent possible radioactive releases into the Mechanical Auxiliary Building (MAB).

II. Description of Deficiency

Failure of the RCP thermal barrier heat exchanger would result in a direct interface of the reactor coolant system (RCS) and the CCW system. Assuming a single active failure of the non-Class 1E isolation valve in the CCW return line from the heat exchanger, high pressure (2385 psig) reactor coolant would flow into the low pressure (150 psig) CCW system at a maximum rate of approximately 275 gpm. The RCS flow to the CCW system would be released to the MAB through the CCW surge tank relief valve resulting in unanalyzed releases outside containment.

This deficiency was discovered during a design review.

III. Corrective Action

Two ASME Class 3 active self-actuated upstream pressure regulators will be added to each CCW thermal barrier discharge line. The increased pressure from a rupture in the thermal barrier heat exchanger will close the valves and isolate the rupture. Additionally, the discharge of the thermal relief valve in the same line will be redirected to the containment floor or normal sump.

IV. Recurrence Control

No recurrence control is necessary.

V. Safety Analysis

This item results in a flow path from the RCS which cannot be isolated by the current RCS and CCW system design. The possibility exists for unanalyzed releases to the MAB which could result in unacceptable dose levels. If this item had been left uncorrected it could have adversely affected the safety of plant operations and is considered reportable pursuant to 10CFR50.55(e).