

The Light company

Houston Lighting & Power

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

February 3, 1988

ST-HL-AE-2490

File No.: G4.2

10CFR50.55(e)

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

South Texas Project Electric Generating Station
Units 1 and 2
Docket Nos. STN 50-498, STN 50-499
Bottom Mounted Instrumentation (BMI) Thimble Vibration

Reference: ST-HL-AE-2458

Pursuant to the request for additional information by Mr. P. Kadambi concerning the referenced letter, HL&P submits the following.

- (1) a. Acceptance criteria for the Eddy current measurement scheduled to be performed after 12 weeks of operation.

After approximately 12 weeks of Unit 1 power operation, HL&P will perform an eddy current test of the BMI thimbles. The sensitivity of this eddy current test will show thimble wear in excess of 15% thimble thickness.

In the event thimble(s) show excessive wear (i.e., > 60% wall thickness) these thimbles will be capped, and any remaining thimble(s) showing significant wear will be repositioned to shift any worn location out of the wear area.

- b. Action plan if the measurement shows excessive wear.

As stated above, any thimble with greater than 60% wall loss would be capped. Thimbles with "significant" wear will be repositioned to new wear surfaces. "Significant" is defined based on the wear rate of the thimbles. For example, if the worst thimbles are found to wear at a rate of 1 percent wall loss per week, and the thimble has a 40% wall loss, it may be assumed wear through will occur in 20 weeks $[(60\% - 40\%) / 1\% \text{ per week}]$. The next eddy current inspection would be scheduled

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before 20 weeks, and it would be safe to leave the thimble as is, with no repositioning. Therefore the scheduled date for follow up inspections would be established based on the previous inspection data.

- (2) Submit calculations on the rate of leakage flow if one thimble tube is completely severed. What is the capacity of each of the two (2) charging pumps.

Based on a Westinghouse calculation (Ref. RPV SA-88-971), the expected leakage rate from a single failed BMI thimble is 35 gpm. The assumptions made in this calculation are:

1. The thimble break is a clean, double ended guillotine break.
2. The break occurs at the height of the lower core plate.
3. RCS pressure is 2250 psi.

The capacity of each charging pump is approximately 160 gpm at 2510 psi. (Ref. Table 9-3-10 FSAR).

- (3) Please Provide:

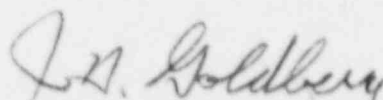
- a. Drawing and brief description of the crimping tool.
- b. Copy of procedure for isolation thimble leakage.

Attachment 1 is a copy of the crimping procedure. The crimping tool is described in the procedure.

- (4) The staff requests a commitment to provide the results of the Tihange-3 inspection of BMI Thimbles during their next refueling outage.

This data will be made available subject to commercial availability.

If you should have any questions on this matter, please contact Mr. J. N. Bailey at (512) 972-8663.



J. H. Goldberg
Group Vice President, Nuclear

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Revised 11/20/87

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ATTACHMENT 1