

Mr. Charles H. Cruse, Vice President
Nuclear Energy Division
Baltimore Gas and Electric Company
1650 Calvert Cliffs Parkway
Lusby, MD 20657-47027

September 2, 1998

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION FOR THE REVIEW OF THE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NOS. 1 & 2, INTEGRATED PLANT ASSESSMENT REPORTS FOR THE CONTAINMENT ISOLATION GROUP, CONTAINMENT SPRAY SYSTEM, AND PRIMARY CONTAINMENT HEATING AND VENTILATION SYSTEM (TAC NOS. MA0603, MA0604, M99211, MA1038, MA1039, M99221, MA1106, MA1107, AND M99224)

Dear Mr. Cruse:

By letters dated November 14, 1997, January 21, 1998, and March 3, 1998, Baltimore Gas and Electric Company (BGE) submitted for review the Containment Isolation Group (5.5), Containment Spray System (5.6), and Primary Containment Heating and Ventilation System (5.11B) integrated plant assessment technical reports, respectively, as attached to the "Request for Review and Approval of System and Commodity Reports for License Renewal." BGE requested that the Nuclear Regulatory Commission (NRC) staff review reports 5.5, 5.6, and 5.11B to determine if these reports meet the requirements of 10 CFR 54.21(a), "Contents of application-technical information," and the demonstration required by 10 CFR 54.29(a)(1), "Standards for issuance of a renewed license," to support an application for license renewal if BGE applied in the future. By letter dated April 8, 1998, BGE formally submitted its license renewal application.

The NRC staff has reviewed reports 5.5, 5.6, and 5.11B against the requirements of 10 CFR 54.21(a)(1), 10 CFR 54.21(a)(3). By letter dated April 4, 1996, the staff approved BGE's methodology for meeting the requirements of 10 CFR 54.21(a)(2). Based on a review of the information submitted, the NRC staff has identified in the enclosures, areas where additional information is needed to complete its review.

Please provide a schedule by letter or telephonically for the submittal of your responses within 30 days of the receipt of this letter. Additionally, the NRC staff would be willing to meet with BGE prior to the submittal of the responses to provide clarifications of the staff's requests for additional information.

Sincerely,
Original Signed By

David L. Solorio, Project Manager
License Renewal Project Directorate
Division of Reactor Program Management
Office of Nuclear Reactor Regulation

Docket Nos. 50-317 and 50-318

Enclosures: Request for Additional Information (3)

cc w/encls: See next page

DISTRIBUTION:

See next page

DOCUMENT NAME: G:\WORKING\SOLORIO\CI_RAILTR

OFFICE	LA:PDI	PDLR/DRPM	PDLR/DRPM.ASC	PDLR/DRPM.D
NAME	SLittle	DSolorio	BPrato	CGrimes
DATE	8/1/98	8/1/98	8/1/98	8/2/98

NRC FILE CENTER COPY

DFOI/1

OFFICIAL RECORD COPY

9809170275 980902
PDR ADOCK 05000317
P PDR

Mr. Charles H. Cruse
Baltimore Gas & Electric Company
cc:

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. Thomas N. Prichett, 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
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

Calvert Cliffs Nuclear Power Plant
Unit Nos. 1 and 2

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

David Lewis
Shaw, Pittman, Potts, and Trowbridge
2300 N Street, NW
Washington, DC 20037

Douglas J. Walters
Nuclear Energy Institute
1776 I Street, N.W.
Suite 400
Washington, DC 20006-3708
DJW@NEI.ORG

Barth W. Doroshuk
Baltimore Gas and Electric Company
Calvert Cliffs Nuclear Power Plant
1650 Calvert Cliffs Parkway
NEF 1st Floor
Lusby, Maryland 20657

Distribution:
HARD COPY
Docket Files
PUBLIC
PDLR R:F
MEI-Zeftawy

DISTRIBUTION: E-MAIL:

FMiraglia (FJM)
JRoe (JWR)
DMatthews (DBM)
CGrimes (CIG)
TEssig (THE)
GLainas (GCL)
JStrosnider (JRS2)
GHolahan (GMH)
SNewberry (SFN)
GBagchi (GXB1)
RRothman (RLR)
JBrammer (HLB)
CGratton (CXG1)
JMoore (JEM)
MZobler/RWeisman (MLZ/RMW)
SBajwa/ADromerick (SSB1/AXD)
LDoerflein (LTD)
BBores (RJB)
SDroggitis (SCD)
RArchitzel (REA)
Craig (CMC1)
LSpessard (RLS)
RCorreia (RPC)
RLatta (RML1)
EHackett (EMH1)
AMurphy (AJM1)
TMartin (TOM2)
DMartin (DAM3)
GMeyer (GWM)
WMcDowell (WDM)
SStewart (JSS1)
THiltz (TGH)
SDroggitis (SCD)
DSolorio (DLS2)
PDLR Staff

TMarsh (LBM)
GHubbard (GTH)
SLittle (SLL)

REQUEST FOR ADDITIONAL INFORMATION
CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NOS. 1 & 2
CONTAINMENT ISOLATION GROUP
INTEGRATED PLANT ASSESSMENT, SECTION 5.5
DOCKET NOS. 50-317 AND 50-318

Section 5.5.1 - Scoping

1. Clarify whether all the containment isolation valves listed in Table 5-3, "Containment Isolation Valves," of the Calvert Cliffs Nuclear Power Plant Updated Final Safety Analysis Report subject to an aging management review. For any valves that are not, provide the basis for their exclusion.

Section 5.5.2 - Aging Management

2. In Groups 1 and 2 under aging management programs and demonstration of aging management, the statement is made that the occurrence of crevice corrosion, general corrosion, microbiologically induced corrosion, and pitting is expected to be limited and not likely to affect the intended function of the Group 1 and 2 components. Provide the basis for this conclusion.
3. ASME Code Section III, ANSI B31.1 and ANSI B31.7 contain certain fatigue analysis requirements. For ASME Code Class 1 components and ANSI B31.7 piping, the Code requires the calculation of the cumulative usage factor. For ASME Code Class 2 and 3 components, and ANSI B31.1 piping, the Code specifies allowable stress levels based on the number of anticipated transients or thermal cycles. Explain why, in Table 5.5-2, fatigue is not considered as a plausible aging mechanism for the containment isolation (CI) group components, which are designed in accordance with ANSI B31.7 or similar requirements of ASME Code Section III.
4. ASME Code Section XI requires system leakage tests and system hydrostatic tests along with certain visual inspections for Class 2 and 3 components. Describe, in summary form, how these Section XI requirements are applied to CI group components.
5. Are there any parts of the systems, structures, or components described in Section 5.5 that are inaccessible for inspections? 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 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; and (6) Operating experience that provides objective evidence to demonstrate that the effects of aging will be adequately managed.

REQUEST FOR ADDITIONAL INFORMATION
CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NOS. 1 & 2
CONTAINMENT SPRAY SYSTEM
INTEGRATED PLANT ASSESSMENT, SECTION 5.6
DOCKET NOS. 50-317 AND 50-318

Section 5.6.1 - Scoping

1. Section 6.4.2 of the Calvert Cliffs Nuclear Power Plant (CCNPP) Updated Final Safety Analysis Report (UFSAR) states that "It is expected the containment spray will be effective in removing fission products from the containment atmosphere." Discuss why this intended function is not included as part of the system description or the system scoping results in Section 5.6 of the license renewal application (LRA). If this intended function is included, describe the components included within the scope of license renewal and subject to an aging management review. If not, justify why this function is excluded.
2. Discuss why the shutdown cooling intended function, as described in the CCNPP UFSAR is not included as one of the system scoping results in Section 5.6.1.1 of the LRA. If this intended function is included, describe the components included within the scope of license renewal and subject to an aging management review. If not, justify why this function is excluded.
3. Provide the basis for excluding spray nozzles shown in Figure 5.6-1 in Section 5.6.1.1 from the scope of license renewal.
4. Chapter 6 of the CCNPP UFSAR states that the containment spray system supplies the emergency dousing nozzles for the iodine removal units. The ability to put out charcoal fires due to decay heat from buildup of fission products, is normally relied upon at some nuclear power plants as an emergency dousing function. Provide the basis for not including the ability of the containment spray system to supply the emergency dousing nozzles for the iodine removal units as an intended function in Section 5.6.

Section 5.6.2 - Aging Management

5. Are there any parts of the systems, structures, or components described in Section 5.6 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 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; and (6) Operating experience that provides objective evidence to demonstrate that the effects of aging will be adequately managed.

REQUEST FOR ADDITIONAL INFORMATION
CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NOS. 1 & 2
PRIMARY CONTAINMENT HEATING AND VENTILATION SYSTEM
INTEGRATED PLANT ASSESSMENT, SECTION 5.11B
DOCKET NOS. 50-317 AND 50-318

Section 5.11B.1 - Scoping

1. Section 5.11B.1.2 of the LRA states that the portion of the Containment Air Recirculation and Cooling System within scope includes: cooling units, fans, and connecting ductwork up to and including the fusible dropout plates. Section 6.5.5, "Containment Air Recirculation and Cooling System," of the Calvert Cliffs Nuclear Power Plant (CCNPP) Updated Final Safety Analysis Report (UFSAR) states that each fan discharge duct is provided with a fusible link door that opens at an abnormally high containment temperature such as would occur under a loss-of-coolant accident. While Section 6.5.6 of the CCNPP UFSAR also states that the containment air cooler blowdown door fusible links are to be replaced every refueling outage to ensure that the links perform their design function and as a result would not be subject to an aging management review, clarify on what basis were the fusible links excluded from the scope of license renewal.
2. Section 6.5.6, "Containment Air Recirculation and Cooling System," of the UFSAR concludes that water-logging of the cooling units' coils is not a problem because the coil section drainage characteristics were validated by the manufacturer's sizing and test program. For this conclusion to remain valid, the staff believes that to drain condensate would have to be an intended function of the system. If it is an intended function of the system, clarify whether the piping described in Section 6.5.4 of the UFSAR which transfers the condensate leaving the coils to the containment sump and ultimately to the waste processing system is within the scope of license renewal and subject to an aging management review? If not, justify why this function is excluded.
3. Clarify whether the instrument lines are included in the scope of license renewal. 10 CFR 54.21(a)(1)(i) excludes instrumentation from the scope of renewal, in part because the instruments are routinely subjected to surveillance testing. The sample lines to such instruments as pressure transmitters, pressure indicators, water level indicator, and containment atmosphere draw samples (like those described in Section 6.8 of the UFSAR, "Hydrogen Control Systems," are not always tested to the same extent as the associated instruments. If the instrument lines have been excluded from the scope of license renewal, provide the justification for that exclusion with consideration of the foregoing concern.
4. Section 6.8.2, "Electric Hydrogen Recombiner," of the CCNPP UFSAR states that the service life of the recombiners is 40 years. Describe how this component was addressed for license renewal.

5. Section 5.11B.1.3 of the LRA states that the hydrogen recombiner only functions actively. This appears to be inconsistent with Section 6.8.2.3 of the CCNPP UFSAR which states that the recombiner is a completely passive device. Because the recombiner housing acts as a passive holdup volume to allow the containment atmosphere to be heated to a temperature above 1150°F, please provide the basis for considering the hydrogen recombiner to only have active functions and therefore not subject to an aging management review.

Section 5.11B.2 - Aging Management

6. Are there any parts of the systems, structures, or components described in Section 5.5 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 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; and (6) Operating experience that provides objective evidence to demonstrate that the effects of aging will be adequately managed.