

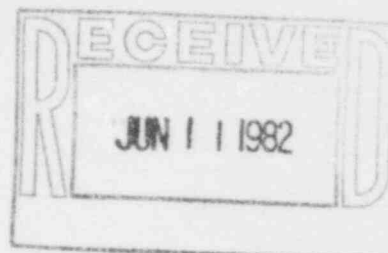
# The Light company

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

June 10, 1982

ST-HL-AE-834

SFN: V-0530



Mr. John T. Collins  
Regional Administrator, Region IV  
Nuclear Regulatory Commission  
611 Ryan Plaza Dr., Suite 1000  
Arlington, Texas 76012

Dear Mr. Collins:

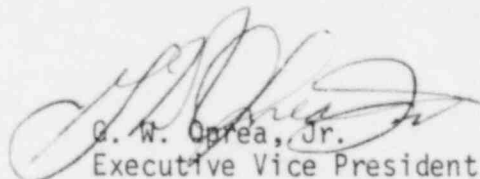
South Texas Project  
Units 1 & 2  
Docket Nos. STN 50-498, STN 50-499  
Final Report Concerning Westinghouse Steam Generator  
Tube Rupture Analysis

---

On January 19, 1982, Houston Lighting & Power Company (HL&P), pursuant to 10CFR50.55(e), notified your office of an item concerning the existing Steam Generator Tube Rupture (SGTR) analysis which was performed by Westinghouse (W). Please find attached our final report on this subject.

If you should have any questions concerning this item, please contact Mr. Michael E. Powell at (713) 877-3281.

Very truly yours,

  
G. W. Oprea, Jr.  
Executive Vice President

GWO/MEP/kr  
Attachment

IE-27

8206150418 820610  
PDR ADOCK 05000498  
S PDR

Houston Lighting & Power Company

cc: G. W. Oprea, Jr.

J. H. Goldberg

J. G. Dewease

J. D. Parsons

D. G. Barker

C. G. Robertson

R. A. Frazar

J. W. Williams

J. W. Briskin

J. E. Geiger

R. L. Ulrey

S. M. Dew

J. T. Collins

(NRC)

D. E. Sells

(NRC)

W. M. Hill, Jr.

(NRC)

M. D. Schwarz

(Baker & Botts)

R. Gordon Gooch

(Baker & Botts)

J. R. Newman

(Lowenstein, Newman, Reis, & Axelrad)

STP RMS

Director, Office of Inspection & Enforcement

Nuclear Regulatory Commission

Washington, D. C. 20555

G. W. Muench/R. L. Range

Central Power & Light Company

P. O. Box 2121

Corpus Christi, Texas 78403

Charles Bechhoefer, Esquire

Chairman, Atomic Safety & Licensing Board

U. S. Nuclear Regulatory Commission

Washington, D. C. 20555

H. L. Peterson/G. Pokorny

City of Austin

P. O. Box 1088

Austin, Texas 78767

Dr. James C. Lamb, III

313 Woodhaven Road

Chapel Hill, North Carolina 27514

J. B. Poston/A. vonRosenberg

City Public Service Board

P. O. Box 1771

San Antonio, Texas 78296

Mr. Ernest E. Hill

Lawrence Livermore Laboratory

University of California

P. O. Box 808, L-46

Livermore, California 94550

Brian E. Berwick, Esquire

Assistant Attorney General

for the State of Texas

P. O. Box 12548

Capitol Station

Austin, Texas 78711

William S. Jordan, III

Harmon & Weiss

1725 I Street, N. W.

Suite 506

Washington, D. C. 20006

Lanny Sinkin

Citizens Concerned About Nuclear Power

5106 Casa Oro

San Antonio, Texas 78233

Citizens for Equitable Utilities, Inc.

c/o Ms. Peggy Buchorn

Route 1, Box 1684

Brazoria, Texas 77422

Jay Gutierrez, Esquire

Hearing Attorney

Office of the Executive Legal Director

U. S. Nuclear Regulatory Commission

Washington, D. C. 20555

Revision Date 04-19-82

Final Report Concerning  
the Westinghouse Steam Generator  
Tube Rupture Analysis

I. SUMMARY

The accident scenario in question is the Steam Generator Tube Rupture (complete severance of one tube) concurrent with a loss of offsite power. The analysis as presented in FSAR Section 15.6.3.2 indicates that the break flow from the primary side to the secondary side can be terminated within thirty (30) minutes after initiation of the accident. The mechanism used to terminate the break flow is the depressurization of the primary side to a pressure less than or equal to the set pressure of the main steam safety valves.

Initially there was a concern that the system design did not meet the assumptions used for the FSAR analysis. However, further investigation revealed that the design does provide the features necessary to meet the assumptions of the FSAR analysis. Since the criteria and bases of the FSAR are supported by the design this item does not meet the criteria for reportability pursuant to 10CFR50.55(e).

II. DESCRIPTION OF INCIDENT

On January 19, 1982, Houston Lighting & Power Company (HL&P), pursuant to 10CFR50.55(e), notified your office of an item concerning the Steam Generator Tube Rupture (SGTR) analysis which was performed by Westinghouse (W) and is referenced in FSAR Section 15.6.3.

The accident scenario in question is the SGTR (complete severance of one tube) concurrent with a loss of offsite power. The FSAR analysis assumes the primary side can be depressurized within 30 minutes. This can be accomplished by either (1) utilizing normal pressurizer spray, (2) utilizing auxiliary pressurizer spray or (3) utilizing the pressurizer PORV's.

For the scenario of a loss of offsite power condition, the Reactor Coolant Pumps (RCP's) will not be running and therefore normal pressurizer spray is not available. Use of the auxiliary pressurizer spray and the pressurizer PORV's requires use of air operated valves. A loss of offsite power would result in the loss of air to these valves rendering them inoperable. Powering the instrument air compressors from an emergency power supply would allow operation of the valves required for depressurization of the primary side within the time frame established in the FSAR SGTR analysis.

In the STP design there is a non-Class 1E BOP diesel generator that is used primarily for equipment protection. The instrument air compressors can be manually transferred to the BOP diesel generator by means of a local switch. Both Bechtel Power Corporation (BPC) and W have reviewed the integrity and availability of the instrument air system while the

instrument air compressors are being powered from the BOP diesel during the loss of offsite power condition. Their conclusion is that this source of power would permit use of the pressurizer PORV to reduce primary pressure and that the design does meet the analysis assumptions. Therefore, HL&P concludes this item does not meet the criteria for reportability and submits this Final Report as closure for the item.

### III. CORRECTIVE ACTION

Because this item does not meet the criteria for reportability no corrective action is necessary.

### IV. RECURRENCE CONTROL

A recurrence control program is not considered necessary.

### V. SAFETY ANALYSIS

A complete safety analysis of this incident is provided in FSAR Section 15.6.3. The resultant offsite doses calculated using both realistic and conservative assumptions are provided in FSAR Table 15.6-4 and are significantly less than the guidelines of 10CFR100.