

July 25, 1997

Mr. Charles H. Cruse
Vice President - Nuclear Energy
Baltimore Gas and Electric Company
Calvert Cliffs Nuclear Power Plant
1650 Calvert Cliffs Parkway
Lusby, MD 20657-4702

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION - PROPOSED TECHNICAL CHANGES TO REACTOR COOLANT SYSTEM FLOW LIMIT REGARDING REACTOR SYSTEMS, CALVERT CLIFFS NUCLEAR POWER PLANT - UNIT NOS. 1 AND 2 (TAC NOS. M97855 AND M97856)

Dear Mr. Cruse:

The NRC staff has reviewed your submittals of January 31, 1997, and April 16, 1997, regarding changes to the reactor system flow limit amendment related to reactor systems. Based on our review, we have determined that additional information is required for us to complete our review. The information requested is addressed in the enclosure. This request supplements our request for additional information dated June 9, 1997.

In order to meet your schedule, the staff requests that the additional information be provided by August 15, 1997.

If you have any questions regarding this letter, please contact me at (301) 415-3473.

Sincerely,

ORIGINAL SIGNED BY:
Alexander W. Dromerick, Senior Project Manager
Project Directorate I-1
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Docket Nos. 50-317
and 50-318

Enclosure: Request for Additional
Information

cc w/encl: See next page

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DATE	07/25/97		07/25/97	07/25/97	07/25/97	07/ /97

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DISCUSSED WITH
J. ZWOLINSKI AND HE
CONCORDED WITH
PROVIDED THAT HE
WILL REVIEW

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PDR ADOCK 05000317
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UNITED STATES
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

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Baltimore Gas and Electric Company
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Sincerely,

A handwritten signature in cursive script that reads "Alexander W. Dromerick".

Alexander W. Dromerick, Senior Project Manager
Project Directorate I-1
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

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Mr. Charles H. Cruse
Baltimore Gas & Electric Company

Calvert Cliffs Nuclear Power Plant
Unit Nos. 1 and 2

cc:

President
Calvert County Board of
Commissioners
175 Main Street
Prince Frederick, MD 20678

Mr. Joseph H. Walter, Chief Engineer
Public Service Commission of
Maryland
Engineering Division
6 St. Paul Centre
Baltimore, MD 21202-6806

James P. Bennett, Esquire
Counsel
Baltimore Gas and Electric Company
P.O. Box 1475
Baltimore, MD 21203

Kristen A. Burger, Esquire
Maryland People's Counsel
6 St. Paul Centre
Suite 2102
Baltimore, MD 21202-1631

Jay E. Silberg, Esquire
Shaw, Pittman, Potts, and Trowbridge
2300 N Street, NW
Washington, DC 20037

Patricia T. Birnie, Esquire
Co-Director
Maryland Safe Energy Coalition
P.O. Box 33111
Baltimore, MD 21218

Mr. Thomas N. Prichett, Director
NRM
Calvert Cliffs Nuclear Power Plant
1650 Calvert Cliffs Parkway
Lusby, MD 20657-4702

Mr. Loren F. Donatelli
NRC Technical Training Center
5700 Brainerd Road
Chattanooga, TN 37411-4017

Resident Inspector
U.S. Nuclear Regulatory
Commission
P.O. Box 287
St. Leonard, MD 20685

Mr. Richard I. McLean
Administrator - Radioecology
Department of Natural Resources
580 Taylor Avenue
Tawes State Office Building, B3
Annapolis, MD 21401

Regional Administrator, Region I
U.S. Nuclear Regulatory Commission
475 Allendale Road
King of Prussia, PA 19406

REQUEST FOR ADDITIONAL INFORMATION
CALVERT CLIFFS STEAM GENERATOR TUBE PLUGGING
LICENSE AMENDMENT REQUEST OF JANUARY 31, 1997

Address concerns associated with reactor coolant pump loop-seal clearing and break orientation, and compliance with the requirements of 10 CFR 50.46(b), including concerns regarding metal/water reaction, and long-term cooling. A non-proprietary submittal by Framatome Technologies Incorporated (FTI) provided additional information to describe the concern and associated phenomena.

The small-break loss-of-coolant accident (SBLOCA) scenario involving the principal safety concern involves long term cooling conditions in which the break size and orientation would be such that the primary system would not depressurize, limiting the emergency core cooling system injection flow rate to that only capable of matching the core boiloff rate due to decay heat. Also in this scenario a column of water in the reactor coolant system pump suction loop seal would inhibit the vent path to the break and exert enough additional pressure to the steam space above the core that the level in the core would be depressed below the top of the core. Should this condition exist as an equilibrium condition, core uncover would be indefinite, since the attendant decay heat rate would be small and virtually constant. Under these circumstances, the cladding oxidation criteria of 10 CFR 50.46 could be violated.

To address this concern in the near term, the licensee should provide information to assure that the Calvert Cliffs plants, in their present configurations (including plant design, technical specifications, procedures, analyses) will operate such that the criteria of 10 CFR 50.46 will not be violated for its SBLOCA analyses in consideration of the scenario(s) of concern. To confirm its near term assessment and address longer term concerns associated with this SBLOCA scenario, and the capability of this model to quantify the scenario(s) of concern for ongoing operation and future configurations, the licensee should describe its action plan to update its licensing basis SBLOCA model with noding and correlations to explicitly simulate the phenomena for the scenario(s) and plant configurations of concern as required by 10 CFR 50.46.

Information supplied by ABB/CE in support of its forthcoming updated SBLOCA evaluation model (S2M) confirms the potential for the scenario(s) of concern for some plant designs, and addresses, both near term and long term, the associated concerns for all designs licensed with the model. This model awaits NRC approval; however, vendor assistance may be available to respond to this question for the model used in the Calvert Cliffs SBLOCA analyses.