

BALTIMORE GAS AND ELECTRIC COMPANY

P.O. BOX 1475
BALTIMORE, MARYLAND 21203

ARTHUR E. LUNDVALL, JR.
VICE PRESIDENT
SUPPLY

May 13, 1982

Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, DC 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
TMI Action Plan Item II.K.3.17

REFERENCES: (a) Letter from R. A. Clark to A. E. Lundvall, Jr., dated
January 20, 1982, same subject
(b) Letter from A. E. Lundvall, Jr. to R. A. Clark, dated
April 13, 1982, in response

Gentlemen:

We are submitting the attachment to this letter as supplemental information to reference (b). We have discussed this information with representatives of your staff and have concluded that the information contained in Attachment 1 is required to close-out our response to NUREG-0737, Item II.K.3.17.

Attachment 1 provides a listing by system and major components of ECCS unavailability attributable to preventive maintenance programs at Calvert Cliffs. We would like to point out that this information has been collected and is presented in a format which is different from the guidance in NUREG-0737. Specifically, Item II.K.3.17 requires a historical accounting of ECCS unavailability. Considering the intended purpose of the NUREG item, we are providing the attached information in a format which reflects equipment unavailability based on our current preventive maintenance schedules.

Accordingly, five year cumulative totals of equipment unavailability are estimated and reflect the expected future unavailability of equipment.

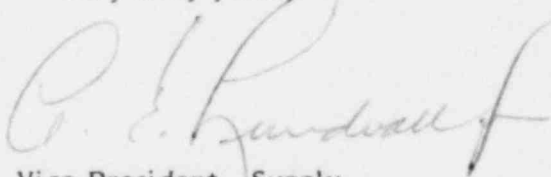
The unavailability time periods shown in Attachment 1 reflect total equipment outage periods which include the time required to provide system/component isolation and the estimated maintenance periods. For some of the less rigorous isolation schemes typified by electrical maintenance, a generic approach was taken in estimating the time required to provide system tagout/isolation. The more difficult isolation schemes associated with mechanical work have been estimated on a case-by-case basis.

Mr. Robert A. Clark
May 13, 1982
Page 2

The approach we have taken in providing the information contained in Attachment 1 is conservative in providing actual equipment unavailability. We would like to direct your attention to the following observations: 1) the number of PM's we perform today has increased considerably over what we were doing five years ago; a greater than 150% increase is representative in the sampling we observed; 2) this report does not necessarily reflect the out-of-service time savings accomplished by proper outage scheduling (e.g., scheduling mechanical and electrical PM's together to minimize downtime); 3) typically 30% of the PM's scheduled on an annual or other frequency basis are performed during shutdown and refueling modes when some equipment would not have operability requirements; 4) preventive maintenance performed on certain redundant equipment systems during power operation, although producing an outage on the specific component, does not contribute to the system unavailability defined for the existing mode by Technical Specifications.

We believe the information provided will satisfy the request for information in reference (a). Should you have any questions regarding this information, please contact us.

Very truly yours,



Vice President - Supply

AEL/LOW/gla

Attachment

cc: J. A. Biddison, Esquire
G. F. Trowbridge, Esquire
D. H. Jaffe, NRC
R. E. Architzel, NRC
S. A. Rittenhouse
J. A. Tiernan
R. F. Ash/File
C. H. Cruse
L. B. Russell/J. T. Carroll
R. E. Denton/D. W. Latham
R. C. L. Olson
A. R. Thornton
M. D. Patterson
P. W. Kruse - CE
J. C. Ventura - Bechtel

ATTACHMENT 1

PREVENTIVE MAINTENANCE ASSOCIATED ECCS UNAVAILABILITY

<u>SYSTEM/COMPONENT</u>	<u>YEAR 1</u>	<u>YEAR 2</u>	<u>YEAR 3</u>	<u>YEAR 4</u>	<u>YEAR 5</u>	<u>5 YEAR CUMULATIVE TOTAL</u>
	<u>HOURS</u>	<u>HOURS</u>	<u>HOURS</u>	<u>HOURS</u>	<u>HOURS</u>	<u>HOURS</u>
<u>Emergency Diesel Generators</u>						
#11 Diesel Generators & Auxiliaries	80.0	99.5	80.0	99.5	85.0	444.0
#12 (Common) Diesel Generator & Auxiliaries	86.0	105.5	86.0	105.5	91.0	474.0
<u>Safety Injection System</u>						
Low Pressure Safety Injection Pumps	12.0	29.0	36.0	29.0	12.0	118.0
High Pressure Safety Injection Pumps*	18.0	72.0	28.5	72.0	18.0	208.5
Safety Injection Motor Operated Valves			32.5			32.5
Refueling Water Recirculating Pump	2.5	2.5	2.5	2.5	2.5	12.5
<u>Containment Spray/Cooling System</u>						
Containment Spray Pumps	8.5	8.5	27.5	8.5	8.5	61.5
<u>4 KV System</u>						
4 KV Busses #11 & #14		18.0	36.0	18.0		72.0

PREVENTIVE MAINTENANCE ASSOCIATED ECCS UNAVAILABILITY

<u>SYSTEM/COMPONENT</u>	<u>YEAR 1</u>	<u>YEAR 2</u>	<u>YEAR 3</u>	<u>YEAR 4</u>	<u>YEAR 5</u>	<u>5 YEAR CUMULATIVE TOTAL</u>
	<u>HOURS</u>	<u>HOURS</u>	<u>HOURS</u>	<u>HOURS</u>	<u>HOURS</u>	<u>HOURS</u>
<u>4 KV Electrical Busses</u>						
Bus Protective Relays	54.0		54.0		54.0	162.0
<u>Service Water System</u>						
Service Water Pumps*	100.5	126.0	106.5	126.0	100.5	559.5
Saltwater Side/Service Water Heat Exchangers	124.0	124.0	124.0	124.0	124.0	620.0
<u>Saltwater System</u>						
Saltwater Pumps*	13.5	39.0	105.0	39.0	56.6	253.0
Saltwater Side/ECCS Pump Room Coolers	22.0	22.0	22.0	22.0	22.0	110.0
Saltwater System Sluice Gates*	96.0	96.0	96.0	96.0	96.0	480.0
Saltwater Isolation Valves	4.5	4.5	6.0	4.5	4.5	24.0
Saltwater Air Compressors	3.0	3.0	3.0	3.0	3.0	15.0
<u>Component Cooling System</u>						
Component Cooling Pump*	10.5	35.5	10.5	35.5	10.5	102.5
Saltwater Side/Component Cooling Heat Exchangers	188.0	188.0	188.0	188.0	188.0	940.0

ATTACHMENT 1

PREVENTIVE MAINTENANCE ASSOCIATED ECCS UNAVAILABILITY

<u>SYSTEM/COMPONENT</u>	<u>YEAR 1</u>	<u>YEAR 2</u>	<u>YEAR 3</u>	<u>YEAR 4</u>	<u>YEAR 5</u>	<u>5 YEAR CUMULATIVE TOTAL</u>
	<u>HOURS</u>	<u>HOURS</u>	<u>HOURS</u>	<u>HOURS</u>	<u>HOURS</u>	<u>HOURS</u>
480 Vital Load Center (Component Cooling & Containment Cooling Components)*		54.0		54.0	24.0	132.0

*PM performed on individual component does not make system (train) unavailable by Technical Specifications.

This data represents single unit equipment unavailability. Two unit data may be obtained by multiplying totals by a factor of 2. One exception to this methodology would be components shared by each unit and marked by (common) to indicate that the totals listed on this attachment would not be adjusted to reflect two unit cumulative unavailability.