UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

April 11, 1994

Docket Nos. 50-498
and 50-499

Mr. William T. Cottle
Group Vice-President, Nuclear
Houston Lighting & Power Company
South Texas Project Electric
Generating Station
P. O. Box 289
Wadsworth, Texas 77483

Dear Mr. Cottle:

SUBJECT: RESOLUTION OF NRC BULLETIN 88-08, "THERMAL STRESSES IN PIPING CONNECTED TO REACTOR COOLANT SYSTEMS," FOR SOUTH TEXAS PROJECT, UNITS 1 AND 2 (TAC NOS. M69689 AND M69690)

In a letter dated September 28, 1988, Houston Lighting & Power Company (HL&P) responded to NRC Bulletin 88-08, "Thermal Stresses in Piping Connected to Reactor Coolant Systems." Supplemental information was provided by HL&P in letters dated February 23, 1989, November 20, 1989, September 21, 1990, and November 5, 1990. The September 21, 1990, letter, informed the staff that HL&P had decided to delete temperature monitoring instrumentation that had been previously installed to address Action 3 of the bulletin. The decision was based primarily on an engineering evaluation performed by Westinghouse for the licensee. The staff reviewed the Westinghouse evaluation, and concluded in a September 23, 1992, letter, that the conclusions stated in the Westinghouse evaluation may not have been based on fully-supported assumptions, and that the decision to remove the temperature monitoring instrumentation may have been premature.

On November 8-9, 1993, a meeting between the NRC staff, the licensee, and Westinghouse, was held at the Westinghouse corporate engineering office in Pittsburgh, Pennsylvania, for the purpose of resolving the technical issues surrounding HL&P's responses to the bulletin. A summary of the discussions held during the meeting were documented in a December 13, 1993, meeting summary. During the meeting, a resolution to the bulletin was discussed. The staff stated, and HL&P agreed, that if the fatigue life of critical components could be shown to be reasonably long, assuming worst-case expected temperature distribution and cycling period, the licensee would have provided an acceptable plant-specific resolution for an interim period.

By letter dated November 30, 1993, the licensee provided Supplement 1 to WCAP-12598, "NRC Bulletin 88-08 Evaluation of Auxiliary Piping for South Texas Project Units 1 And 2." This report formally documents the material presented by HL&P and Westinghouse during the November 8-9, 1993, meeting. In addition,

the report states that a fatigue evaluation, assuming a worst-case scenario for valve leakage and cycling, was performed for the normal and alternate charging line piping. Based on these assumptions, the evaluation showed the fatigue adequacy of these lines to be on the order of ten years.

The staff, with assistance from our consultant, Brookhaven National Laboratory, has reviewed the results of the licensee's response. The staff concludes that the piping integrity of the normal and alternate charging piping is ensured for near-term operation, and finds that the licensee has adequately addressed the bulletin.

The staff will continue to review this issue on a generic basis as it relates to the postulated phenomenon known as "turbulence penetration," and its relationship to the subject of thermal cycling. It should be noted that turbulence penetration has yet to be adequately demonstrated to be a mitigating effect of the thermal cycling concern that is the subject of Bulletin 88-08. Supplement 1 to WCAP-12598 will be further studied during the generic review process. Upon completion of the generic review, the staff may provide a plant-specific safety evaluation on this issue, if necessary, regarding long-term operation.

This completes our review efforts for TAC Nos. M69689 and M69690.

Sincerely,

Original Signed By

Lawrence E. Kokajko, Senior Project Manager
Project Directorate IV-2
Division of Reactor Projects III/IV
Office of Nuclear Reactor Regulation

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