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November 9, 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  
Supplemental Response to NRC Generic Letter 97- 06: Degradation of Steam  
Generator Internals

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- REFERENCES: (a) Letter from Mr. C. H. Cruse to the NRC Document Control Desk, dated March 31, 1998, Response to NRC Generic Letter 97-06: Degradation of Steam Generator Internals
- (b) Letter from Mr. A. W. Dromerick (NRC) to Baltimore Gas and Electric Company, dated August 19, 1998, Summary of the July 29, 1998, Meeting Regarding Calvert Cliffs Nuclear Power Plant, Unit Nos. 1 and 2 - Steam Generator Replacement Program

By Reference (a), we provided our response to NRC Generic Letter 97-06, "Degradation of Steam Generator Internals." In that response, we informed the Commission of our plan to perform steam generator secondary side inspections of Calvert Cliffs Units 1 & 2 during each refueling outage through 2001. The purpose of this letter is to inform you that we have decided not to perform the secondary side inspection of Unit 1 steam generators during the 2000 refueling outage. The justification for this change of plan is described below.

The secondary side of the Unit 1 steam generators were inspected in the 1996 and 1998 refueling outages. The inspections did not show any degradation of secondary side components. Specifically, all inspected eggcrates were intact and the edges were square with no signs of erosion. The attachment points inspected on the periphery showed no signs of degradation. The Unit 1 steam generators are scheduled to be replaced during the 2002 refueling outage (Reference b). Unit 1 is unlikely to approach the flow-accelerated corrosion threshold prior to the 2002 steam generator replacement outage. As shown below, this is based on a comparison of historical and current low iron transport rate ( $\leq 1$  ppb) and pressure loss at Calvert Cliffs Unit 1 with the iron transport rates and pressure losses at other Combustion Engineering plants.

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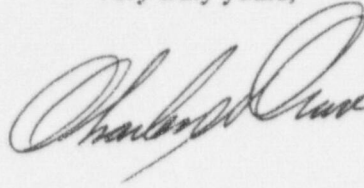
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- Calvert Cliffs Unit 1 has an iron transport rate significantly lower than San Onofre Nuclear Generating Station (SONGS) Unit 3. In fact, Calvert Cliffs Unit 1 has an iron transport rate below SONGS Unit 2, which showed no eggcrate degradation during its inspection.
- Thermal performance parameters do not indicate severe tube bundle fouling on Calvert Cliffs Unit 1. Calvert Cliffs Unit 1 has not experienced as significant a pressure loss due to tube fouling as has been the case at SONGS Units 2 and 3. The turbine control valves on Calvert Cliffs Unit 1 are not full (100%) open. Calvert Cliffs Unit 1 is not employing alternate methods, such as bypassing feedwater heaters or averaging Reactor Coolant System cold leg temperature, in order to maintain 100% power operations. These performance parameters indicate that the tube bundle fouling experienced at Calvert Cliffs Unit 1 is not nearly as severe as SONGS Units 2 and 3 and additional steam generator margin exists on Calvert Cliffs Unit 1.
- Arkansas Nuclear One Unit 2 (ANO 2), similar in design to the SONGS steam generators, has experienced significant secondary side pressure loss similar to Calvert Cliffs Unit 1. However, ANO 2 inspection of the eggcrates did not reveal any degradation.

The three Combustion Engineering Owners Group reports summarized in Reference (a) (CE NPSD-1092, Evaluation of Degraded Secondary Internals - Operability Assessment; CE NPSD-1103, Evaluation of Susceptibility of Internals Degradation in CE Designed Steam Generators; CE NPSD-1104, Evaluation of Degraded Secondary Internals - Bounding Analysis) provide additional information in support of our decision not to inspect the secondary side of Calvert Cliffs Unit 1 in 2000. This decision will cause no threat to nuclear safety or affect steam generator performance. We will continue to closely monitor Unit 1 steam generator performance, and if conditions were to change significantly, we would reevaluate our decision.

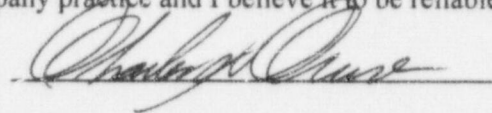
Should you have questions regarding this matter, we will be pleased to discuss them with you.

Very truly yours,



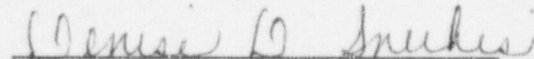
STATE OF MARYLAND :  
: TO WIT:  
COUNTY OF CALVERT :

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 9th day of November, 1998.

WITNESS my Hand and Notarial Seal:

  
Notary Public

My Commission Expires:

2/2/2002  
Date

CHC/GT/dlm

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

H. J. Miller, NRC  
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