BALTIMORE
GAS AND
ELECTRIC

CHARLES CENTER • P.O. BOX 1475 • BALTIMORE, MARYLAND 21203

ARTHUR E. LUNDVALL, JR.
VICE PRESIDENT
SUPPLY

September 22, 1982

Office of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

ATTENTION: Mr. Robert A. Clark, Chief
Operating Reactors Branch #3
Division of Licensing

SUBJECT: Calvert Cliffs Nuclear Power Plant
Unit Nos. 1 & 2, Docket Nos. 50-317 & 50-318
Request for Amendment

REFERENCES: a) Amendment 65/47 to Licenses DPR-53/69
b) Letter from Mr. R. A. Clark to Mr. A. Lundvall, Jr., dated October 20, 1981, with enclosures

Gentlemen:

The Baltimore Gas and Electric Company hereby requests an Amendment to its Operating License Nos. DPR-53 and DPR-69 for Calvert Cliffs Unit Nos. 1 & 2, respectively, with the submittal of the enclosed proposed change to the Technical Specification.

PROPOSED CHANGE

Delete page 3/4 6-18 of the Unit 1 and 2 Technical Specifications and add new pages 3/4 6-18, as shown on Attachment 1 (Unit 1) and Attachment 2 (Unit 2).

DISCUSSION & JUSTIFICATION (BG&E FCR 82-161)

Reference (a) identifies surveillance requirements associated with the containment purge supply and exhaust isolation valves. The current NRC staff position regarding six (6) month surveillance frequency on containment purge isolation valves leak rate testing is too restrictive and is unwarranted. Enclosure (1), to Reference (b), provides minimal guidance in defining the requirements for leak rate testing of the purge valves. Enclosure (1) offers some relief in specifying that the leakage test requirements of 10 CFR 50, Appendix J, may be relaxed with respect to precise measurement of leakage rate (i.e., the test must be designed to identify "excessive degradation of resilient seals for containment purge valves").

A001

w/check:
$ 4400.00

A visual inspection of seal surfaces for degenerated characteristics such as tears, blisters, cracks, etc., followed by a pressurization leakage test would meet the intent of Enclosure (1) and certainly provide a reasonable measure of assurance that the valves will meet design requirements. However, the physical design and arrangement of the purge valves precludes performing a visual inspection of the seal surfaces (without opening the valves), and the valves are restricted to the closed position during power operations by a recent amendment to the Technical Specifications. In lieu of a complete visual inspection of seal surfaces during **MODE** 1, it appears the only viable means of meeting the intent of this surveillance requirement involves a procedure similar to a full pressurization local leak rate test. While the performance of local leak rate testing is possible during power operational Modes, a leak rate test at power comprises a time consuming procedure which by nature is subject to inaccuracies as a result of temperature gradients across the test boundary. These gradients, though ever present, are more severe during **MODE** 1 operations.

Informal telephone contacts with members of our staff and the Henry Pratt Company, the Resiloseal Vendor, have produced some guidance with respect to the shelf life of the purge valve seals. The vendor recommends no greater than a 5 to 10 year shelf life for unpackaged seals.

We have investigated the operating experience at Calvert Cliffs to determine an acceptable service life for the containment purge valve seals. The criteria used in this determination was based on the maintenance history of seal replacements to correct excessive leakage, indicative of degraded seals. We have determined that the purge valve seals demonstrate a high degree of reliability with respect to degradation for inservice periods of up to five (5) years. In this submittal, we propose a seal replacement preventive maintenance program incorporating replacement of at least two seals per 18-month refueling cycle. The replacement schedule would ensure at least one seal in each of two supply and exhaust flow paths be replaced at a refueling cycle frequency. This schedule will ensure that no individual seal remains in service greater than approximately three years (depending on core burn-up and coastdown programs). Additionally, in this submittal we specify performing the surveillance test each time we enter **MODE** 5 when shutting down, if greater than 6 months has elapsed since the last surveillance test. Further we specify, if the valves are opened during shutdown, that the testing be performed prior to entering **MODE** 4, regardless of when the last surveillance test was performed.

This submittal describes a suggested seal replacement schedule and leak rate test schedule which conservatively addresses the results of operating experience at Calvert Cliffs Nuclear Power Plant. This submittal offers an alternative which minimizes the resources and personnel radiation exposure required to support purge valve surveillance tests during power operations. Incorporating this submittal will enhance the overall performance of the containment purge system and correspondingly reduce the expenditure of resources presently imposed by a rigid 6-month surveillance schedule.

SAFETY COMMITTEE REVIEW

These proposed changes to the Technical Specifications have been reviewed by our Plant Operations and Safety Review and Off-Site Safety and Review Committees, and they have concluded that implementation of these changes will not result in an undue risk to public health and safety.

FEE DETERMINATION

We have determined, pursuant to 10 CFR Part 170.22, that this Amendment request constitutes Class III and I amendments for Calvert Cliffs Unit Nos. 1 and 2, respectively, and, accordingly, we are including BG&E Check No. B070981 in the amount of $4,400.00 to cover the fee for this request.

BALTIMORE GAS AND ELECTRIC COMPANY

A. E. Lundvall, Jr.

Vice President - Supply

STATE OF MARYLAND :
: **TO WIT:**
CITY OF BALTIMORE :

Arthur E. Lundvall, Jr., being duly sworn states that he is Vice President of the Baltimore Gas and Electric Company, a corporation of the State of Maryland; that he provides the foregoing response for the purposes therein set forth; that the statements made are true and correct to the best of his knowledge, information, and belief; and that he was authorized to provide the response on behalf of said Corporation.

WITNESS my Hand and Notarial Seal:

Ruth H. Grese
Notary Public

My Commission Expires: July 1, 1986

cc: J. A. Biddison, Esquire
G. F. Trowbridge, Esquire
D. H. Jaffe, NRC
R. E. Architzel, NRC

SURVEILLANCE REQUIREMENTS (Continued)

4.6.4.1.2 Each isolation valve specified in Table 3.6-1 shall be demonstrated OPERABLE during the COLD SHUTDOWN or REFUELING MODE at least once per 18 months by:

a. Verifying that on each containment isolation Channel A or Channel B test signal, each required isolation valve actuates to its isolation position.

b. Verifying that on each Containment Radiation-High Test Channel A or Channel B test signal, both required containment purge valves actuate to their isolation position.

c. Verifying that on each Safety Injection Actuation Channel A or Channel B test signal, each required isolation valve actuates to its isolation position.

4.6.4.1.3 The isolation time of each power operated or automatic valve of Table 3.6-1 shall be determined to be within its limit when tested pursuant to Technical Specification 4.0.5.

4.6.4.1.4 Containment purge isolation valves shall be demonstrated OPERABLE ~~at least once every 6 months~~ by verifying that when the measured leakage rate is added to the leakage rates determined pursuant to Technical Specification 4.6.1.2.d for all other Type B or C penetrations, the combined leakage rate is less than or equal to 0.60 La. * The leakage rate for the containment purge isolation valves shall also be compared to the previously measured leakage rate to detect excessive valve degradation. *

* See marked up ATTACHMENT 1

CONTAINMENT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

4.6.4.1.2 Each isolation valve specified in Table 3.6-1 shall be demonstrated OPERABLE during the COLD SHUTDOWN or REFUELING MODE at least once per 18 months by:

a. Verifying that on each containment isolation Channel A or Channel B test signal, each required isolation valve actuates to its isolation position.

b. Verifying that on each Containment Radiation-High Test Channel A or Channel B test signal, both required containment purge valves actuate to their isolation position.

c. Verifying that on each Safety Injection Actuation Channel A or Channel B test signal, each required isolation valve actuates to its isolation position.

4.6.4.1.3 The isolation time of each power operated or automatic valve of Table 3.6-1 shall be determined to be within its limit when tested pursuant to Technical Specification 4.0.5.

4.6.4.1.4 Containment purge isolation valves shall be demonstrated OPERABLE anytime upon entering MODE 5 from power operation modes, unless the last surveillance test has been performed within the past 6 months or anytime after being opened and prior to entering MODE 4 from shutdown modes by verifying that when the measured leakage rate is added to the leakage rates determined pursuant to Technical Specification 4.6.1.2.d for all other Type B or C penetrations, the combined leakage rate is less than or equal to 0.60 L_a (207,600 SCCM). The leakage rate for the containment purge isolation valves shall also be compared to the previously measured leakage rate to detect excessive valve degradation. The containment purge valve seals shall be replaced with new seals at a frequency to ensure no individual seal remains in service greater than 2 consecutive fuel reload cycles.

SURVEILLANCE REQUIREMENTS (Continued)

4.6.4.1.2 Each isolation valve specified in Table 3.6-1 shall be demonstrated OPERABLE during the COLD SHUTDOWN or REFUELING MODE at least once per 18 months by:

a. Verifying that on each containment isolation Channel A or Channel B test signal, each required isolation valve actuates to its isolation position.

b. Verifying that on each Containment Radiation-High Test Channel A or Channel B test signal, both required containment purge valves actuate to their isolation position.

c. Verifying that on each Safety Injection Actuation Channel A or Channel B test signal, each required isolation valve actuates to its isolation position.

4.6.4.1.3 The isolation time of each power operated or automatic valve of Table 3.6-1 shall be determined to be within its limit when tested pursuant to Technical Specification 4.0.5.

4.6.4.1.4 Containment purge isolation valves shall be demonstrated OPERABLE ~~at least once every 6 months~~ by verifying that when the measured leakage rate is added to the leakage rates determined pursuant to Technical Specification 4.6.1.2.d for all other Type B or C penetrations, the combined leakage rate is less than or equal to 0.60 La.* The leakage rate for the containment purge isolation valves shall also be compared to the previously measured leakage rate to detect excessive valve degradation. *

SEE marked up ATTACHMENT 2

CONTAINMENT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

4.6.4.1.2 Each isolation valve specified in Table 3.6-1 shall be demonstrated OPERABLE during the COLD SHUTDOWN or REFUELING MODE at least once per 18 months by:

a. Verifying that on each containment isolation Channel A or Channel B test signal, each required isolation valve actuates to its isolation position.

b. Verifying that on each Containment Radiation-High Test Channel A or Channel B test signal, both required containment purge valves actuate to their isolation position.

c. Verifying that on each Safety Injection Actuation Channel A or Channel B test signal, each required isolation valve actuates to its isolation position.

4.6.4.1.3 The isolation time of each power operated or automatic valve of Table 3.6-1 shall be determined to be within its limit when tested pursuant to Technical Specification 4.0.5.

4.6.4.1.4 Containment purge isolation valves shall be demonstrated OPERABLE anytime upon entering MODE 5 from power operation modes, unless the last surveillance test has been performed within the past 6 months or anytime after being opened and prior to entering MODE 4 from shutdown modes by verifying that when the measured leakage rate is added to the leakage rates determined pursuant to Technical Specification 4.6.1.2.d for all other Type B or C penetrations, the combined leakage rate is less than or equal to 0.60 L_a (207,600 SCCM). The leakage rate for the containment purge isolation valves shall also be compared to the previously measured leakage rate to detect excessive valve degradation. The containment purge valve seals shall be replaced with new seals at a frequency to ensure no individual seal remains in service greater than 2 consecutive fuel reload cycles.