May 25, 2000

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: CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NOS. 1 AND 2 - REQUEST FOR ADDITIONAL INFORMATION RE: CONTAINMENT TENDON LONG-TERM CORRECTIVE ACTION PLAN (TAC NOS. MA7782 AND MA7783)

Dear Mr. Cruse:

On December 7, 1999, Baltimore Gas and Electric Company (BGE) submitted information regarding the containment tendon long-term corrective action plan at the Calvert Cliffs Nuclear Power Plant, Unit Nos. 1 and 2.

The NRC staff has reviewed the information and based on our review, we have determined additional information is required in order for staff to complete its review. On May 8, 2000, a teleconference was held with your representatives to discuss our draft questions and BGE responses. The additional information required is addressed in the enclosure.

During the teleconference your licensing representative indicated that the requested information will be provided within 45 days upon receipt of this letter. If you have any questions regarding this request, please do not hesitate to contact me at 301-415-3473.

Sincerely,

/RA/

Alexander W. Dromerick, Sr. Project Manager, Section 1
Project Directorate I
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket No. 50-317

Enclosure: As stated

cc w/encl: See next page

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Lusby, MD 20657-4702

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OFFICE	PDI-1/PM		PDI-1/LA		PDI-1/SC(A)		EMEB	
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REQUEST FOR ADDITIONAL INFORMATION

PERTAINING TO THE STAFF REVIEW OF THE

"REVISION TO THE CONTAINMENT TENDON LONG-TERM CORRECTIVE ACTION PLAN"

BALTIMORE GAS & ELECTRIC COMPANY

CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NOS. 1 & 2

DOCKET NOS. 50-317 & 50-318

The NRC staff has completed its review of BGE's "Revised Containment Tendon Long-Term Corrective Action Plan," discussed in Reference 1 and determined that additional information is needed in order to complete the review. The requested additional information is described in the following staff request for additional information (RAI):

Review of the information provided in Table 1, "Results of 1999 Tendon Inspection," listed under the second item of Reference 1, clearly indicates a steady and continuous trend of additional wire breakage and tendon degradation when compared to the results of the 1997 inspection. Yet, in Reference 1, you are proposing to (1) postpone the replacement task of some tendons to calender year 2001 and the completion date for tendon replacement to possibly as late as December 31, 2002, and (2) replace the specific tendon replacement commitments defined in Reference 2 with a generally undefined tendon replacement program. Additionally, the engineering analysis to be used in defining the scope of the proposed replacement program is also undefined. We request that you address the following questions in your response to this RAI:

1. The third item of your Containment Tendon Long-Term Corrective Action Plan provided in Reference 2 states, in part, that by December 31, 2000, BGE will replace all severely corroded vertical containment tendons (i.e., 63 of 202 vertical tendons in Unit 1 and 64 of 204 vertical tendons in Unit 2) with new tendons. However, in your revised Containment Tendon Long-Term Corrective Action Plan (Reference 1) you stated, in part, that after reviewing the final report for the 1997 inspections, it was determined that 123 of 202 vertical tendons from Unit 1, and 130 of 204 vertical tendons from Unit 2, did not have indications of severe corrosion. This statement seems to imply that, based on your more recent review of the 1997 final inspection report, there are 79 (202-123=79) and 74 (204-130=74) severely corroded tendons for Units 1 and 2, respectively. Please explain the above numerical discrepancies with respect to the numbers of so-called "severely corroded tendons" identified during the two different reviews performed on the 1997 tendon inspection data.

2. Assuming that you have adopted a more or less consistent criteria in judging the severity of tendon corrosion during the two different review occasions, does the above noted discrepancies (i.e., from 63 to 79 and 64 to 74 tendons for Units 1 and 2, respectively) suggest a rather rapidly progressing degradation rate for Units 1 and 2 tendons? What is the engineering basis for your proposed relaxation with respect to the contents of the Calvert Cliffs Containment Tendon Long-Term Corrective Action Plan? Please address this

issue from the standpoint of both the relaxation in criteria for tendon replacement and the proposed postponement in tendon replacement schedule, and potential effects on Calvert Cliffs' containment integrity.

3. Under the first paragraph of Justification for the Containment Tendon Long-Term Corrective Action Plan of Reference 2, you stated that "Our long-term plan does not rely on the statistical prediction of wire breakage." Yet, the last part of your second item of Reference 1 indicates that you still intend to use a questionable statistical distribution (Weibull distribution) and a set of generally unsupportable assumptions to make an engineering prediction. The above-noted statements seem to present an inconsistent BGE position. BGE is, therefore, requested to use a deterministic based engineering analysis or a statistical approach supported by adequate and credible inspection data to draw its safety conclusion regarding the adequacy of its degraded containment prestressing systems.

4. Given the continuing tendon degradation noted above, please provide your assessment that this continuing degradation of the containment prestressing systems with its consequential reduction in design margins originally established per the applicable FSAR criteria for both Units 1 and 2 would not constitute an unreviewed safety question pursuant to 10 CFR 50.59.

5. During a telephone conference held between the staff and BGE representatives on May 8, 2000, BGE indicated that some 102 Unit 2 vertical tendon top anchors, which were previously determined as not severely degraded during the 1997 inspection, were reinspected in 1999. BGE stated that the reinspection was intended for gathering additional data to support a general conclusion that no significant incremental degradation of both Units 1 and 2 vertical tendons has been experienced since the 1997 inspection. BGE is requested to provide a summary of the inspection procedure including sampling methods, evaluation criteria and findings of the 1999 inspection.

6. Provide a copy of the BGE engineering report mentioned during the above noted telephone conference which addresses BGE's development of its containment tendon Weibull models and, as appropriate, discuss in detail how uncertainties related to the models were adequately dealt with (e.g., performance of sensitivity analysis).

References

1. BGE letter to US NRC titled, "Calvert Cliffs Nuclear Power Plant Unit Nos. 1 & 2; Docket Nos. 50-317 & 50-318, Revision to the Containment Tendon Long-Term Corrective Action Plan," dated December 7, 1999.

2. BGE letter to US NRC titled, "Calvert Cliffs Nuclear Power Plant Unit Nos. 1 & 2; Docket Nos. 50-317 & 50-318, Containment Tendon Long-Term Corrective Action Plan," dated May 14, 1998.

Calvert Cliffs Nuclear Power Plant
Unit Nos. 1 and 2

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

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

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

Mr. Bruce S. Montgomery, Director
NRM
Calvert Cliffs Nuclear Power Plant
1650 Calvert Cliffs Parkway
Lusby, MD 20657-4702

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

Mr. Richard I. McLean, Manager
Nuclear Programs
Power Plant Research Program
Maryland Dept. of Natural Resources
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

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

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

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

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