

February 23, 1979

Dockets Nos. 50-317  
and 50-318

Mr. A. E. Lundvall, Jr.  
Vice President - Supply  
Baltimore Gas & Electric Company  
P. O. Box 1475  
Baltimore, Maryland 21203

Dear Mr. Lundvall:

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The Commission has issued the enclosed Amendments Nos. 36 and 19 to Facility Operating Licenses Nos. DPR-53 and DPR-69 for the Calvert Cliffs Nuclear Power Plant (CCNPP) Units Nos. 1 and 2. The amendments consist of changes to the plant's common Appendix B Environmental Technical Specifications (ETS) in response to your application dated January 15, 1979.

Your January 15, 1979 application requested our approval of a special study plan to investigate the physical and biological effects of condenser cooling water delta temperature ( $\Delta T$ ) greater than the 10 F limit presently authorized by the ETS. During the 24 months of this special study, the condenser  $\Delta T$  of each CCNPP Unit will be limited to 12 F.

We have reviewed your proposed special study plan and find that it is acceptable and is, therefore, granted for a period of 24 months. On August 5, 1976 and July 29, 1977, we prepared Environmental Impact Appraisals (EIAs) to support similar changes. The enclosed EIA relies extensively on these former appraisals.

These amendments do not involve significant new safety information of a type not considered by a previous Commission safety review of the facility. They do not involve a significant increase in the probability or consequences of an accident, do not involve a significant decrease in a safety margin, and therefore do not involve a significant hazards consideration. We have also concluded that there is reasonable assurance that the health and safety of the public will not be endangered by this action.

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OFFICE						
SURNAME						
DATE						

Mr. A. E. Lundvall, Jr.

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A copy of the Notice of Issuance/Negative Declaration is also enclosed.

Sincerely,

Robert W. Reid, Chief  
Operating Reactors Branch #4  
Division of Operating Reactors

Enclosures:

1. Amendment No. **36** to DPR-53
2. Amendment No. **19** to DPR-69
3. Environmental Impact Appraisal
4. Notice/Negative Declaration

cc w/enclosures:  
See next page

*Notice approved  
on for DPR only  
(notice only)  
2-23-79  
Enclosure only*

OFFICE	ORB#4:DOR	ORB#4:DOR	AD-E&P:DOR	OELD	C-ORB#4:DOR
SURNAME	RIngram	MConner	B. Jones	Exc	RReid
DATE	2/22/79	2/22/79	2/22/79	2/22/79	2/23/79

Baltimore Gas and Electric Company

cc w/enclosure(s):

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Mr. Leon B. Russell, Chief Engineer  
Calvert Cliffs Nuclear Power Plant  
Baltimore Gas and Electric Company  
Lusby, Maryland 20657

Bechtel Power Corporation  
ATTN: Mr. J. C. Judd  
Chief Nuclear Engineer  
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Combustion Engineering, Inc.  
ATTN: Mr. P. W. Kruse, Manager  
Engineering Services  
Post Office Box 500  
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Calvert County Library  
Prince Frederick, Maryland 20678

Director, Department of State Planning  
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Mr. Bernard Fowler  
President, Board of County  
Commissioners  
Prince Frederick, Maryland 20768

Chief, Energy Systems Analyses  
Branch (AW-459)  
Office of Radiation Programs  
U. S. Environmental Protection Agency  
Room 645, East Tower  
401 M Street, S.W.  
Washington, D. C. 20460

U. S. Environmental Protection Agency  
Region III Office  
ATTN: EIS COORDINATOR  
Curtis Building (Sixth Floor)  
Sixth and Walnut Streets  
Philadelphia, Pennsylvania 19106

cc w/4 cys enclosures and 1 cy  
of BG&E filings dtd: 1/15/79

Administrator, Power Plant Siting Program  
Energy and Coastal Zone Administration  
Department of Natural Resources  
Tawes State Office Building  
Annapolis, Maryland 21401



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D. C. 20555

BALTIMORE GAS & ELECTRIC COMPANY

DOCKET NO. 50-317

CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 36  
License No. DPR-53

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by Baltimore Gas & Electric Company (the licensee) dated January 15, 1979, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
  - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
  - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
  - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
  - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

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2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Facility Operating License No. DPR-53 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 36, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of the date of its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

*Morton B. Fairclough*

Robert W. Reid, Chief  
Operating Reactors Branch #4  
Division of Operating Reactors

Attachment:  
Changes to the Technical  
Specifications

Date of Issuance: February 23, 1979

ATTACHMENT TO LICENSE AMENDMENT NO. 36

FACILITY OPERATING LICENSE NO. DPR-53

DOCKET NO. 50-317

Replace page 4.2-1 of the Appendix "B" Technical Specifications with the enclosed page. The revised page is identified by Amendment number and contains a vertical line indicating the area of the change.

## 4.2 Studies to Investigate Alternate Effluent Limitations

### Objective

The purpose of this study is to determine the effect of condenser cooling water  $\Delta T$ 's above  $5.56^{\circ}\text{C}$  ( $10^{\circ}\text{F}$ ) on the physical and/or biological characteristics of the entrained and/or receiving water in the vicinity of the plant.

### Specification

The applicant may wish to conduct special field studies to fulfill the above stated objective. Those field studies may consist of determining the areal extent of the heated water zone and/or biological studies such as fish trawls, oyster and crab studies, productivity studies, and/or entrainment studies. If it is decided to conduct such studies the applicant shall submit a program of study to the NRC along with specific requests to operate in excess of the thermal limitations in Section 2.1 during the period of study for approval. Upon receipt of NRC approval, the units may be operated with a  $\Delta T$  greater than  $5.56^{\circ}\text{C}$  ( $10^{\circ}\text{F}$ ) for a maximum of 24 months from the date of issuance of such approval. During the special studies, the allowed  $\Delta T$  shall be no greater than  $6.68^{\circ}\text{C}$  ( $12^{\circ}\text{F}$ ).

### Basis

The applicant has requested a variance from the thermal limitations of 40 CFR Part 423 as allowed by section 316(a) of the Federal Water Pollution Control Act (PL 92-500). In order to propose alternate effluent limitations the applicant may need to conduct studies during periods when the plant is operating in excess of the limitations in section 2.1. This specification allows these studies to be conducted subject to prior approval of the NRC.



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D. C. 20555

BALTIMORE GAS & ELECTRIC COMPANY

DOCKET NO. 50-318

CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 19  
License No. DPR-69

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by Baltimore Gas & Electric Company (the licensee) dated January 15, 1979, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
  - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
  - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
  - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
  - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Facility Operating License No. DPR-69 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 19, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of the date of its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

*Morton B. Faircliff*

Robert W. Reid, Chief  
Operating Reactors Branch #4  
Division of Operating Reactors

Attachment:  
Changes to the Technical  
Specifications

Date of Issuance: February 23, 1979

ATTACHMENT TO LICENSE AMENDMENT NO. 19

FACILITY OPERATING LICENSE NO. DPR-69

DOCKET NO. 50-318

Replace page 4.2-1 of the Appendix "B" Technical Specifications with the enclosed page. The revised page is identified by Amendment number and contains a vertical line indicating the area of the change.

#### 4.2 Studies to Investigate Alternate Effluent Limitations

##### Objective

The purpose of this study is to determine the effect of condenser cooling water  $\Delta T$ 's above  $5.56^{\circ}\text{C}$  ( $10^{\circ}\text{F}$ ) on the physical and/or biological characteristics of the entrained and/or receiving water in the vicinity of the plant.

##### Specification

The applicant may wish to conduct special field studies to fulfill the above stated objective. Those field studies may consist of determining the areal extent of the heated water zone and/or biological studies such as fish trawls, oyster and crab studies, productivity studies, and/or entrainment studies. If it is decided to conduct such studies the applicant shall submit a program of study to the NRC along with specific requests to operate in excess of the thermal limitations in Section 2.1 during the period of study for approval. Upon receipt of NRC approval, the units may be operated with a  $\Delta T$  greater than  $5.56^{\circ}\text{C}$  ( $10^{\circ}\text{F}$ ) for a maximum of 24 months from the date of issuance of such approval. During the special studies, the allowed  $\Delta T$  shall be no greater than  $6.68^{\circ}\text{C}$  ( $12^{\circ}\text{F}$ ).

##### Basis

The applicant has requested a variance from the thermal limitations of 40 CFR Part 423 as allowed by section 316(a) of the Federal Water Pollution Control Act (PL 92-500). In order to propose alternate effluent limitations the applicant may need to conduct studies during periods when the plant is operating in excess of the limitations in section 2.1. This specification allows these studies to be conducted subject to prior approval of the NRC.



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D. C. 20555

ENVIRONMENTAL IMPACT APPRAISAL BY THE OFFICE OF NUCLEAR  
REACTOR REGULATION

SUPPORTING AMENDMENTS NOS. 36 AND 19

TO FACILITY OPERATING LICENSES NOS. DPR-53 AND DPR-69

BALTIMORE GAS & ELECTRIC COMPANY

CALVERT CLIFFS NUCLEAR POWER PLANT

UNITS NOS. 1 AND 2

DOCKETS NOS. 50-317 AND 50-318

Description of Proposed Action

By letter dated January 15, 1979, Baltimore Gas and Electric Company (BG&E or the licensee) requested revision of the Appendix B Environmental Technical Specifications (ETS) for Calvert Cliffs Nuclear Power Plant Units Nos. 1 and 2. The proposal is to amend Specification 4.2 to allow an environmental study to be conducted for 24 months with the plant operating with an increase in the condenser cooling water delta temperature ( $\Delta T$ ). Specification 4.2 allows special studies to be conducted at higher  $\Delta T$ 's but only for a maximum of 100 hours per year.

BG&E has requested and received approval for this study from the State of Maryland which is the permitting authority for the National Pollutant Discharge Elimination System (NPDES) permit. The change is required to make the ETS consistent with the NPDES permit limitations approved by the State of Maryland in their letter dated January 16, 1979, to Mr. A. E. Lundvall of BG&E.

Evaluation of Potential Impacts

The Commission issued Amendment No. 16 to the license for Calvert Cliffs Unit No. 1 on August 5, 1976, which modified the conditions for special studies associated with main condenser cooling water discharge temperature for about a four month period. Our Environmental Impact Appraisal (EIA) supporting that amendment reviewed the licensee's semi-annual monitoring reports and concluded that the increased  $\Delta T$  of 12 to 14 F, with discharge temperature not to exceed 93 F maximum, would not affect the populations of phytoplankton, zooplankton and ichthyoplankton in the Chesapeake Bay by being entrained through the plant. The conclusion of negligible biological impact was supported primarily by the short duration of the increase in  $\Delta T$  above 10 F, the short exposure time (5 min-

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utes), short generation time for phytoplankton and zooplankton, the low abundance of ichthyoplankton representing "important" species in the site vicinity, and the insignificant amount of water withdrawn by Unit 1 compared to the flow past the site.

On July 29, 1977, the Commission issued Amendments Nos. 23 and 7 for Calvert Cliffs Units Nos. 1 and 2 which deleted the maximum discharge temperature limit of 90 F. We determined that the 90 F limit was based on long exposure time (>24 hours) whereas the exposure time through the plant is approximately 4 minutes. The EIA concluded that this short period of exposure provides a "safety margin" for protecting the biota. Moreover, it was determined that the withdrawal of water, with two unit operation, is only about 2% of the non-tidal surface flow by the plant or about 0.5% of the tidal flow. On this basis, we concluded that no significant changes in the biotic community were predicted outside of the immediate plume.

Our review of the licensee's proposal indicates that it should be granted for a 24 month period. The same factors that were assessed before are pertinent to the current evaluation. These factors are: the still relatively low  $\Delta T$ , the short exposure time through the plant, the short generation time for phytoplankton and zooplankton, and the insignificant amount of water withdrawn by both units. These factors, coupled with the study requirements of the State of Maryland to determine entrainment effects at the higher  $\Delta T$ , ensure that no significant impacts should occur during the study period. A determination of the most suitable  $\Delta T$  for the plant will be made by the State of Maryland after the results of this study are available.

#### Conclusion and Basis for Negative Declaration

On the basis of the foregoing analysis, it is concluded that there will be no environmental impact attributable to the proposed action other than has already been predicted and described in the Commission's FES for Calvert Cliffs Units Nos. 1 and 2. Having made this conclusion, the Commission has further concluded that no environmental impact statement for the proposed action need be prepared and that a negative declaration to this effect is appropriate.

Dated: February 23, 1979

UNITED STATES NUCLEAR REGULATORY COMMISSIONDOCKETS NOS. 50-317 AND 50-318BALTIMORE GAS & ELECTRIC COMPANYNOTICE OF ISSUANCE OF AMENDMENTS TO  
FACILITY OPERATING LICENSES  
AND  
NEGATIVE DECLARATION

The U. S. Nuclear Regulatory Commission (the Commission) has issued Amendments No. 36 and 19 to Facility Operating Licenses Nos. DPR-53 and DPR-69 issued to Baltimore Gas & Electric Company (the licensee), which revised the Technical Specifications for operation of the Calvert Cliffs Nuclear Power Plant, Units Nos. 1 and 2 (the facility), located in Calvert County, Maryland. The amendments are effective as of the date of issuance.

The amendments revise the Appendix B Technical Specifications to allow an environmental study to be conducted for 24 months with each Unit operating at an increase of 2 F in the delta temperature of the condenser cooling water.

The application for the amendments complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations. The Commission has made appropriate findings as required by the Act and the Commission's rules and regulations in 10 CFR Chapter I, which are set forth in the license amendments. Prior public notice of these amendments was not required since the amendments do not involve a significant hazards consideration.

The Commission has prepared an environmental impact appraisal for this action and has concluded that an environmental impact statement is not warranted because there will be no environmental impact attributable to the action other than that which has already been predicted and described in the Commission's Final Environmental Statement for the facility.

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For further details with respect to this action, see (1) the application for amendment dated January 15, 1979, (2) Amendment Nos. 36 and 19 to Licenses Nos. DPR-53 and DPR-69, and (3) the Commission's Environmental Impact Appraisal. All of these items are available for public inspection at the Commission's Public Document Room, 1717 H Street, N. W., Washington, D. C. and at the Calvert County Library, Prince Frederick, Maryland. A copy of items (2) and (3) may be obtained upon request addressed to the U. S. Nuclear Regulatory Commission, Washington, D. C. 20555, Attention: Director, Division of Operating Reactors.

Dated at Bethesda, Maryland this 23rd day of February 1979.

FOR THE NUCLEAR REGULATORY COMMISSION

*Morton B. Fairtile*

Morton B. Fairtile, Acting Chief  
Operating Reactors Branch #4  
Division of Operating Reactors