

**CHARLES H. CRUSE**  
Vice President  
Nuclear Energy

Baltimore Gas and Electric Company  
Calvert Cliffs Nuclear Power Plant  
1650 Calvert Cliffs Parkway  
Lusby, Maryland 20657  
410 495-4455



November 2, 1998

U. S. Nuclear Regulatory Commission  
Washington, DC 20555

**ATTENTION:** Document Control Desk

**SUBJECT:** Calvert Cliffs Nuclear Power Plant  
Unit Nos. 1 & 2; Docket Nos. 50-317 & 50-318  
Responses to Requests for Additional Information for the Review of the Calvert  
Cliffs Nuclear Power Plant, Units 1 & 2, Integrated Plant Assessment Report for  
the Component Cooling System

**REFERENCES:**

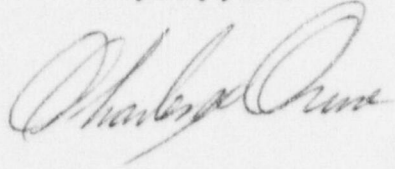
- (a) Letter from Mr. C. H. Cruse (BGE) to NRC Document Control Desk, dated July 30, 1997, "Request for Review and Approval of System Reports for License Renewal"
- (b) Letter from Mr. D. L. Solario (NRC) to Mr. C. H. Cruse (BGE), August 11, 1998, "Request for Additional Information for the Review of the Calvert Cliffs Nuclear Power Plant, Units 1 & 2, Integrated Plant Assessment Report for the Component Cooling System"

Reference (a) forwarded two Baltimore Gas and Electric Company (BGE) system reports for license renewal. Those reports were included, unchanged, in the BGE License Renewal Application (LRA), submitted to NRC on April 8, 1998. Reference (b) forwarded questions from NRC staff on one of those two reports, the Integrated Plant Assessment Report for the Component Cooling System. Attachment (1) provides our responses to the questions contained in Reference (b). Attachment (2) forwards errata to Section 5.3 of the BGE LRA, Component Cooling System.

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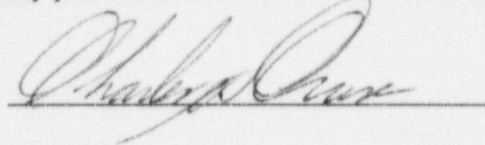
Should you have further questions regarding this matter, we will be pleased to discuss them with you.

Very truly yours,



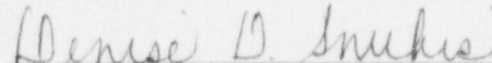
STATE OF MARYLAND :  
: TO WIT:  
COUNTY OF CALVERT :

I, Charles H. Cruse, being duly sworn, state that I am Vice President, Nuclear Energy Division, Baltimore Gas and Electric Company (BGE), and that I am duly authorized to execute and file this response on behalf of BGE. To the best of my knowledge and belief, the statements contained in this document are true and correct. To the extent that these statements are not based on my personal knowledge, they are based upon information provided by other BGE employees and/or consultants. Such information has been reviewed in accordance with company practice and I believe it to be reliable.



Subscribed and sworn before me, a Notary Public in and for the State of Maryland and County of Calvert, this 2nd day of November, 1998.

WITNESS my Hand and Notarial Seal:

  
Notary Public

My Commission Expires:

2/1/2002  
Date

CHC/KRE/dlm

- Attachments: (1) Response to Request for Additional Information; Integrated Plant Assessment Report for the Component Cooling System  
(2) Errata to Section 5.3, Component Cooling System; License Renewal Application

cc: R. S. Fleishman, Esquire  
J. E. Silberg, Esquire  
S. S. Bajwa, NRC  
A. W. Dromerick, NRC  
H. J. Miller, NRC

C. I. Grimes, NRC  
D. L. Solorio, NRC  
Resident Inspector, NRC  
R. I. McLean, DNR  
J. H. Walter, PSC

ATTACHMENT (1)

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RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION;  
INTEGRATED PLANT ASSESSMENT REPORT FOR THE COMPONENT COOLING SYSTEM

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Baltimore Gas and Electric Company  
Calvert Cliffs Nuclear Power Plant  
November 2, 1998

## ATTACHMENT (1)

### RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION; INTEGRATED PLANT ASSESSMENT REPORT FOR THE COMPONENT COOLING SYSTEM

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#### NRC Question No. 5.3.1

In Subsection 5.3.1.1 (of Baltimore Gas and Electric Company's [BGE's] License Renewal Application [LRA]) under Interfacing Systems the report lists interfacing systems with the Component Cooling (CC) System. Additionally, the report states that the "the CC system at the interface may not be within the scope of license renewal . . ." For the CC system piping at the interfaces identified to be outside the scope of license renewal, identify the components at the interface that maintain the pressure boundary function.

#### BGE Response

All safety-related (SR)/non-safety-related (NSR) boundaries are designed to maintain the integrity of the SR boundary. The following is a description of the interfaces between the SR CC pressure boundary and the interfacing systems or components that are not within the scope of license renewal:

- **Demineralized Water System** — This system provides makeup to the CC System head tanks. There is one tank per unit. The interface between the Demineralized Water System and the CC System is a check valve. Demineralized water goes through this check valve, a control valve, and some other components before entering the head tanks. The tanks are SR and are open to the atmosphere. Makeup enters the top of each tank via a SR nozzle. The nozzle/pipe connection serves as the SR/NSR interface.
- **Miscellaneous Waste Processing System** — Isolation of the SR CC System is provided by a hand valve on the supply side. There is one such hand valve per unit. This valve is normally closed. There is no return side because this system serves as a one way dump for collection, processing, and discharge purposes.
- **Waste Evaporators System** — Isolation of the SR CC System is provided by a control valve on the supply side, and a check valve on the return side. These control valves close on a Safety Injection Actuation Signal. Additionally, they go to their Design Basis Event mitigation position upon inadvertent loss of air pressure.
- **Waste Gas System** — Isolation of the SR CC System to the waste gas aftercoolers and the compressor cooling jackets is provided by a solenoid valve on the supply side, and a check valve on the return side. Flow to these loads is automatically directed to these loads whenever the compressor is operating. This configuration is common to both units.
- **Reactor Coolant Waste Processing System** — There are two CC loads serving this system, the reactor coolant drain tank heat exchanger and the degasifier vacuum pump accumulator cooler.

The reactor coolant drain tank heat exchangers, one per unit, are located inside each Containment Structure. Isolation of the SR CC System to and from each Containment Structure is provided by a control valve on the supply side as well as on the return side. These control valves close on a Safety Injection Actuation Signal. Additionally, they go to their Design Basis Event mitigation position upon inadvertent loss of air pressure.

The degasifier vacuum pump accumulator coolers, one per unit, are continuously supplied with SR CC. These coolers are SR and within the scope of license renewal.

- **Miscellaneous Waste Processing System Heat Exchanger** — Isolation of the SR CC System is provided by a hand valve on the supply side as well as on the return side. These valves are normally closed. This configuration exists only for Unit 1.

## ATTACHMENT (1)

### RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION; INTEGRATED PLANT ASSESSMENT REPORT FOR THE COMPONENT COOLING SYSTEM

- Gas Analyzing System — The gas analyzer sample cooler is continuously supplied with SR CC from either Unit 1 or Unit 2. This cooler is SR and within the scope of license renewal.

Detailed information concerning these interfaces is readily available on-site for review.

#### NRC Question No. 5.3.2

Section 5.4 of the compressed air system report identifies that certain air-operated components used with particular systems will be included (i.e., pressure retaining functions) with the individual system and not the compressed air system. Based on our review we could not determine how the pressure retaining functions of air-operated components were addressed in the CC System. As there are a number of air-operated components with the CC System, for example valves CV-3840, and CV-3825 shown in the CC System piping and instrument drawing 8307210017-26 (obtained from the Calvert Cliffs Update Final Safety Analysis Report), please explain your process for how air-operated components within the CC System were addressed in the LRA (and if the process used is the same for other applicable systems indicate that also). Additionally, for other air-operated components that are within systems other than compressed air system please provide a cross reference to where these components are addressed in the LRA or provide justification for their exclusion with special emphasis given to why a failure of the compressed air pressure boundary that these components maintain will not affect any SR functions of the systems in which they reside of the compressed air system.

#### BGE Response

Baltimore Gas and Electric Company LRA Section 5.4, Compressed Air System, addresses compressed air components. It should be noted that some SR compressed air components associated with specific loads are addressed in the section of the LRA for that subject system. For example, accumulators dedicated to a specific saltwater air-operated valve would be in Section 5.16, Saltwater Cooling System, of the BGE LRA. Furthermore, some of the components are addressed generically in the commodity evaluations, e.g. the tubing is addressed in Section 6.4, Instrument Lines, of the BGE LRA. Specifics on each component and load configuration are available onsite for further review.

All control valves in the CC System are air-operated. All CC valve air-operators utilize NSR air because they go to their Design Basis Event mitigation position upon inadvertent loss of air pressure. These air-operators are not subject to aging management review because they do not support a passive intended function.

#### NRC Question No. 5.3.3

Are there any parts of the systems, structures and components that are inaccessible for inspection? If so, describe what aging management program will be relied upon to maintain the integrity of the inaccessible areas. If the aging management program for the inaccessible areas is an evaluation of the acceptability of inaccessible areas based on conditions found in surrounding accessible areas, please provide information to show that conditions would exist in accessible areas that would indicate the presence of or result in degradation to such inaccessible areas. If different aging effects or aging management techniques are needed for the inaccessible areas, please provide a summary to address the following elements for the inaccessible areas: (1) Preventive actions that will mitigate or prevent aging degradation. (2) Parameters monitored or inspected relative to degradation of specific structure and component intended functions. (3) Detection of aging effects before loss of structure and component

**ATTACHMENT (1)**

**RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION;  
INTEGRATED PLANT ASSESSMENT REPORT FOR THE COMPONENT COOLING SYSTEM**

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intended functions. (4) Monitoring, trending, inspection, testing frequency, and sample size to ensure timely detection of aging effects and corrective actions. (5) Acceptance criteria to ensure structure and component intended functions. (6) Operating experience that provides objective evidence to demonstrate that the effects of aging will be adequately managed.

**BGE Response**

Baltimore Gas and Electric Company can access all CC components if required.

ATTACHMENT (2)

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ERRATA TO SECTION 5.3; COMPONENT COOLING SYSTEM;  
LICENSE RENEWAL APPLICATION

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Baltimore Gas and Electric Company  
Calvert Cliffs Nuclear Power Plant  
November 2, 1998

## ATTACHMENT (2)

### ERRATA TO SECTION 5.3; COMPONENT COOLING SYSTEM; LICENSE RENEWAL APPLICATION

Age-related degradation mechanism "Wear" has been determined to be not plausible for the relief valves in the Component Cooling System, for the following reasons:

- The valves relieve pressure relatively infrequently;
- The leakage that would result from wear of the seating surface would not significantly affect the passive pressure boundary function of the valve; and
- Such leakage would be easily detected during normal activities and subsequently corrected before worsening.

Therefore, regarding Section 5.3 of the BGE LRA:

- Page 5.3-12, Table 5.3-3, should not have a check (√) for Device Type "RV" and age-related degradation mechanism "Wear."
- Disregard any reference to relief valves, and Calvert Cliffs Checklists MPM 01012, 01013 and 01143, in the Group 6 (Wear) discussion on pages 5.3-25 through 5.3-27, and in Table 5.3-4 on page 5.3-28.
- Baltimore Gas and Electric Company does not commit to existing Preventive Maintenance Checklists MPM 01012, 01013, and 01143 for aging management in the Component Cooling System.