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Houston Lighting & Power

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February 4, 1988
ST-HL-AE-2493
File No.: G20.02
10CFR50.90

U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, DC 20555

South Texas Project Electric Generating Station
Unit 1
Docket No: STN 50-498
Unit 1, Cycle 1 Radial Peaking Factor Limit Report

The attached subject report is being provided in accordance with South Texas Unit 1 Technical Specifications 4.2.2.2e and 6.9.1.6. The information provided in the attached report is consistent with the radial peaking factor values found in the present Technical Specifications 4.2.2.2e.

If you should have any questions on this, please contact Ms. F.A. White at (512)972-7985.

G. E. Vaughn
Vice President
Nuclear Plant Operations

Attachments: 1) Figure 1, Maximum (F^T_q Prel) vs. Axial Core Height During Normal Core Operation
2) Radial Peaking Factor Limit Report

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cc:

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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

In the Matter	)	
	)	
Houston Lighting & Power Company, et al.,	)	Docket Nos. 50-498
	)	
	)	
South Texas Project Units 1 and 2	)	

AFFIDAVIT

G. E. Vaughn being duly sworn, hereby deposes and says that he is Vice President, Nuclear Plant Operations, of Houston Lighting & Power Company; that he is duly authorized to sign and file with the Nuclear Regulatory Commission the attached report in accordance with Technical Specification 6.9.1.6; is familiar with the content thereof; that the matters set forth therein are true and correct to the best of his knowledge and belief.

G. E. Vaughn
Vice President
Nuclear Plant Operations

STATE OF TEXAS)
)
COUNTY OF MATAGORDA)

Subscribed and sworn to before me, a Notary Public in and for Matagorda County, Texas this 4 day of FEBRUARY, 1988.

Notary Public in and for the
State of Texas

My commission expires:

5-27-88

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ATTACHMENT 2
ST-HL-AE-
PAGE 1 OF 1

RADIAL PEAKING FACTOR LIMIT REPORT

This Radial Peaking Factor Limit Report is provided in accordance with Paragraph 4.2.2.2 of the South Texas Nuclear Plant Technical Specifications.

1. For all core planes containing control rods;

   $F_{xy}^{RTP} \leq 1.72$ for all core elevations,

2. For all unrodded planes;

   $F_{xy}^{RTP} \leq 1.55$ for all core elevations.

These Fxy(z) limits were used to confirm that the heat flux hot channel factor $F_Q(z)$ will be limited to the Technical Specification values of:

$$F_Q(z) \leq \left[\frac{2.50}{P}\right] K(z) \quad \text{for } P > 0.5 \text{ and}$$

$$F_Q(z) \leq [5.0] K(z) \quad \text{for } P \leq 0.5$$

assuming the most limiting axial power distributions expected to result from the insertion and removal of control banks C and D during operation, including the accompanying variations in the axial xenon and power distributions as described in the "Power Distribution Control and Load Following Procedures", WCAP-8403, September, 1974. Therefore, these F_{xy} limits provide assurance that the initial conditions assumed in the LOCA analysis are met, along with the ECCS acceptance criteria of 10CFR50.46.

See Figure 1 for a plot of $[F_Q^T \cdot P_{rel}]$ vs. Axial Core Height.

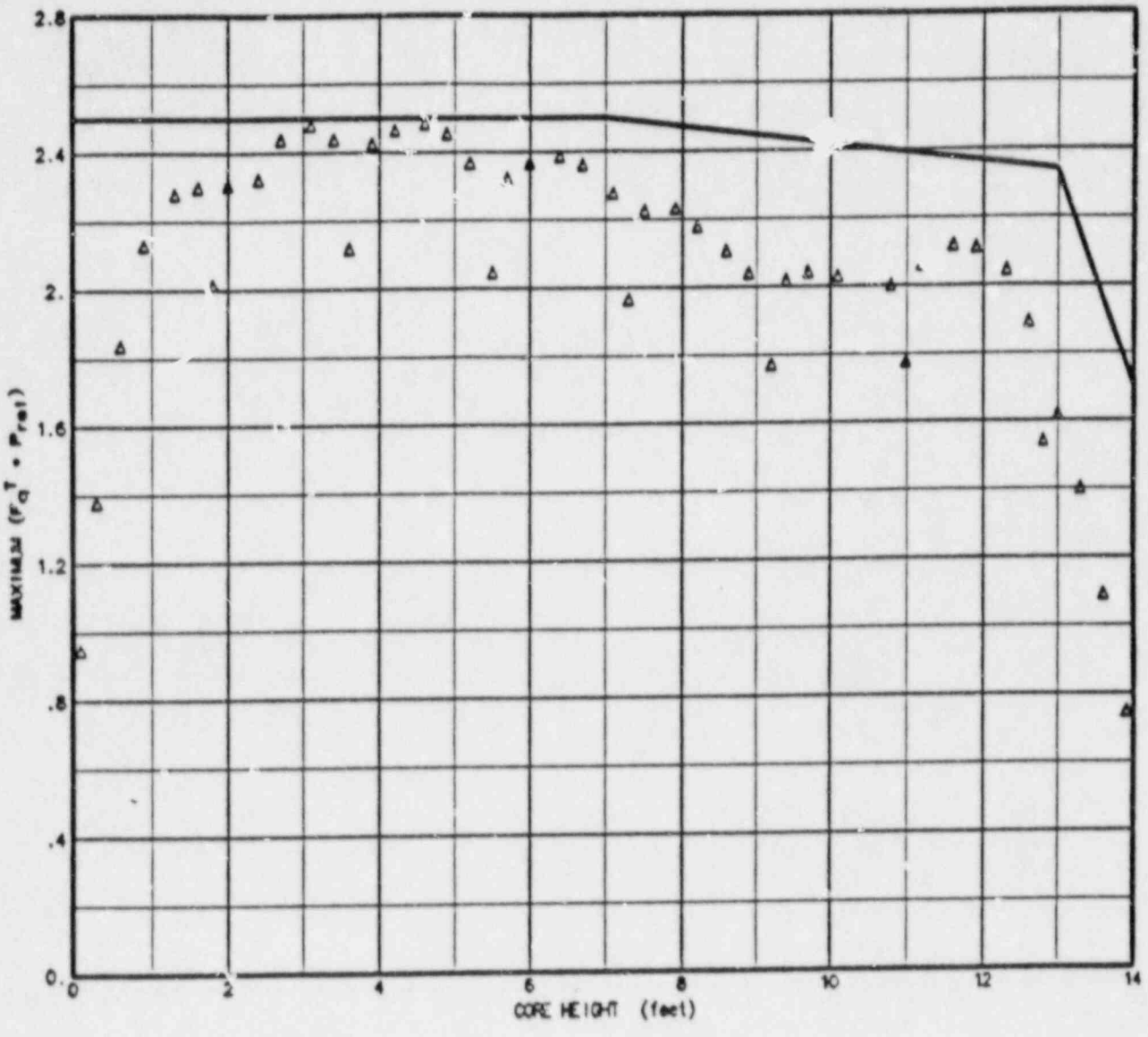

FIGURE 1

MAXIMUM (F_Q^T • P_{rel}) VS. AXIAL CORE HEIGHT

DURING NORMAL CORE OPERATION