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

February 9, 1979

Dockets Nos.: 50-317
and 50-318

Mr. A. E. Lundvall, Jr.
Vice President - Supply
Baltimore Gas & Electric Company
P. O. Box 1475
Baltimore, Maryland 21203

Dear Mr. Lundvall:

By letter dated November 13, 1978, you requested 11 changes to Facility Operating Licenses Nos. DPR-53 and DPR-69 for Calvert Cliffs Nuclear Power Plant Units Nos. 1 and 2. Request No. 11 was to delete condition 2.C.3 of the Unit No. 2 operating license. This condition relates to the slow refill rate of the steam generator required to reduce the probability of feedwater flow instability (water hammer) after the steam generator water level has been below the feedwater feed ring. Your request is based on recent modifications made to the steam generator feed ring.

In the process of reviewing your request and to enable us to perform an independent analysis of the feedwater flow instability, we find that the enclosed request for additional information is necessary to complete our review. Please provide this additional information within 30 days of the receipt of this letter.

In order to provide guidance to you regarding our objectives and the degree of detail that will be necessary in your response, we are enclosing a recently issued staff evaluation of steam generator feedwater flow instability at the Surry Power Station.

Sincerely,

Robert W. Reid

Robert W. Reid, Chief
Operating Reactors Branch #4
Division of Operating Reactors

Enclosures:
1. Request for Additional Information
2. Safety Evaluation for the Surry Power Station dtd. 6/7/78

cc w/enclosures: See next page

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Baltimore Gas & Electric Company

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Enclosure 1

REQUEST FOR ADDITIONAL INFORMATION

CALVERT CLIFFS NUCLEAR POWER PLANT

UNITS 1 AND 2

STEAM GENERATOR WATER HAMMER

1. Provide a description of the feedwater system and pertinent piping geometry including all condensate and feedwater pump trip signals, feedwater isolation signals, feedwater valve controls, feedwater valve bypass controls, feedwater sparger vents and discharge ports and clearance between the feedwater sparger nozzle O.D. and steam generator nozzle I.D.
2. Provide a description of the auxiliary feedwater system and piping geometry including all signals that initiate operation of all pumps and valves, sources of auxiliary feedwater and injection points, and sources of energy for all pump and valve operations.
3. Discuss the operation of the main and auxiliary feedwater systems under normal and transient conditions including safety injection actuation.
4. Provide a summary of the pertinent water hammer experience at the Calvert Cliffs Plant including the results of tests relating to water hammer in the steam generator or feedwater systems.
5. Describe the means employed at the Calvert Cliffs Plant to reduce the potential for water hammer including steam generator level controls, top discharge ports in feedwater sparger, main feedwater valve operation and automatic as well as administrative control of auxiliary feedwater flow.

6. Provide an evaluation of the means employed to avoid water hammer that demonstrates that the feedwater lines and feedwater spargers will remain sufficiently filled with water to preclude water hammer under normal and transient operating conditions including: a reactor trip with turbine trip, loss of main feedwater, loss of offsite power, operator error, steam line break and LOCA.