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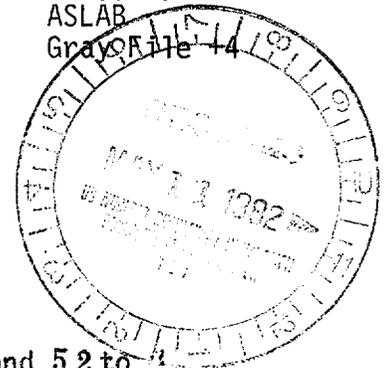
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Docket Nos. 50-317
and 50-318

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



Dear Mr. Lundvall:

The Commission has issued the enclosed Amendments Nos. 69 and 52 to Facility Operating License Nos. DPR-53 and DPR-69 for Calvert Cliffs Nuclear Power Plant, Unit Nos. 1 and 2. These amendments consist of changes to the Appendix A Technical Specifications in response to your application dated October 30, 1981.

These amendments revise the Technical Specifications to increase the maximum allowable number of fuel assemblies in the fuel storage pool from 1760 to 1830 assemblies.

Copies of the Safety Evaluation and Environmental Impact Appraisal and the Notice of Issuance and Negative Declaration are also enclosed.

Sincerely,

Original signed by

David H. Jaffe, Project Manager
Operating Reactors Branch #3
Division of Licensing

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Enclosures:

1. Amendment No. 69 to DPR-53
2. Amendment No. 52 to DPR-69
3. Safety Evaluation and Environmental Impact Appraisal
4. Notice of Issuance and Negative Declaration

cc: See next page

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

DISTRIBUTION:
Docket File
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PMKreutzer

Docket No. 50-317/50-318

Docketing and Service Section
Office of the Secretary of the Commission

SUBJECT: BALTIMORE GAS AND ELECTRIC COMPANY, Calvert Cliffs Nuclear
Power Plant, Units Nos. 1 and 2

Two signed originals of the Federal Register Notice identified below are enclosed for your transmittal to the Office of the Federal Register for publication. Additional conformed copies (12) of the Notice are enclosed for your use.

- Notice of Receipt of Application for Construction Permit(s) and Operating License(s).
- Notice of Receipt of Partial Application for Construction Permit(s) and Facility License(s): Time for Submission of Views on Antitrust Matters.
- Notice of Availability of Applicant's Environmental Report.
- Notice of Proposed Issuance of Amendment to Facility Operating License.
- Notice of Receipt of Application for Facility License(s); Notice of Availability of Applicant's Environmental Report; and Notice of Consideration of Issuance of Facility License(s) and Notice of Opportunity for Hearing.
- Notice of Availability of NRC Draft/Final Environmental Statement.
- Notice of Limited Work Authorization.
- Notice of Availability of Safety Evaluation Report.
- Notice of Issuance of Construction Permit(s).
- Notice of Issuance of Facility Operating License(s) or Amendment(s).

Other: Amendment Nos. 69 and 52
Referenced documents have been provided PDR.

Division of Licensing
Office of Nuclear Reactor Regulation

Enclosure:
As Stated

OFFICE	ORB#3:DLjv					
SURNAME	PMKreutzer/pr					
DATE	5/4/82					

Baltimore Gas and Electric Company

cc:

James A. Biddison, Jr.
General Counsel
Baltimore Gas and Electric Company
P. O. Box 1475
Baltimore, MD 21203

George F. Trowbridge, Esquire
Shaw, Pittman, Potts and Trowbridge
1800 M Street, N. W.
Washington, D. C. 20036

Mr. R. C. L. Olson, Principal Engineer
Nuclear Licensing Analysis Unit
Baltimore Gas and Electric Company
Room 922 - G&E Building
P. O. Box 1475
Baltimore, MD 21203

Mr. Leon B. Russell
Plant Superintendent
Calvert Cliffs Nuclear Power Plant
Maryland Routes 2 & 4
Lusby, MD 20657

Bechtel Power Corporation
Attn: Mr. J. C. Judd
Chief Nuclear Engineer
15740 Shady Grove Road
Gaithersburg, MD 20760

Combustion Engineering, Inc.
Attn: Mr. P. W. Kruse, Manager
Engineering Services
P. O. Box 500
Windsor, CT 06095

Public Document Room
Calvert County Library
Prince Frederick, MD 20678

--- Director, Department of State Planning
301 West Preston Street
Baltimore, MD 21201

Mr. R. M. Douglass, Manager
Quality Assurance Department
Fort Smallwood Road Complex
P. O. Box 1475
Baltimore, MD -21203

Mr. T. L. Syndor, General Supervisor
Operations Quality Assurance
Calvert Cliffs Nuclear Power Plant
Maryland Routes 2 & 4
Lusby, MD 20657

Ms. Mary Harrison, President
Calvert County Board of County Commissioners
Prince Frederick, MD 20768

U. S. Environmental Protection Agency
Region III Office
Attn: Regional Radiation Representative
Curtis Building (Sixth Floor)
Sixth and Walnut Streets
Philadelphia, PA 19106

Mr. Ralph E. Architzel
Resident Reactor Inspector
NRC Inspection and Enforcement
P. O. Box 437
Lusby, MD 20657

Mr. Charles B. Brinkman
Manager - Washington Nuclear Operations
Combustion Engineering, Inc.
4853 Cordell Avenue, Suite A-1
Bethesda, MD 20014

Mr. J. A. Tierman, Manager
Nuclear Power Department
Calvert Cliffs Nuclear Power Plant
Maryland Routes 2 & 4
Lusby, MD 20657

Mr. W. J. Lippold, Supervisor
Nuclear Fuel Management
Baltimore Gas and Electric Company
Calvert Cliffs Nuclear Power Plant
P. O. Box 1475
Baltimore, Maryland 21203

Mr. R. E. Denton, General Supervisor
Training & Technical Services
Calvert Cliffs Nuclear Power Plant
Maryland Routes 2 & 4
Lusby, MD 20657

cc w/enclosure(s) and incoming
dated: 10/30/81

Administrator, Power Plant Siting Program
Energy and Coastal Zone Administration
Department of Natural Resources
Tawes State Office Building
Annapolis, MD 21204

Regional Administrator
Nuclear Regulatory Commission, Region I
Office of Executive Director for Operations
631 Park Avenue
King of Prussia, Pennsylvania 19406



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

BALTIMORE GAS AND ELECTRIC COMPANY

DOCKET NO. 50-317

CALVERT CLIFFS NUCLEAR POWER PLANT UNIT NO. 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 69
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 October 30, 1981, 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-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. 69, 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



Robert A. Clark, Chief
Operating Reactors Branch #3
Division of Licensing

Attachment:
Changes to the
Technical Specifications

Date of Issuance: May 4, 1982

ATTACHMENT TO LICENSE AMENDMENT NO. 69

FACILITY OPERATING LICENSE NO. DPR-53

DOCKET NO. 50-317

Replace the following page of the Appendix A Technical Specifications with the enclosed page as indicated. The revised page is identified by Amendment number and contains vertical lines indicating the area of change. The corresponding overleaf page is also provided to maintain document completeness.

Page

5-5

DESIGN FEATURES

VOLUME

5.4.2 The total water and steam volume of the reactor coolant system is 10,614 ± 460 cubic feet at a nominal T_{avg} of 532°F.

5.5 METEOROLOGICAL TOWER LOCATION

5.5.1 The meteorological tower shall be located as shown on Figure 5.1-1.

5.6 FUEL STORAGE

CRITICALITY - SPENT FUEL

5.6.1 The spent fuel storage racks are designed and shall be maintained with a minimum 10 3/32" x 10 3/32" center-to-center distance between fuel assemblies placed in the storage racks to ensure a k_{eff} equivalent to ≤ 0.95 with the storage pool filled with unborated water. The k_{eff} of ≤ 0.95 includes the conservative allowances for uncertainties described in Section 9.7.2 of the FSAR. The maximum fuel enrichment to be stored in the fuel pool will be 4.1 weight percent.

CRITICALITY - NEW FUEL

5.6.2 The new fuel storage racks are designed and shall be maintained with a nominal 18 inch center-to-center distance between new fuel assemblies such that k_{eff} will not exceed 0.98 when fuel having a maximum enrichment of 4.1 weight percent U-235 is in place and various densities of unborated water are assumed including aqueous foam moderation. The k_{eff} of ≤ 0.98 includes the conservative allowance for uncertainties described in Section 9.7.2 of the FSAR.

DRAINAGE

5.6.3 The spent fuel storage pool is designed and shall be maintained to prevent inadvertent draining of the pool below elevation 63 feet.

CAPACITY

5.6.4 The fuel storage pool is designed and shall be maintained with a combined storage capacity, for both Units 1 and 2, limited to no more than 1830 fuel assemblies.

5.7 COMPONENT CYCLIC OR TRANSIENT LIMITS

5.7.1 The components identified in Table 5.7-1 are designed and shall be maintained within the cyclic or transient limits of Table 5.7-1.

TABLE 5.7-1

COMPONENT CYCLIC OR TRANSIENT LIMITS

<u>Component</u>	<u>Cyclic or Transient Limit</u>	<u>Design Cycle or Transient</u>
Reactor Coolant System	500 heatup and cooldown cycles	70°F to 532°F to 70°F
	400 reactor trip cycles	100% to 0% RATED THERMAL POWER
	10 Primary Hydrostatic Tests	3125 psia and 60°F > NDTT
	320 Primary Leak Tests	2500 psia and 60°F > NDTT
Steam Generator	10 Secondary Hydrostatic Tests	1250 psia Secondary Side and temperature \geq 100°F
	320 Secondary Leak Tests	1000 psia Secondary Side With Primary - Secondary Δ p of 820 psi and shell side temperature between 100°F and 200°F



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

BALTIMORE GAS AND ELECTRIC COMPANY

DOCKET NO. 50-318

CALVERT CLIFFS NUCLEAR POWER PLANT UNIT NO. 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 52
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 October 30, 1981, 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.

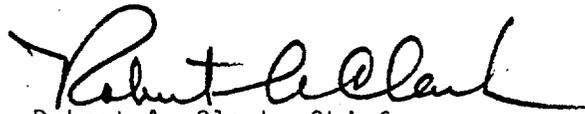
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.2 of Facility Operating License No. DPR-69 is hereby amended to read as follows:

- 2 Technical Specifications

- The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 52, 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



Robert A. Clark, Chief
Operating Reactors Branch #3
Division of Licensing

Attachment:
Changes to the
Technical Specifications

Date of Issuance: May 4, 1982

ATTACHMENT TO LICENSE AMENDMENT NO. 52

FACILITY OPERATING LICENSE NO. DPR-69

DOCKET NO. 50-318

Replace the following page of the Appendix A Technical Specifications with the enclosed page as indicated. The revised page is identified by Amendment number and contains vertical lines indicating the area of change. The corresponding overleaf page is also provided to maintain document completeness.

Page

5-5

DESIGN FEATURES

VOLUME

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5.5 METEOROLOGICAL TOWER LOCATION

5.5.1 The meteorological tower shall be located as shown on Figure 5.1-1.

5.6 FUEL STORAGE

CRITICALITY - SPENT FUEL

5.6.1 The spent fuel storage racks are designed and shall be maintained with a minimum 10 3/32" x 10 3/32" center-to-center distance between fuel assemblies placed in the storage racks to ensure a k_{eff} equivalent to ≤ 0.95 with the storage pool filled with unborated water. The k_{eff} of ≤ 0.95 includes the conservative allowances for uncertainties described in Section 9.7.2 of the FSAR. The maximum fuel enrichment to be stored in the fuel pool will be 4.1 weight percent.

CRITICALITY - NEW FUEL

5.6.2 The new fuel storage racks are designed and shall be maintained with a nominal 18 inch center-to-center distance between new fuel assemblies such that k_{eff} will not exceed 0.98 when fuel having a maximum enrichment of 4.1 weight percent U-235 is in place and various densities of unborated water are assumed including aqueous foam moderation. The k_{eff} of ≤ 0.98 includes the conservative allowance for uncertainties described in Section 9.7.2 of the FSAR.

DRAINAGE

5.6.3 The spent fuel storage pool is designed and shall be maintained to prevent inadvertent draining of the pool below elevation 63 feet.

CAPACITY

5.6.4 The fuel storage pool is designed and shall be maintained with a combined storage capacity, for both Units 1 and 2, limited to no more than 1830 fuel assemblies.

5.7 COMPONENT CYCLIC OR TRANSIENT LIMITS

5.7.1 The components identified in Table 5.7-1 are designed and shall be maintained within the cyclic or transient limits of Table 5.7-1.

TABLE 5.7-1

COMPONENT CYCLIC OR TRANSIENT LIMITS

<u>Component</u>	<u>Cyclic or Transient Limit</u>	<u>Design Cycle or Transient</u>
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	400 reactor trip cycles	100% to 0% RATED THERMAL POWER
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Steam Generator	10 Secondary Hydrostatic Tests	1250 psia Secondary Side and temperature \geq 100°F
	320 Secondary Leak Tests	1000 psia Secondary Side With Primary - Secondary Δp of 820 psi and shell side temperature between 100°F and 200°F



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

SAFETY EVALUATION AND ENVIRONMENTAL IMPACT APPRAISAL BY THE
OFFICE OF NUCLEAR REACTOR REGULATION
SUPPORTING AMENDMENT NOS. 69 AND 52 TO
FACILITY OPERATING LICENSES NOS. DPR-53 AND DPR-69
BALTIMORE GAS AND ELECTRIC COMPANY
CALVERT CLIFFS NUCLEAR POWER PLANT UNIT NOS. 1 & 2
DOCKET NOS. 50-317 AND 50-318

Introduction

By application dated October 30, 1981, the Baltimore Gas and Electric Company (BG&E) requested a change to the Technical Specifications (TSs) for Calvert Cliffs Units 1 and 2. The proposed change to TS 5.6.4 would increase the maximum allowable number of fuel assemblies in the fuel storage pool from 1760 to 1830.

Discussion

On September 19, 1980, the NRC issued License Amendments 47 and 30 for Calvert Cliffs Units 1 and 2, respectively. These license amendments provided NRC approval of BG&E's high-density spent fuel storage design for Calvert Cliffs Units 1 and 2. The maximum spent fuel storage capacity, established at that time, was 1760 fuel assemblies, as stated in TS 5.6.4. During the NRC review of the spent fuel storage rack design, BG&E submitted information supporting the storage of 1830 fuel assemblies. The request to consider the storage of 1830 fuel assemblies, rather than 1760 fuel assemblies, was subsequently withdrawn by letter dated May 20, 1980. In issuing Amendments 47 and 30, the NRC indicated that the associated Safety Evaluation and Environmental Impact Appraisal were prepared considering 1830 fuel assemblies except for the structure analysis review which was based on 1760 fuel storage positions. By application dated October 30, 1981, BG&E reinstated its request to allow storage of 1830 fuel assemblies at Calvert Cliffs Units 1 and 2.

The increase in spent fuel storage capacity, from 1760 to 1830 fuel assemblies, is achieved by a modification to the storage rack module configuration for the Unit 2 "South" fuel storage pool. The modification involves replacement of two 8 X 10 and one 7 X 10 storage modules with three 10 X 10 storage modules. No actual replacement is required since the high density spent fuel storage racks have not yet been installed. This modification will place storage modules over the South cask set-down area which became inaccessible as a result of the high density spent fuel rack module orientation.

The design, fabrication, and installation of the three additional spent fuel storage modules will be as addressed in Amendments 47 and 30. The spent fuel pool will require modification since the cask set-down area and an adjacent trough area are presently at an elevation 2.0 and 1.5 feet below the spent fuel pool floor, respectively. As indicated in BG&E's letter of January 4, 1982, the cask set-down and trough area will be raised to the fuel storage pool floor elevation by using a free-standing structural steel insert. The insert will:

- meet the compression capacity of the existing fuel storage pool floor,
- be designed and fabricated to be compatible with the fuel storage pool environment and to meet all seismic Class I requirements, and
- be designed, fabricated, and installed so as to maintain the integrity of the fuel storage pool liner plate.

With regard to the structural analysis, the spent fuel pool structure was re-evaluated by the licensee based on the increased loads caused by the new high density spent fuel storage racks using ACI-318-63 Code "Building Code Requirements for Reinforced Concrete," with the factored loads specified in Standard Review Plan 3.8.4. By letter dated April 12, 1982, the licensee indicated, for 1830 fuel assemblies, the calculated stresses at critical sections are within the allowable stresses specified in the FSAR.

Based upon the above information we find that the storage of 1830 fuel assemblies at Calvert Cliffs Units 1 and 2 is within the bounds of the safety and environmental considerations addressed in Amendments 47 and 30. Accordingly, no previously unreviewed safety or environmental concerns are related to the storage of 1830 fuel assemblies at Calvert Cliffs Units 1 and 2. It is appropriate, therefore, to amend TS 5.6.4 to increase the maximum allowable number of fuel assemblies in the fuel storage pool from 1760 to 1830 fuel assemblies.

Environmental Impact Appraisal

The Environmental Impact Appraisal (EIA), dated September 19, 1980, issued in support of License Amendments 47 and 30, considered the environmental impact associated with the storage of 1830 fuel assemblies in the spent fuel pools of Calvert Cliffs Units 1 and 2. The September 19, 1980 EIA concluded that,

"We have determined that the proposed license amendment will not significantly affect the quality of the human environment and that there will be no significant environmental impact attributed to the proposed action other than that which has already been predicted and described in the Final Environmental Statement for CCNPP dated April 1973. Therefore, the staff has found that an environmental impact statement need not be prepared, and that pursuant to 10 CFR 51.5(c), the issuance of a negative declaration to this effect is appropriate."

Since we have not authorized a fuel storage limit in excess of 1830 fuel assemblies in the Calvert Cliffs Units 1 and 2 fuel storage pool, the above conclusion is still valid and is herein reaffirmed.

Conclusion

We have concluded, based on the considerations discussed above, that:

- (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and
- (2) such activities will be conducted in compliance with the Commission's regulations and the issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public.

Date: May 4, 1982

Principal Contributor:
D.H. Jaffe

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

The U. S. Nuclear Regulatory Commission (the Commission) has issued Amendment Nos. 69 and 52 to Facility Operating Licenses Nos. DPR-53 and DPR-69, issued to Baltimore Gas and Electric Company (the licensee), which revised the licenses and their appended Technical Specifications for operation of the Calvert Cliffs Nuclear Power Plant, Units Nos. 1 and 2. The amendments are effective as of the date of issuance.

The amendments authorize an increase in the maximum allowable number of fuel assemblies in the fuel storage pool from 1760 to 1830 assemblies.

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. Notice of Consideration of Proposed Modification to Facilities Spent Fuel Storage Pool in connection with this action was published in the Federal Register on February 4, 1982 (47 FR 5372). No request for a hearing or petition for leave to intervene was filed following notice of the proposed action.

- 2 -

The Commission has prepared an environmental impact appraisal of the action being authorized and has concluded that an environmental impact statement for this particular action is not warranted because there will be no environmental impact attributable to the action significantly greater than that which has already been predicted and described in the Commission's Final Environmental Statement for the facility dated April 1973, and the action will not significantly affect the quality of the human environment.

For further details with respect to this action, see (1) the application for amendment date October 30, 1981, (2) Amendment Nos. 69 and 52 to License Nos. DPR-53 and DPR-69, and (3) the Commission's related Safety Evaluation and 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 Licensing.

Dated at Bethesda, Maryland, this 4th day of May, 1982.

FOR THE NUCLEAR REGULATORY COMMISSION



Robert A. Clark, Chief
Operating Reactors Branch #3
Division of Licensing