Georgia Power Company
333 Piedmont Avenue
Atlanta, Georgia 30308
Telephone 404 526-6526

Mailing Address:
Post Office Box 454
Atlanta, Georgia 30302

R. P. McDonald
Executive Vice President
Nuclear Operations

the southern electric system

HVS-63
1267U
X7GJ17-V110

September 21, 1988

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

PLANT VOGTLE - UNITS 1, 2
NRC DOCKETS 50-424, 50-425
OPERATING LICENSE NPF-68
CONSTRUCTION PERMIT CPPR-109
RESPONSE TO BULLETIN 88-08
PIPING THERMAL STRESSES

Gentlemen:

NRC Bulletin (NRCB) 88-08, "Thermal Stresses in Piping Connected to Reactor Coolant Systems", dated June 22, 1988, requested that Georgia Power Company (GPC) submit information regarding thermal stratification and temperature oscillations in piping systems attached to the Reactor Coolant System (RCS). The Bulletin was received by GPC on July 1, 1988. GPC hereby responds to that request.

ACTION REQUESTED #1:

"Review systems connected to the RCS to determine whether unisolable sections of piping connected to the RCS can be subjected to stresses from thermal stratification or temperature oscillations that could be induced by leaking valves and that were not evaluated in the design analysis of the piping."

RESPONSE TO ACTION REQUESTED #1:

A review of systems connected to the RCS at Plant Vogtle Units 1 and 2 has been performed. The evaluation results are tabulated below:

System Line	Affected	Reasons (if not affected)
Seal Injection	No	Normal flow into RCS seals.
Letdown	No	Normal flow out of RCS.
Excess Letdown	No	Downstream pressure is less than nominal reactor pressure. Two closed globe isolation valves in series.

IE 10
1/0

System Line	Affected	Reasons (if not affected)
RHR Suction	No	Downstream pressure is less than nominal reactor pressure. Two closed gate isolation valves in series. One closed gate valve and a 0.75 in. check valve in series.
Emergency Head Vent/Letdown	No	Downstream pressure is less than nominal reactor pressure. Two closed Target Rock Solenoid Y-pattern isolation valves in series.
Loop Drain Lines to Reactor Coolant Drain Tank	No	Downstream pressure is less than nominal reactor pressure. Two closed globe isolation valves in series.
6 in. Safety Injection (SI) Lines to RCS Hot Legs	No	Shutoff head of the low and intermediate head SI pumps is below normal reactor pressure. Normally isolated from low and intermediate head SI pumps by one closed gate valve. Isolated from RCS backleakage by two check valves in series.
10 in. Accumulator Injection Lines to RCS Cold Legs	No	Shutoff head of the low and intermediate head SI pumps is below normal reactor pressure. Accumulator pressure is less than RCS pressure. Isolated from RCS backleakage by two check valves in series.
Sampling	No	Downstream pressure is below normal reactor pressure.
Reactor Vessel Flange Leakage	No	Downstream pressure is less than nominal reactor pressure. Already monitored to detect O-Ring leakage.
Normal Charging	Yes	N/A

System Line	Affected	Reasons (if not affected)
Alternate Charging	Yes	N/A
Auxiliary Spray	Yes	N/A
Charging/High Head Safety Injection	Yes	N/A

ACTION REQUESTED #2

"For any unisolable sections of piping connected to the RCS that may have been subjected to excessive thermal stresses, examine nondestructively the welds, heat-affected zones and high stress locations, including geometric discontinuities, in that piping to provide assurance that there are no existing flaws."

RESPONSE TO ACTION REQUESTED #2:

The nondestructive examinations (NDE) required by NRCB 88-08 will be performed on the Plant Vogtle Unit 1 normal charging, alternate charging, auxiliary spray and charging/high head safety injection systems prior to restart from the first refueling outage which is scheduled to commence October 7, 1988. Recommendations for specific inspection locations and NDE examination guidelines will be provided by the Westinghouse Electric Corporation (Westinghouse). GPC does not plan to perform similar examinations on Plant Vogtle Unit 2, since as a plant under construction, no piping has been subjected to excessive thermal stress. Details and results of this NDE evaluation for Plant Vogtle Unit 1 will be provided in the 30-day followup response required by NRCB 88-08 upon completion of Action Items 2 and 3.

ACTION REQUESTED #3:

"Plan and implement a program to provide continuing assurance that unisolable sections of all piping connected to the RCS will not be subjected to combined cyclic and static thermal or other stresses that could cause fatigue failure during the remaining life of the unit. This assurance may be provided by (1) redesigning and modifying these sections of piping to withstand combined stresses caused by various loads including temporal and spatial distributions of temperature resulting from leakage across valve seats, (2) instrumenting this piping to detect adverse temperature distributions and establishing appropriate limits on temperature distributions, or (3) providing means for ensuring that pressure upstream from block valves which might leak is monitored and does not exceed RCS pressure."

RESPONSE TO ACTION REQUESTED #3:

GPC has chosen to instrument piping in the normal charging, alternate charging, auxiliary spray and charging/high head safety injection systems on both Plant Vogtle units to detect adverse temperature distributions. This action is expected to be completed prior to restart from the first refueling outage for Unit 1 and prior to achieving initial criticality for Unit 2. Specification of the temperature monitoring instrumentation locations, the data acquisition system to be employed and data collection intervals will be based on the recommendations of Westinghouse. The measurement of temperatures at monitoring locations will identify if significant in-leakage has occurred or not. If in-leakage is detected, then the recorded data will be further evaluated. Details of this temperature monitoring program will be provided in the 30-day followup response required by NRCB 88-08 upon completion of Action Items 2 and 3.

If you have any further questions in this regard, please contact this office.

Mr. R. P. McDonald states he is an Executive Vice President of Georgia Power Company and is authorized to execute this oath on behalf of Georgia Power Company, and to the best of his knowledge and belief, the facts set forth in this letter are true.

GEORGIA POWER COMPANY

By: _____
R. P. McDonald

Sworn to and subscribed before me this 21st day of September, 1988.

_____
Notary Public
Notary Public, DeKalb County, Georgia
My Commission Expires Sept. 30, 1989

MJB:ju

cc: Georgia Power Company
Mr. P. D. Rice, Vice President and Vogtle Project Director
Mr. G. Bockhold, Jr., General Manager - Plant Vogtle
Mr. J. P. Kane, Manager Vogtle Engineering and Licensing
GO-NORMS

1267U

Georgia Power

U. S. Nuclear Regulatory Commission, Washington D.C.
Mr. J. B. Hopkins, Licensing Project Manager - Vogtle (2 copies)

U. S. Nuclear Regulatory Commission, Region II
Dr. J. N. Grace, Regional Administrator
Mr. J. F. Rogge, Senior Resident Inspector, Operations - Vogtle