Docket No. 50-317

FEB 11 1977

Baltimore Gas and Electric Company
ATTN: Mr. A. E. Lundvall, Jr.
Vice President - Supply
Gas and Electric Building
Charles Center
Baltimore, Maryland 21203

See Rpts

Gentlemen:

The Commission has issued the enclosed Amendment No. 20 to Facility Operating License No. DPR-53 for the Calvert Cliffs Nuclear Power Plant Unit No. 1. The amendment: (1) incorporates Standard Technical Specifications (STS) similar to those issued for Unit No. 2 and is in response to your application dated December 20, 1976, (2) adds requirements relating to the Liquified Natural Gas facility at Cove Point and (3) includes the items listed below.

Subject	Date of Application (Supplement)
Inservice Inspection For Steam Generator Tubes	August 30, 1974
Steam Generator Blowdown Orifice Removal	July 8, 1975 (June 2, 1976)
Revise Appendix J Testing Requirements	August 12, 1975 (September 9, 1975 March 4, 1976)
Hydraulic Snubber Surveillance	August 29, 1975 (March 31, 1976)

Your proposed Technical Specifications have been modified to meet our current requirements. These changes have been discussed with representatives of your staff and have been made in the STS.

cont'd

OFFICE					
SURNAME					
DATE					

The proposed STS, as modified, will be effective upon entering Mode 4 (Hot Shutdown) at the completion of the refueling outage which started on January 1, 1977, except Specifications 3.4.1 and 3.10.5, which replace Section 3.5.C. of the existing specifications, are effective upon issuance of the amendment. Specifications 3.4.1 and 3.10.5 will permit modifications to the shutdown cooling system during the current refueling outage. The delayed effective date for the remainder of the specifications will provide sufficient time for revising operating procedures, training of the facility staff, and coordinating operations and maintenance activities of Unit No. 1. The effective dates are in accordance with your December 20, 1976 request and will allow time for scheduled modifications to the shutdown cooling system flow control valve (CV-306) while in Mode 5 (Cold Shutdown).

Section 3.9, Radioactive Materials, has been deleted from the existing Appendix A Technical Specifications and placed in the Appendix B Technical Specifications as Section 2.3 consistent with its placement in Calvert Cliffs Unit No. 2.

Copies of the related Safety Evaluation and the Notice are also enclosed.

Sincerely,

Original Signed by:
Dennis L. Ziemann

Dennis L. Ziemann, Chief
Operating Reactors Branch #2
Division of Operating Reactors

See Rpts

Enclosures:
1. Amendment No. 20 to License No. DPR-53
2. Safety Evaluation
3. Notice

cc w/enclosures:
See next page

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SURNAME➤	EAReeves:ah	RMDiggs	JMMcGough	Kiefer	DLZiemann	
DATE➤	2/4/77	2/10/77	2/2/77	2/8/77	2/11/77	

cc w/enclosures:
James A. Biddison, Jr.
General Counsel
Gas and Electric Building
Charles Center
Baltimore, Maryland 21203

James C. Cawood, Jr., Esquire
Vice President
Chesapeake Environmental
Protection Association
4700 Auth Place
Camp Springs, Maryland 20023

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

Bechtel Power Corporation
ATTN: Mr. R. L. Ashley
Chief Nuclear Engineer
P. O. Box 607
Gaithersburg, Maryland 20760

Combustion Engineering, Inc.
ATTN: Mr. J. A. Honey
Project Manager
P. O. Box 500
Windsor, Connecticut 06095

Mr. R. C. L. Olson
Baltimore Gas and Electric Company
Room 922 Gas and Electric Building
Charles Center
Baltimore, Maryland 21203

Mr. R. M. Douglass, Chief Engineer
Calvert Cliffs Nuclear Power Plant
Baltimore Gas and Electric Company
Lusby, Maryland 20657

Calvert County Library
Prince Frederick, Maryland 20678

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)
6th and Walnut Streets
Philadelphia, Pennsylvania 19106

Mr. Bernard Fowler
President, Board of County
Commissioners
Prince Frederick, Maryland 20678

cc w/enclosures and BG&E filings
referred to in first paragraph
of this letter:
Dr. Paul Massicot, Director
Department of Natural Resources
Power Plant Siting Program
Energy & Coastal Zone Administration
Tawes State Office Building
Annapolis, Maryland 21401

cc w/4 enclosures and 1 cy of BG&E
filings referred to in first
paragraph of this letter:
Director, Department of State Planning
301 West Preston Street
Baltimore, Maryland 21201

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

BALTIMORE GAS AND ELECTRIC COMPANY

DOCKET NO. 50-317

CALVERT CLIFFS UNIT NO. 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 20
License No. DPR-53

1. The Nuclear Regulatory Commission (the Commission) has found that:

   A. The applications for amendment by Baltimore Gas and Electric Company (the licensee) dated August 30, 1974; July 8, 1975 (as modified by letter dated June 2, 1976); August 12, 1975 (as modified by letters dated September 9, 1975 and March 4, 1976); August 29, 1975 (as modified by letter dated March 31, 1976); and December 20, 1976, comply 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 Facility Operating License No. DPR-53 is hereby amended as follows:

   A. Replace in its entirety paragraph 2.C(2) with the following:

      "(2) Technical Specifications

      The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 20, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications."

   B. Add the following new paragraph 2.C(3):

      "(3) Liquified Natural Gas (LNG) Traffic at Cove Point Terminal

      The licensee shall provide one of the following items to the Commission 60 days prior to the initiation of LNG ship traffic at the Cove Point LNG Receiving Terminal:

      a. An analysis to show that the probability of an accident that could affect plant safety due to an LNG tanker approaching closer to the plant than the distances assumed in the safety analyses (discussed in Supplement No. 5 to the Safety Evaluation Report issued August 10, 1976) is acceptably small, as defined in Section 2.2.3 of NUREG-75/087; or

      b. A commitment from the appropriate U. S. Coast Guard Port Authority that administrative limits will be imposed to prevent LNG traffic from approaching Calvert Cliffs Nuclear Plant closer than the distances assumed in the above-referenced analyses.

      In addition, the licensee shall establish a mechanism whereby it will be promptly notified by the U. S. Coast Guard of abnormally dangerous occurrences involving LNG traffic in the vicinity of the Cove Point LNG Receiving Terminal."

3. This license amendment is effective upon entering Mode 4 at the completion of the Cycle 2 refueling outage which started January 1, 1977, except for Specifications 3.4.1 and 3.10.5, which are effective as of the date of issuance of this amendment.

FOR THE NUCLEAR REGULATORY COMMISSION

Dennis L. Ziemann

Dennis L. Ziemann, Chief
Operating Reactors Branch #2
Division of Operating Reactors

Attachment:
Changes to the Technical
Specifications

Date of Issuance: February 11, 1977

ATTACHMENT TO LICENSE AMENDMENT NO. 20

FACILITY OPERATING LICENSE NO. DPR-53

DOCKET NO. 50-317

1. Replace the Appendix A portion of the Technical Specifications in their entirety with the attached revised Appendix A Technical Specifications.

2. Replace pages i and ii of the Table of Contents of the Appendix B portion of the Technical Specifications with the attached revised pages i and ii.

3. Add pages 8a through 8l to the Appendix B portion of the Technical Specifications.

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Amendment No. 20

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2.3 RADIOACTIVE MATERIALS

Applicability: Applies to the controlled release of radioactive liquids and gases from the plant.

Objective: To define the limits and conditions for the controlled release of radioactive effluents to the environs to ensure that these releases are as low as practicable. These releases should not result in radiation exposures in unrestricted areas greater than a few percent of natural background exposures. The instantaneous release rate for all effluent discharges should be within the limits specified in 10 CFR Part 20.

To assure that the releases of radioactive material to unrestricted areas meet the as-low-as-practicable concept, the following objectives apply:

For liquid wastes:

a. The annual total quantity of radioactive materials in liquid waste, excluding tritium and dissolved gases, should not exceed 5 curies per unit.

b. The annual average concentration of radioactive materials in liquid waste, prior to dilution in the environment, excluding tritium and dissolved gases, should not exceed 2×10^{-8} μCi/ml.

c. The annual average concentration of tritium in liquid waste, prior to dilution in the environment, should not exceed 5×10^{-6} μCi/ml.

For gaseous wastes:

The release rate of radioactive isotopes, averaged over a yearly interval, except I-131 and particulate radioisotopes with half lives greater than 8 days, discharged from the plant should not exceed:

$$\sum \frac{Qi}{(MPC)i} \leq 7700 \ m^3/sec$$

where Qi is the annual controlled release rate (Ci/sec) of radioisotope i and (MPC)i (μCi/cc) is defined for radioisotope i in Column 1, Table II of Appendix B to 10 CFR 20.

The release rate of I-131 and other particulate radioisotopes with half lives longer than 8 days, averaged over a yearly interval, discharged from the station, should not exceed:

$$\sum \frac{Qi}{(MPC)i} \leq 220 \ m^3/sec$$

where Qi and (MPC)i are as defined above.

Specification: A. Liquid Effluents

1. The radioactivity release concentrations in liquid effluents from the plant shall not exceed the values specified in 10 CFR Part 20, Appendix B, for unrestricted areas.

2. The release rate of radioactive liquid effluents, excluding tritium and noble gases, shall not exceed 10 curies per unit during any calendar quarter.

3. Steam generator blowdown radioactivity shall be continually recorded and monitored. Whenever the monitor is inoperable, grab samples shall be taken and analyzed at least 5 days per week with detectable concentrations equal to those required for weekly analysis in Table 2.3.1.

4. During release of liquid radioactive wastes, the following conditions shall be met:

   a. The gross activity monitor and recorder on the radwaste effluent line shall be operable.

TABLE 2.3.1

MINIMUM FREQUENCIES FOR SAMPLING TESTS

SAMPLE TYPE	TYPE OF ANALYSIS	FREQUENCY	DETECTABLE CONCENTRATION (15)
1. Reactor Coolant	a. Gross Activity (Radiation Monitor)	Continuous (1)	——
	b. Boron Concentration (Boronometer)	Continuous (2)	——
	c. I-131 equivalent	3 Times/Week	——
	d. F, Cl & O_2	3 Times/Week	——
	e. Boron Concentration	2 Times/Week (3)	——
	f. Tritium Activity	Weekly	——
	g. Gross Activity	Weekly except every 4 hours under conditions described in note (18)	——
	h. Qualitative Gamma Spectral Analysis	Weekly	——
	i. $\bar{E}$ Determination (5)	Semiannually (4)	——
	j. I-131, I-133, I-135 Isotopic Analysis	Every 4 hours under conditions described in note (18)	——
2. Secondary Coolant	I-131 equivalent	Weekly	——
3. Refueling Water Tank	Boron Concentration	Monthly	——
4. Concentrated BA Tanks	Boron Concentration	Monthly	——
5. Safety Injection Tanks	Boron Concentration	Monthly, and after filling tanks	——
6. Spent Fuel Pool	Boron Concentration	Monthly	——
7. Liquid Waste Monitor Tank Releases (16)	a. Gross Beta, Gamma	Each batch (6)	10^{-7} uCi/cc
	b. Dissolved Noble Gases	One batch/month	10^{-5} uCi/cc
	c. Ba-140, La-140, I-131	Weekly Proportional Composite (7)	10^{-6} uCi/cc
	d. Gamma Emitters	Monthly Proportional Composite (7)	10^{-6} uCi/cc (8)
	e. H-3	Monthly Proportional Composite (7)	10^{-5} uCi/cc
	f. Gross Alpha	Monthly Proportional Composite (7)	10^{-7} uCi/cc
	g. Sr-89, Sr-90 (9)	Quarterly Proportional Composite (7)	10^{-8} uCi/cc

TABLE 2.3.1

MINIMUM FREQUENCIES FOR SAMPLING TESTS
(CONT'D)

SAMPLE TYPE	TYPE OF ANALYSIS	FREQUENCY	DETECTABLE CONCENTRATION (15)
8. Steam Generator Blowdown Releases (16)	a. Gross Beta, Gamma	Weekly	10^{-7} uCi/cc
	b. Ba-140, La-140, I-131	Weekly	10^{-6} uCi/cc
	c. Dissolved Noble Gases	One Sample/Month	10^{-4} uCi/cc
	d. Gamma Emitters	Monthly Proportional Composite (10)	10^{-6} uCi/cc (8)
	e. H-3	Monthly Proportional Composite (10)	10^{-5} uCi/cc
	f. Gross Alpha	Monthly Proportional Composite (10)	10^{-7} uCi/cc
	g. Sr-89, Sr-90 (9)	Quarterly Proportional Composite (10)	10^{-8} uCi/cc
	h. (17)	Continuously	(17)
9. Gas Decay Tank Releases (16)	a. H-3	Each Tank Release	10^{-6} uCi/cc
	b. Individual Gamma Emitters	Each Tank Release	10^{-4} uCi/cc (8)
10. Containment Purge Releases (16)	a. H-3	Each Purge	10^{-6} uCi/cc
	b. Individual Gamma Emitters	Each Purge	10^{-4} uCi/cc (8)
11. Condenser Vacuum Pump Releases (16)	a. H-3	Quarterly	10^{-2} uCi/sec
	b. Individual Gamma Emitters	Monthly	10 uCi/sec
	c. (11)	Continuously	----
12. Environmental Release Points (16)	a. (12)	Continuously	----
(Gas)	b. Individual Gamma Emitters	Monthly (13)	10 uCi/sec
(Gas)	c. H-3	Monthly (13)	10^{-2}uCi/sec
(Charcoal)	d. I-131, I-133, I-135	Weekly (14)	10^{-4}uCi/sec
(Particulates)	e. Gross Beta, Gamma	Weekly	10^{-5}uCi/sec
(Particulates)	f. Ba-140, La-140, I-131	Weekly (14)	10^{-4}uCi/sec
(Particulates)	g. Gross Beta, Gamma	Monthly Composite of Weekly Samples	10^{-5}uCi/sec
(Particulates)	h. Individual Gamma Emitters	Monthly Composite of Weekly Samples	10^{-4}uCi/sec
(Particulates)	i. Sr-89, Sr-90	Quarterly Composite of Monthly Samples	10^{-5}uCi/sec
(Particulates)	j. Gross Alpha	Quarterly Composite of Monthly Samples	10^{-5}uCi/sec

b. The effluent control monitc shall be set to alarm and automatically close the waste discharge valve prior to exceeding the limits specified in 2.3.A.1 above.

c. Liquid waste radioactivitiy shall be continuously monitored and recorded during release, and the total volume released shall be recorded.

5. The equipment installed in the liquid radioactive waste system shall be maintained and operated to process all liquids prior to their discharge when the activity release rate will exceed 1.25 curies per unit during any calendar quarter, excluding tritium and dissolved gases.

6. The maximum activity to be contained in one liquid radwaste tank that can be readily discharged directly to the environs shall not exceed 10 curies, excluding tritium and dissolved gases.

7. When the release rate of radioactive effluents, excluding tritium and noble gases, exceeds 2.5 curies per unit during any calendar quarter, the licensee shall notify the Director, Directorate of Licensing, within 30 days, identifying the causes and describing the proposed program of action to reduce such release rates.

8. Local ground water users will be warned of any inadvertent liquid releases that could contaminate their wells.

Basis: Liquid radioactive waste release levels to unrestricted areas should be kept as low as practicable and are not to exceed the concentration limits specified in 10 CFR Part 20. These levels provide reasonable assurance that the resulting annual exposure to the whole body or any organ of an individual will not exceed 5 millirems per year. At the same time, these specifications permit the flexibility of operation, compatible with considerations of health and safety, to assure that the public is provided a dependable source of power under unusual operating conditions which may temporarily result in releases higher

than the design objective levels but still within the concentration limits specified in 10 CFR Part 20. It is expected that, by using this operational flexibility under unusual operation conditions and exerting every effort to keep levels of radioactive material in liquid wastes as low as practicable, the annual releases will not exceed a small fraction of the annual average concentration limits specified in 10 CFR Part 20.

The design objectives have been developed based on operating experience, taking into account a combination of variables including fuel failures, primary system leakage, primary-to-secondary system leakage, and the performance of the various waste-treatment systems.

Specification 2.3.A.1 requires the licensee to limit the concentration of radioactive materials in liquid effluents from the plant to levels specified in 10 CFR Part 20, Appendix B, for unrestricted areas. This specification provides assurance that no member of the general public can be exposed to liquids containing radioactive materials in excess of limits considered permissible under the Commission's rules and regulations.

Specification 2.3.A.2 establishes an upper limit for the release of radioactive liquid effluents, excluding tritium and dissolved gases, of 10 curies per unit during any calendar quarter. The intent of this specification is to permit the licensee the flexibility of operation to assure that the public is provided a dependable source of power under unusual operating conditions which may temporarily result in releases higher than the levels normally achievable when the plant and the liquid radwaste equipment are functioning as designed. The licensee has shown that releases of up to 10 curies per unit during any calendar quarter will result in concentrations of radioactive material in liquid effluents at small percentages of the limits specified in 10 CFR Part 20.

Specification 2.3.A.3 requires the monitoring of the steam generator blowdown, which may be a major source of activity released to the environment, to assure operational attention to excessive releases from this source.

Specification 2.3.A.4 requires that suitable equipment to dilute and monitor the releases of radioactive materials in liquid effluents is operating during any period these releases are taking place.

Specification 2.3.A.5 requires that the licensee shall maintain and operate the equipment installed in the radwaste system to reduce the release of radioactive materials in liquid effluents to as low as practicable consistent with the requirements of 10 CFR Part 50.36a. Normal use and maintenance of installed equipment in the liquid radioactive system is expected to result in releases of not more than about 5 curies per year per unit, excluding tritium and dissolved gases during normal operation. To keep releases of radioactive materials as low as practicable, the specification requires, as a minimum, operation of equipment whenever the rate of release exceeds 1.25 curies/quarter per unit, excluding tritium and dissolved gases.

Specification 2.3.A.6 limits the amount of radioactivity that may be inadvertently released to the environment to an amount that will not exceed the design objective.

In addition to the limiting conditions for operation listed under Specification 2.3.A.2, the reporting requirements of Specification 2.3.A.7, in addition to the requirements of Section 6, delineate that the licensee shall identify the cause whenever the release rate of radioactive effluents, excluding tritium and noble gases, exceeds 2.5 curies per unit during any calendar quarter and describe the proposed program of action to reduce such release rate. This report must be filed within 30 days following the calendar quarter in which the 2.5 curies/unit release occurred.

B. Airborne Effluents

1. The instantaneous release rate of gross activity, except for I-131 and particulates with half-lives longer than eight days, shall not exceed

$$\sum \frac{Qi}{(3.85X10^5)(MCP)i} \leq 1$$

where Qi is the release rate in Ci/sec for isotope i and MPCi is the maximum permissible concentration of isotope i as defined in Appendix B, Table II, Column 1, 10 CFR 20.

2. The release rate from the main vents of I-131 and particulates with half-lives greater than eight days released to the environs as part of airborne effluents shall not exceed 2.0 μCi/sec. (I-131 equivalent).

3. a. The release rates of gross gaseous activity shall not exceed 16 percent of the values specified in 2.3.B.1 above when averaged over any calendar quarter.

   b. The release rate of I-131 and particulates shall not exceed 8% of the value specified in 2.3.B.2 above when averaged over any calendar quarter.

   c. The release rates of gross gaseous activity shall not exceed 8% of the values specified in 2.3.B.1 above when averaged over any 12 consecutive months.

   d. The release rates of I-131 and particulates shall not exceed 4% of the value specified in 2.3.B.2 above when averaged over any 12 consecutive months.

4. During release of gaseous wastes from the waste gas decay tanks, the following conditions shall be met:

   a. The gross activity monitor, the iodine adsorption device, and particulate activity monitor shall be operable.

   b. Automatic isolation devices capable of limiting gaseous release rates to within the values specified in 2.3.B.1 and 2.3.B.2, above, shall be operable.

5. The activity and radioactive materials in all gaseous wastes released to the environment shall be monitored and recorded according to Table 2.3.1.

   a. For effluent streams being released continuously, the flow rate shall be measured continuously and recorded.

   b. For effluent streams being released by batches, the release volume shall be determined and recorded.

6. Prior to purging the containment, the internal recirculation system shall be operated to reduce I-131 concentration to occupational MPC levels as specified in 10 CFR 20 Appendix B, Table I.

7. The maximum activity to be contained in one gas decay tank shall not exceed 58,500 curies (equivalent to Xe-133).

8. When the annual projected release rate of radioactive materials in gaseous wastes, averaged over a calendar quarter, exceeds twice the annual objectives, the licensee shall notify the Director, Division of Operating Reactors, within 30 days, identifying the causes and describing the proposed program of action to reduce such release rates.

Basis: The specified levels provided reasonable assurance that the resulting annual exposure rate from noble gases at any location at the site boundary will not exceed 10 millirems per year. At the same time, these specifications permit the flexibility of operation, compatible with considerations of health and safety, to assure that the public is provided a dependable source of power under unusual operating conditions which may temporarily result in releases higher than the design objective levels but still within the concentration limits specified in 10 CFR Part 20. It is expected that using this operational flexibility under unusual operating conditions, and by exerting every effort to keep levels of radioactive material in gaseous wastes as low as practicable, the annual releases will not exceed a small fraction of the annual average concentration limits specified in 10 CFR Part 20. These efforts should include consideration of meterological conditions during releases.

The design objectives have been developed taking into account a combination of system variables including fuel failures, primary system leakage, primary to secondary leakage, steam generator blowdown, and the performance of radioisotope-removal mechanisms.

The release rate of noble gases stated in the objectives will limit the concentration to less than 2% of 10 CFR Part 20 requirements at the site restricted area boundary (< 10 mrem per year). The I-131 and particulate release rate stated in the objectives would limit the concentration at nearby dairy farms to less than 1/70,000 of the 10 CFR Part 20 levels.

The as-low-as-practicable gaseous release objectives are based on guidelines that have not been adopted as yet. The

release objectives of these specifications will be reviewed at the time Appendix I of 10CFR Part 50 becomes a regulation to assure that these specifications are based on the guidelines contained therein.

Specification 2.3.B.1 requires the licensee to limit the concentration of radioactive materials in gaseous effluents from the station to levels specified in 10 CFR Part 20, Appendix B, for unrestricted areas. This specification provides assurance that no member of the general public can be exposed to limits containing radioactive materials in excess of limits specified in the Commission's rules and regulations.

Specification 2.3.B.2 requires the licensee to limit the concentration of I-131 and particulates with half-lives greater than eight days released from the plant to 1/700 of the levels of 10 CFR Part 20, Appendix B, for unrestricted areas. This reduction factor of 700 is arbitrarily applied to I-131 and to all radionuclides in particulate form with a half-life greater than 8 days to allow for the milk-exposure pathway. The release rate is determined by

$$\sum \frac{Qi}{(MPC)i} \leq \frac{M^3/sec}{X/Q \times 700}$$

where Qi and MPC are defined in 3.9.B.1. The X/Q value is derived from the annual average meteorological data.

Specification 2.3.B.3 establishes an upper limit for the release of gaseous activity at 16% of instantaneous release limit of gross activity and 8% of the release rate of I-131 and particulates with half lives greater than 8 days averaged over any calendar quarter, and 8% and 4%, respectively, when averaged over any 12 consecutive months. The intent of this specification is to permit the licensee the flexibility of operation to assure that the public is provided a dependable source of power under unusual operating conditions which may temporarily result in higher releases than the objectives. The licensee has shown that gaseous releases will result in a small fraction of doses specified in 10 CFR Part 20.

Specification 2.3.B.4 requires that suitable equipment to dilute and monitor the radioactive gaseous releases are operating during any period these releases are taking place.

Specification 2.3.B.6 limits the radioactivity that may be released to the environment to as low as practicable.

Specification 2.3.B.7 limits the maximum offsite dose to well below the limits of 10 CFR Part 100, postulating that the rupture of a waste gas decay tank holding the maximum activity releases all of contents to the atmosphere.

In addition to the limiting conditions for operation listed under 2.3.B.1, 2.3.B.2, and 2.3.B.3, the reporting requirements of Specification 2.3.B.8 delineate that the licensee shall identify the cause whenever the radioactive gaseous release rate exceeds twice the annual design objective averaged over a calendar quarter and describe the proposed program of action to reduce such release rate. The report must be filed within 30 days following the calendar quarter in which more than twice the design release rate occurred.

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NO. 20 TO LICENSE NO. DPR-53

BALTIMORE GAS AND ELECTRIC COMPANY

CALVERT CLIFFS NUCLEAR POWER PLANT UNIT NO. 1

DOCKET NO. 50-317

INTRODUCTION

By application for license amendment dated December 20, 1976, Baltimore Gas and Electric Company (BG&E) requested a change to the Technical Specifications for Calvert Cliffs Unit No. 1. The proposed change would incorporate Standard Technical Specifications (STS) to supersede the existing Appendix A specifications and to make the Unit No. 1 specifications similar to the STS now in use for Unit No. 2. In addition, the following changes would be incorporated in the STS:

Subject	Date of Application (Supplement)
Inservice Inspection For Steam Generator Tubes	August 30, 1974
Steam Generator Blowdown Orifice Removal	July 8, 1975 (June 2, 1976)
Revise Appendix J Testing Requirements	August 12, 1975 (September 9, 1975 March 4, 1976)
Hydraulic Snubber Surveillance	August 29, 1975 (March 31, 1976)

DISCUSSION

The licensee has operated Calvert Cliffs Unit No.1 in accordance with Technical Specifications which were issued with the Facility Operating License in 1974. Calvert Cliffs Unit No. 2 which was recently granted an Operating License has the upgraded STS. The proposed STS for Unit No. 1 are similar to the existing Technical Specifications of Unit No. 2.

The proposed Technical Specifications will incorporate the following changes previously requested by BG&E but modified to meet our current requirements. These modifications have been discussed with representatives of BG&E, and they have agreed with the changes.

1. Steam Generator Tube Inspection Program per Regulatory Guide 1.83,

2. Revised Containment Leakage Rate Testing per 10 CFR 50, Appendix J,

3. Surveillance testing of hydraulic snubbers,

4. Revised surveillance testing of installed filter systems per Regulatory Guide 1.52 and ANSI-N510-1975 and

5. Secondary water chemistry monitoring.

BG&E and the NRC staff are in agreement that the proposed new STS should become effective at the beginning of hot shutdown conditions following the refueling outage which started on January 1, 1977, except for Specifications 3.4.1 and 3.10.5 which will be effective the date of issuance of this amendment.

Requirements relating to the Liquified Natural Gas facility at Cove Point will also be added to the Unit No. 1 license. These requirements are the same as stated in the Unit No. 2 license and representatives of BG&E have agreed to their incorporation in the Unit No. 1 license.

EVALUATION

Standard Technical Specifications

We have evaluated the proposed STS for Unit No. 1 to verify that all requirements of the present Technical Specifications significant to reactor safety are retained. In addition, we assured that new requirements were added, where necessary, to clearly specify: 1) the systems and components which must be operable; 2) the limits that must be satisfied under various plant conditions; 3) when the reactor must be shutdown or power limited; and 4) the type and frequency of testing and checking to demonstrate the operability of safety related equipment and to verify compliance with specified limits. Our evaluation

was based on existing information on the Calvert Cliffs docket, including the Final Safety Analysis Report (FSAR), as amended; reports of operational experience; the Technical Specifications recently issued for Unit No. 2; and current Commission requirements.

The proposed STS were written to conform to the format of the Combustion Engineering (CE) STS. The close conformance is expected to ease utilization of the Technical Specifications for operations and regulation especially since Unit No. 1 and Unit No. 2 share a common control room.

During our review we noted that the specification relating to radioactive materials (Section 3.9 of the existing Technical Specifications) should be included in the Appendix B Technical Specifications rather than Appendix A. Therefore, Section 3.9 would become Section 2.3 of Appendix B. This change is consistent with the Appendix B Technical Specifications of Unit No. 2.

The proposed STS set forth the requirements and limitations for safe reactor operation in the current CE STS format for power reactors and in conformance with Section 50.36(c) of 10 CFR Part 50. This format includes:

1. Definitions of key terms used in the specifications,

2. Delineation of Safety Limits and Limiting Safety System Settings for those process variables important to reactor safety,

3. Delineation of the Limiting Conditions for Operation which define the lowest acceptable performance level for equipment and the prerequisite conditions for continued operation,

4. Surveillance requirements for equipment which is essential to reactor safety,

5. Description of those facility Design Features which are important to reactor safety, and

6. Administrative Controls required for safe facility operation.

Our evaluation of the changes to each of these revised sections of the Technical Specifications is discussed below:

Section 1.0 - Definitions

This section includes standard definitions of terms used in the CE STS modified as necessary to the Calvert Cliffs Unit No. 1 design.

Section 2.0 - Safety Limits and Limiting Safety System Settings

The proposed STS include Safety Limits and bases as required to emphasize the importance and purpose of each requirement. The Safety Limits are listed in two categories, those related to the integrity of the fuel cladding and those related to the integrity of the reactor coolant system.

Safety Limits on thermal power levels are designed to assure the integrity of fuel cladding. The thermal power limits are specified as a relationship between the observable parameters of reactor power, reactor coolant temperature, and reactor coolant pressure, to assure that minimum departure from nucleate boiling (DNBR) is greater than 1.30 in the operating range, including anticipated operational transients. The heat transfer correlations used are the same as those on which the present Technical Specifications are based. The criteria for selection of the limit are the same as those presently set in other reactors; i.e., that DNBR will not be less than 1.30 in any fuel rod in the core during normal plant opertion, including anticipated transients.

The Safety Limit for reactor coolant system pressure is specified to assure the integrity of the reactor coolant system. This limit conforms with the approved ASME Boiler and Pressure Vessel Code. The designation of reactor coolant system pressure as the Safety Limit related to reactor coolant system integrity is in conformance with our practice for other pressurized water reactors.

Limiting Safety System Settings (LSSS) are specified to provide assurance that the Safety Limits will not be exceeded. The specified setpoints are the same as required by the present Technical Specifications except as noted below. LSSS related to Loss of Turbine and High Rate of Change of Power have been added. Although the accident analysis does not take credit for the new LSSS, the LSSS will enhance the overall reliability of the Reactor Protective System and are acceptable.

Limiting Conditions For Operation and Surveillance Requirements

The Limiting Conditions For Operation (LCO) and Surveillance Requirements (SR) in the proposed STS are based on the FSAR, as amended, and the present Technical Specifications. Additions were made to account for operating experience; guidance provided by Regulatory Guides, where applicable; regulations and current Commission requirements. The most significant improvements in the proposed STS are clear delineation of actions to be taken in the event that required conditions cannot be met; testing of systems and equipment important to safety; and verification of compliance with specified limits.

Sections 3/4.1 Reactivity Control Systems

These sections contain LCO's and SR's for reactivity control, boration systems, and control element assemblies. These LCO's are consistent with current Commission requirements and include all requirements of the present Technical Specifications. SR's on types and frequency of tests to demonstrate compliance with the LCO's, generally not included in the present Technical Specifications, have also been added to the proposed STS consistent with our current requirements.

Sections 3/4.2 Power Distribution Limits

These sections contain LCO's and SR's limiting reactor power distribution. The peak linear heat generation rate limit is that which was included in the Commission Order dated June 17, 1976. The surveillance requirements are the same as in the present Technical Specifications. LCO's and SR's for DNB parameters have been added. These are limits that are defined in the Calvert Cliffs FSAR which are currently required in CE STS. SR's on type and frequency of tests to demonstrate compliance with the LCO's which exist in the present Technical Specifications have been augmented, where required. SR's have also been added for new LCO's, consistent with our current requirements.

Sections 3/4.3 Instrumentation

These sections contain LCO's and SR's for the Reactor Protective Instrumentation, the Engineered Safety Feature Actuation System (ESFAS) instrumentation, and for other instrumentation required for safety. These LCO's are consistent with current requirements and include all requirements of the present Technical Specifications.

LCO's have been added which require radiation monitors and meteorological instrumentation with significant safety related functions to be operable.

The Reactor Protective Instrumentation and ESFAS instrumentation LCO's and SR's are generally the same as but more explicitly stated than in the present Technical Specifications. Requirements for channel operability and testing have been increased in cases where redundancy is minimal. The ECCS trip setpoints are the same as specified in the present Technical Specifications. SR's on types and frequency of tests to demonstrate compliance with the LCO's which exist in the present Technical Specifications have been augmented, where required, and SR's have also been added for new LCO's, consistent with current requirements.

Sections 3/4.4 Reactor Coolant System

The requirements of these LCO's are generally the same as but more explicit than in the present Technical Specifications.

These sections contain LCO's and SR's for reactor coolant system operation, pressurizer safety valves, the pressurizer, leakage detection and limits, reactor coolant chemistry and specific activity, reactor coolant system and pressurizer pressure/temperature limits, and reactor coolant system structural integrity.

The reactor coolant system pressure/temperature LCO and SR are based on Appendix G to 10 CFR Part 50. By letter dated April 21, 1976, BG&E responded to our concerns relating to compliance with Appendix G as expressed in our letter of February 23, 1976. BG&E reviewed the specified pressure-temperature limits for heatup and cooldown operations, system hydrostatic tests and reactor core criticality against the requirements of Appendix G to 10 CFR 50 and found no changes required. Subsequently, during development of the CE STS for Unit No. 2, revised curves were developed for both Unit No. 2 and Unit No. 1. The most conservative curve was then proposed by BG&E for use on both units for consistency of operations.

The curves showing pressure-temperature limits were developed using the calculational procedures required by Appendix G to 10 CFR Part 50, and detailed in Appendix G to Section III of the ASME Boiler and Pressure Vessel Code. We have evaluated these limits using Standard Review Plan 5.3.2 as a guide, and conclude that the pressure-temperature limits comply with the requirements of Appendix G to 10 CFR Part 50. Furthermore, the radiation effects are required by the STS to be periodically re-evaluated and the limits revised as necessary per SR 4.4.9.1.2.

The inservice inspection requirements for ASME Code Class 1, 2 and 3 components and the inservice testing of ASME Code Class 1, 2 and 3 pumps and valves conform as far as practicable to the requirements of Section XI of the ASME Boiler and Pressure Vessel Code and thus they are acceptable as an interim program until the beginning of the next 40-month period as specified in paragraph (g) of 10 CFR 50.55a, issued on February 12, 1976. The next 40-month period begins on September 8, 1978. By letter dated May 19, 1976, BG&E agreed to update the inservice inspection program Technical Specifications on or before March 8, 1978. Furthermore, by letter of November 24, 1976, the staff provided additional guidance to BG&E in the form of "NRC Staff Guidance For Complying With Certain Provisions of 10 CFR 50.55a(g), Inservice Inspection Requirements". This document is intended to clarify the proper methods for implementing the regulation in several important areas. We advised BG&E to submit a description of their planned inspection and testing programs, as well as any request for relief from ASME Code requirements determined to be impractical for the facility. BG&E will periodically update this program where practicable to comply with later Section XI requirements with due consideration to physical access. This compliance will constitute an acceptable basis for satisfying the requirements of General Design Criteria 32, Appendix A of 10 CFR Part 50.

The LCO's are consistent with our current requirements and include all requirements of the present Technical Specifications. SR's on types and frequency of tests to demonstrate compliance with the LCO's included in the present Technical Specifications have been augmented, where required, consistent with current requirements.

Sections 3/4.5 Emergency Core Cooling Systems

These sections contain LCO's and SR's for the safety injection tanks, ECC Subsystems, and the sources of safety injection borated water. The LCO's contained in these sections are similar to but more explicit than those in the present Technical Specifications. SR's on type and frequency of tests to demonstrate compliance with the LCO's included in the present Technical Specifications have been augmented, where required, consistent with current requirements.

Sections 3/4.6 Containment Systems

These sections contain LCO's and SR's for containment integrity, containment leak rate, air locks, internal pressure and temperature, structural integrity, depressurization and cooling, iodine removal, isolation valves, combustible gas control and penetration room exhaust air filtration. These LCO's include all the requirements in the present Technical Specifications but are more explicit. LCO's have been added which limit containment internal pressure and temperature during operation. SR's on types

and frequency of tests to demonstrate compliance with the LCO's which exist in the present Technical Specifications have been augmented, where required, and SR's have also been added for new LCO's, consistent with current requirements. SR's have been added to require iodine removal filters and penetration room exhaust air filters be tested per ANSI N510-1975. This is in accordance with Regulatory Guide 1.52 and meets our current requirements.

By letters dated August 12, 1975, September 9, 1975 and March 4, 1976, BG&E responded to our concerns relating to compliance with 10 CFR 50 Appendix J requirements. The review results revealed only four tests of globe valves (identified as Type 5 tests) which when tested were seated by test pressure and unseated by the postulated accident pressure. By letter of March 4, 1976, BG&E advised that modifications would be accomplished during the first refueling outage (currently underway) to allow tests per Appendix J requirements. BG&E corrected Table 4.5.2 "Local Leak Testing of Containment Isolation Valves" in their submittal of March 4, 1976. This table shows six gate valves (identified as Type 6) which would be tested in the non-accident pressure direction.

Since the method of testing for Type 6 tests does not appear to conservatively establish the leakage rate, we will require BG&E to meet either of the following two requirements:

a. develop and have available at the plant, documented justification which demonstrates that the leakage rates obtained from the tests will be the equivalent or conservative with respect to that which may occur during an accident; or

b. modify the respective systems such that they are in compliance with paragraph III.C.1 of Appendix J, 10 CFR Part 50.

The proposed STS would then fully conform with the requirements of Appendix J except for the local leak test of airlock doors. By letter dated September 25, 1974 and License Amendment No. 2, the Commission exempted the licensee from performing Type B tests on the containment airlock door seals after each entry. However, such tests are required after each opening or every three days, whichever interval is longer.

Sections 3/4.7 Plant Systems

These sections contain LCO's and SR's for main steam safety valves, auxiliary feedwater supply, secondary system activity, main steam line isolation, secondary water chemistry, steam generator pressure/temperature limits, component cooling water systems, service and salt water systems, control room emergency ventilation system, ECCS pump room exhaust air filtration system, hydraulic snubbers and sealed source contamination. These LCO's are consistent with current requirements and include all requirements of the present Technical Specifications and are more explicit. LCO's and SR'S which have been added involve the following:

1. Hydraulic Snubbers

   By letter dated August 29, 1975, modified by letter of March 31, 1976, BG&E proposed Technical Specifications for hydraulic snubbers based on concerns expressed in our letters of July 11, 1975 and December 16, 1975. The proposed specifications have been modified, where required, to be consistent with Unit No. 2 specifications and our current requirements.

2. Secondary Water Chemistry

   By letter dated September 28, 1976, in response to our request dated August 20, 1976, BG&E agreed to the secondary water chemistry requirements delineated in our model technical specifications. Therefore, LCO's and SR's consistent with our requirements on secondary water chemistry have been added to control total cation conductivity, total specific conductivity and pH.

3. Inservice Inspection of Steam Generator Tubes

   General Design Criteria (GDC) 30 and 32 of Appendix A to 10 CFR Part 50 require that components that are part of the reactor coolant pressure boundary receive periodic inspection and testing of critical areas to assess their structural and leaktight integrity. The steam generator tubes constitute over 50% of the area of the total primary system pressure-retaining boundary in pressurized water reactors.

   By letter dated August 30, 1974, BG&E proposed Technical Specifications for "Inservice Inspection Program for Steam Generator Tubes" based on our letter of August 6, 1974. The proposed requirements were based upon Regulatory Guide (RG) 1.83 except that the first inspection was to coincide with the first refueling outage (which commenced January 1, 1977). Since the proposal was submitted, RG 1.83 has been revised; therefore, we have modified the proposal to be consistent with specifications recently issued for Unit No. 2 and our latest requirements.

Both the original and revised RG 1.83 refer to a tube plugging limit and plugging criteria, but neither provides guidance on how these are to be quantified. The plugging limit in the Technical Specifications is based on the minimum tube wall thickness needed to maintain tube integrity during a LOCA combined with a safe shutdown earthquake and an operational allowance to account for time intervals between inspections. We have concluded that plugging limits that are based on these considerations satisfy the requirements of the GDC and are acceptable to us.

Steam generator tube leakage can be an indication of tube degradation; therefore, we have concluded that a leakage limit and a LCO should be included in the Technical Specifications to assure timely action in the event of steam generator tube degradation. The leakage limit of 1 gpm meets our current requirements, is consistent with the CE STS and is acceptable.

4. Exhaust Air Filters

SR's were added for testing the control room emergency ventilation and the ECCS pump room exhaust air filters per ANSI N510-1975. This is in accordance with Regulatory Guide 1.52 and meets our current requirements for this generic concern.

SR's on types and frequency of tests to demonstrate compliance with LCO's which exist in the present Technical Specifications have been augmented, where required, and SR's have also been added for new LCO's, consistent with current requirements.

Sections 3/4.8 Electrical Power Systems

These sections contain LCO's and SR's for offsite and onsite electrical power systems, including the diesel generator supplied onsite AC system and the battery supplied onsite AC/DC system. The requirements of these LCO's are generally the same as but more explicitly stated than in the present Technical Specifications. These LCO's are consistent with current requirements and include all requirements of the present Technical Specifications. LCO's have been added which require certain portions of the electrical power systems to be operable during all shutdown conditions.

SR's on types and frequency of tests to demonstrate compliance with the LCO's which are included in the present Technical Specifications have been augmented, where required, and SR's have also been added for new LCO's, consistent with current requirements.

Sections 3/4.9 Refueling

These sections satisfy special requirements during the refueling mode to minimize the likelihood of inadvertent criticality, to assure adequate monitoring during core change operations, and to assure adequate shielding and cooling of the irradiated fuel. The LCO's and SR's involve requirements during refueling related to reactivity conditions, boron concentration, neutron monitoring, decay time, containment penetrations, communications, reactor vessel and spent fuel pit water levels, fuel pool ventilation, refueling equipment and reactor coolant circulation. Most of these requirements were included in the present Technical Specifications and are consistent with current requirements.

SR's on type and frequency of tests to demonstrate compliance with the LCO's which are included in the present Technical Specifications have been augmented, where required, and SR's have also been added for new LCO's, consistent with our current requirements.

SR's were added for testing the spent fuel pool ventilation system filters per ANSI N510-1975. This is in accordance with Regulatory Guide 1.52 and meets our current requirements for this generic concern.

Sections 3/4.10 Special Test Exceptions

These sections provide the same special exceptions as those permitted in the present Technical Specifications under which certain requirements may be temporarily waived to permit performance of certain required tests. Compensating safety restrictions have been added.

The normal requirements which may be temporarily waived include shutdown margin and moderator temperature coefficient limits, control rod group height and insertion limits, and reactor coolant flow requirements. The compensating safety restrictions that have been added include increased frequency of verification of compliance with other specifications, power restrictions, and reduced Reactor Protective Instrumentation setpoints.

SR's on types and frequency of tests to demonstrate compliance with the LCO's have been added consistent with current requirements.

Section 5.0 - Design Features

The Design Features section contains significant design information in the following subject areas: site, reactor core, reactor coolant system

emergency core cooling system, containment, fuel storage, and component cyclic or transient limits. The subject areas are selected in accordance with 10 CFR Part 50.36(c)(4) and contain only those design features which, if altered or modified, would have a significant effect on safety and are not covered by other sections of the proposed STS.

Section 6.0 - Administrative Controls

The Administrative Controls section contains provisions relating to organization and management, procedures, record keeping, review and audit, and reporting necessary to assure operation of the facility in a safe manner. All requirements of the present Technical Specifications have been retained and new requirements have been added, where necessary, consistent with current requirements and considering that Unit No. 1 and No. 2 share a common control room.

Steam Generator Blowdown Orifice Removal

By letter dated July 8, 1975, BG&E proposed changes related to steam generator chemistry control and operation of the steam generator blowdown system including removal of the blowdown orifice. As a result of our initial review of the proposal and discussions with BG&E personnel, BG&E modified the original proposals by letter dated June 2, 1976.

The June 2, 1976 letter provided revisions to the FSAR Section 10A "High Energy Pipe Ruptures Outside Containment". The revisions extended the previously approved dynamic analysis of the high pressure part of the steam generator blowdown piping to the blowdown tank. The previous analysis had included only piping from the steam generator to the isolation valve immediately upstream of the pressure reducing orifice in each line. A bypass line around each orifice provides a means of increasing blowdown during startup and at other times when unsatisfactory chemistry control may require higher than normal blowdowns. The current Technical Specifications limit the use of the bypass flow since the previously approved high energy pipe break analysis was limited in scope.

On the basis of our evaluation of information provided, we have concluded that:

1. Removal of the orifices from each steam generator blowdown line is justified by the revised analysis. This action will not result in unacceptable safety consequences.

2. All safety systems that would be exposed to the environment created by the postulated pipe break are either adequately protected or are qualified for the resulting environment.

3. There would be insufficient energy released if the blowdown line should break to cause a hazard to any structures either by pipe whip or pressurization.

4. Removal of the orifices will allow the increased blowdown necessary to maintain improved steam generator chemistry control.

Therefore, the Technical Specifications which limited use of the bypass flow is no longer needed and has not been included in the STS.

During a discussion of the blowdown submittals with licensee representatives on August 12, 1976, problems relating to freezing of the plant vent radiation monitoring sample line were discussed. The licensee considered the problems to be caused by the venting of the steam generator blowdown tank to the plant vent during startup and shutdown. Their intention as stated in the July 8, 1975 submittal was to vent the blowdown tank directly to atmosphere instead of through the plant vent. This action would be unacceptable to the staff without additional radiation sampling. Since other facilities have installed a heater on the sampling line to correct the reported problem, BG&E should consider this approach to correct the problem. In addition, the licensee should refer to ANSI Standard N13.1 "Guide to Sampling Airborne Radioactive Materials in Nuclear Facilities" for guidance relating to sampling to assure that representative iodine samples are being obtained. Otherwise, sampling line condensation may occur in the unheated line during cold weather conditions and result in obtaining nonrepresentative samples.

Liquified Natural Gas (LNG) Traffic at Cove Point Terminal

Our evaluation of BG&E's analysis of the effects on the nuclear plants (Unit No. 1 and No. 2) at Calvert Cliffs of hypothetical LNG accidents is included as Section 2.0 of Supplement No. 5 dated August 10, 1976 to the Safety Evaluation Report issued in Docket No. 50-318 for Unit No. 2. Although the evaluation was done during the licensing review for Unit No. 2 the LNG review is common to both units. Therefore, the license conditions which were made applicable to Unit No. 2 are equally applicable to Unit No. 1. Therefore, these conditions are being added to the license of Unit No. 1.

ENVIRONMENTAL CONSIDERATION

We have determined that the amendment does not authorize a change in effluent types or total amounts nor an increase in power level and will not result in any significant environmental impact. Having made this determination, we have further concluded that the amendment involves an action which is insignificant from the standpoint of environmental impact and pursuant to 10 CFR §51.5(d)(4) that an environmental impact statement or negative declaration and environmental impact appraisal need not be prepared in connection with the issuance of this amendment.

CONCLUSION

We have concluded, based on the considerations discussed above, that: (1) because the amendment does not involve a significant increase in the probability or consequences of accidents previously considered and does not involve a significant decrease in a safety margin, the amendment does not involve a significant hazards consideration, (2) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (3) 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: February 11, 1977

UNITED STATES NUCLEAR REGULATORY COMMISSION

DOCKET NO. 50-317

BALTIMORE GAS AND ELECTRIC COMPANY

NOTICE OF ISSUANCE OF AMENDMENT TO FACILITY OPERATING LICENSE

The U. S. Nuclear Regulatory Commission (the Commission) has issued Amendment No. 20 to Facility Operating License No. DPR-53, issued to Baltimore Gas and Electric Company (the licensee), which revised the license and its appended Technical Specifications for operation of the Calvert Cliffs Nuclear Power Plant Unit No. 1 (the facility) located in Calvert County, Maryland. The amendment is effective upon entering Mode 4 at the completion of the Cycle 2 refueling outage which started January 1, 1977, except for Specifications 3.4.1 and 3.10.5, which are effective as of the date of issuance of this amendment.

The amendment incorporated Standard Technical Specifications (STS) for operation of the facility that are similar to the STS being issued for other nuclear power facilities of this type and adds requirements related to the Liquified Natural Gas facility at Cove Point. The STS supersede previously issued Technical Specifications for the facility. The STS added requirements for steam generator tube inspection, surveillance testing of hydraulic snubbers, and secondary water chemistry monitoring, and revised the requirements for containment leakage rate consistent with the requirements of Appendix J of 10 CFR Part 50 of the Commission's regulations and surveillance testing of the air filter systems.

The applications for the amendment comply 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 amendment. Prior public notice of this amendment was not required since the amendment does not involve a significant hazards consideration.

The Commission has determined that the issuance of this amendment will not result in any significant environmental impact and that pursuant to 10 CFR §51.5(d)(4) an environmental impact statement or negative declaration and environmental impact appraisal need not be prepared in connection with issuance of this amendment.

For further details with respect to this action, see (1) the applications for amendment dated August 30, 1974; July 8, 1975 (as modified by letter dated June 2, 1976); August 12, 1975 (as modified by letters dated September 9, 1975 and March 4, 1976); and August 29, 1975 (as modified by letter dated March 31, 1976), and December 20, 1976, (2) Amendment No. 20 to License No. DPR-53, and (3) the Commission's related Safety Evaluation. 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 20678. A single 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 11th day February, 1977.

FOR THE NUCLEAR REGULATORY COMMISSION

Dennis L. Ziemann

Dennis L. Ziemann, Chief
Operating Reactors Branch #2
Division of Operating Reactors