July 5, 1985

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of	)	
	)	
GEORGIA POWER COMPANY, et al.	)	Docket Nos. 50-424 (OL)
	)	50-425 (OL)
(Vogtle Electric Generating Plant, Units 1 and 2)	)	

APPLICANTS' STATEMENT OF MATERIAL FACTS AS TO WHICH THERE IS NO GENUINE ISSUE TO BE HEARD REGARDING JOINT INTERVENORS' CONTENTION 11 (STEAM GENERATORS)

Pursuant to 10 C.F.R. § 2.749(a), Applicants submit, in support of Applicants' Motion for Summary Disposition of Joint Intervenors' Contention 11, that there is no genuine issue to be heard with respect to the following material facts:

1. Plant Vogtle utilizes Westinghouse Model F steam generators. The Westinghouse Model F steam generator is a top feedring design. It also incorporates an auxiliary feedwater nozzle in addition to the main feedwater nozzle.

Vibration-Induced Fatigue Cracking

2. Fatigue refers to the degradation of material due to cyclic or repeated loading. With respect to vibration-induced fatigue cracking, the cause of the repeated tube loading is vibration. Affidavit of Carl W. Hirst, ¶ 8.

3. Vibration-induced fatigue cracking has not been observed in any Westinghouse-designed steam generators. Id., ¶ 9.

4. Vibration-induced fatigue cracking has been associated only with non-Westinghouse steam generators using a once-through design. The Model F, feedring-type steam generator has a structure and flow substantially different from the once-through design. Id. ¶ 10.

5. The possibility of tube degradation due to mechanical or flow-induced vibration in the Model F steam generator has been thoroughly evaluated by analysis and tests. This evaluation demonstrated that tube vibration will be too small to cause fatigue. Id., ¶¶ 11-16.

6. The conclusion that tube vibration will be too small to cause fatigue was confirmed by the Westinghouse Partial Full Scale Test Model Program and by the Westinghouse Lead Model F Vibration Instrumentation Program. Id., ¶¶ 17-18.

7. Even if vibration-induced fatigue cracking were to occur, it would be unlikely to result in tube rupture. The plant's technical specifications limit primary-to-secondary leakage, and cracks having a primary-to-secondary leakage less than the technical specification limit will have an adequate margin to withstand loads imposed during normal operation and postulated accidents. Applicants will also conduct an inservice inspection program that conforms to Regulatory Guide 1.83. Id., ¶¶ 19-20.

Bubble-Collapse Water-Hammer

8. "Bubble-collapse" is synonymous with bubble-collapse water-hammer. Bubble-collapse water-hammer has never resulted in damage to steam generator tubes. Id., ¶¶ 25-26.

9. The potential for bubble-collapse water-hammer in the feedring of the Model F steam generator has been minimized by the use of J tubes and a welded thermal sleeve, and by using the separate auxiliary feedwater nozzle to recover steam generator water level in the event that level drops below the feedring. Id., ¶¶ 27-29.

10. Measures have also been taken to minimize the possibility of bubble-collapse water-hammer in the main and auxiliary (bypass) feedwater piping. The main and bypass feedwater

connections on each of the steam generators are the highest point of each feedwater line downstream of the respective isolation valves and have no high-point pockets. An elbow with a short transition piece is connected directly to the steam generator main and bypass nozzles, and the horizontal pipe length from each nozzle is minimized. Id., ¶ 30.

11. Steam back-leakage from the steam generator into the main feedwater piping is minimized by closing the Main Feedwater Isolation Valve to isolate the main feedwater nozzle when the main feedwater nozzle is not in use. Additionally, the main feedwater system piping is provided with temperature sensors to alert the operator if back-leakage should occur. Id., ¶ 31.

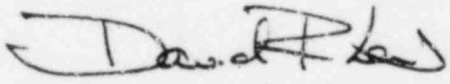
12. Back-leakage into the bypass piping is prevented by maintaining steam generator water level above the auxiliary feedwater discharge pipe, by employing a series of check valves, and by maintaining continuous flow through the auxiliary nozzle as much as possible. Temperature sensors are also used to alert operators if back-leakage into the bypass piping should occur. Id., ¶¶ 32-34.

13. Bubble-collapse water-hammer was the subject of NRC Unresolved Safety Issue (USI) A-1. USI A-1 has now been resolved by the NRC. Id., ¶ 36.

14. In resolving USI A-1, the Staff found that the frequency of steam generator water-hammer in top feedring design steam generators has been essentially eliminated. The measures that the NRC found to have resulted in the reduction and severity of water-hammer in steam generators have been adopted in the design and operation of the VEGP steam generators. Id., ¶¶ 37-39.

15. The NRC also found that no water-hammer event has placed a plant in a faulted or emergency condition; no water-hammer event has resulted in damage to the integrity of the Reactor Coolant Pressure Boundary; and no water-hammer event resulted in a radioactive release. Id., ¶ 36.

Respectfully submitted,



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