



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

August 19, 1991

Docket No. 50-400

Mr. Lynn W. Eury
 Executive Vice President
 Power Supply
 Carolina Power & Light Company
 Post Office Box 1551
 Raleigh, North Carolina 27602

Dear Mr. Eury:

SUBJECT: PRESSURIZER SURGE LINE THERMAL STRATIFICATION, BULLETIN 88-11,
 SHEARON HARRIS NUCLEAR POWER PLANT, UNIT 1 (TAC NO. 72137)

The NRC staff and its consultant, Brookhaven National Laboratory, have completed their review of the Westinghouse Owners Group (WOG) report (WCAP-12639) on generic detailed analysis of pressurizer surge line stratification. The staff concluded that the methodology used to analyze and evaluate the stress fatigue effects due to thermal stratification and thermal striping was acceptable. However, for the 43 plants included in the WOG generic analysis, only 15 plants demonstrated acceptable stress fatigue in the surge line.

Although the results of the WOG generic analysis cannot be used to satisfy Actions 1.c and 1.d of Bulletin 88-11 for your facility, a copy of our review of WCAP-12639 that was sent to the WOG is being provided for your information and use. The Safety Evaluation provides some guidance for the 28 Westinghouse plants that could not be shown acceptable by the WOG generic analysis.

By letter dated April 30, 1991, you submitted a plant specific analysis for Shearon Harris Nuclear Power Plant, Unit 1 (Harris). Your analysis for Harris demonstrated conformance to the requirements of the American Society of Mechanical Engineers (ASME) Code, Section III, including both stress limits and fatigue usage for the licensed life of the plant. Your analysis also demonstrated that two of the surge line rigid supports may experience loads in excess of the code allowable values when the effects of thermal stratification and striping are taken into account concurrently with other design loadings. We understand that you are investigating possible modification of the design of these supports and, if modifications are necessary, the modifications will be completed in the next refueling outage which is scheduled to begin in September 1992. Your

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justification for continued operation dated December 29, 1989, is acceptable to justify operation pending implementation of any needed modifications of the supports. Please inform us when the modifications are complete. This completes the staff's effort on TAC No. 72137.

Sincerely,

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Brenda L. Mozafari, Project Manager
Project Directorate II-1 Division of
Reactor Projects - I/II Office of
Nuclear Reactor Regulation

Enclosure:
Safety Evaluation

cc w/enclosure:
See next page

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cc:

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