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

June 10, 1991

Docket Nos. 50-317
and 50-318

Mr. G. C. Creel
Vice President - Nuclear Energy
Baltimore Gas and Electric Company
Calvert Cliffs Nuclear Power Plant
MD Rts. 2 & 4
P. O. Box 1535
Lusby, Maryland 20657

Dear Mr. Creel:

SUBJECT: ISSUANCE OF AMENDMENTS FOR CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 1 (TAC NOS. 69238 AND 69246) AND UNIT NO. 2 (TAC NOS. 69239 AND 69247)

The Commission has issued the enclosed Amendment No. 154to Facility Operating License No. DPR-53 and Amendment No.134 to Facility Operating License No. DPR-69 for the Calvert Cliffs Nuclear Power Plant, Unit Nos. 1 and 2, respectively. The amendments consist of changes to the Technical Specifications in response to your application transmitted by letter dated June 16, 1988, as supplemented December 4, 1989.

The amendments provide two changes to the Technical Specifications (TSs). TSs 4.6.2.1.a.2, which requires verificaton that the valves in the Containment Spray System flow path are positioned to take suction from the refueling water tank upon receipt of a containment pressure high test signal, is changed. The change excludes those valves in the flow path which are locked, sealed, or otherwise secured in position from the verification requirement. The second change is TSs 4.7.11.1.2.c which provides surveillance requirements to demonstrate the operability of the fire pump diesel engine. The change removes the requirement to perform the surveillance when the reactors are shut down, thus allowing the surveillance to be performed within the specified time interval regardless of the operating status of the reactor units.

A copy of the related Safety Evaluation is enclosed. A Notice of Issuance will be included in the Commission's next regular biweekly Federal Register notice.

Sincerely,

Daniel G. McDonald, Senior Project Manager
Project Directorate I-1
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Enclosures:
1. Amendment No. 154to DPR-53
2. Amendment No. 134to DPR-69
3. Safety Evaluation

cc w/enclosures:
See next page

cc:

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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. 154
License No. DPR-53

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

   A. The application for amendment by Baltimore Gas and Electric Company (the licensee) dated June 16, 1988, as supplemented on December 4, 1989, 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. 154, 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 and shall be implemented within 30 days.

FOR THE NUCLEAR REGULATORY COMMISSION

Robert A. Capra

Robert A. Capra, Director
Project Directorate I-1
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: June 10, 1991

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. 134
License No. DPR-69

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

   A. The application for amendment by Baltimore Gas and Electric Company (the licensee) dated June 16, 1988, as supplemented on December 4, 1989, 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.134 , 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 and shall be implemented within 30 days.

FOR THE NUCLEAR REGULATORY COMMISSION

Robert A. Capra

Robert A. Capra, Director
Project Directorate I-1
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: June 10, 1991

ATTACHMENT TO LICENSE AMENDMENTS

AMENDMENT NO. 154 FACILITY OPERATING LICENSE NO. DPR-53

AMENDMENT NO. 134 FACILITY OPERATING LICENSE NO. DPR-69

DOCKET NOS. 50-317 AND 50-318

Revise Appendix A as follows:

Remove Pages	Insert Pages
3/4 6-10	3/4 6-10
3/4 7-67 (DPR-53 only)*	3/4 7-67 (DPR-53 only)*
3/4 7-68 (DPR-53 only)	3/4 7-68 (DPR-53 only)
3/4 7-60 (DPR-69 only)	3/4 7-60 (DPR-69 only)

*Pages that did not change, but are overlief

3/4.6.2 DEPRESSURIZATION AND COOLING SYSTEMS

CONTAINMENT SPRAY SYSTEM

LIMITING CONDITION FOR OPERATION

3.6.2.1 Two independent containment spray systems shall be **OPERABLE** with each spray system capable of taking suction from the RWT on a Containment Spray Actuation Signal and Safety Injection Actuation Signal and automatically transferring suction to the containment sump on a Recirculation Actuation Signal. Each spray system flow path from the containment sump shall be via an **OPERABLE** shutdown cooling heat exchanger.

APPLICABILITY: **MODES** 1, 2, and 3*.

ACTION:

With one containment spray system inoperable, restore the inoperable spray system to **OPERABLE** status within 72 hours or be in at least **HOT STANDBY** within the next 6 hours and in **COLD SHUTDOWN** within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.6.2.1 Each containment spray system shall be demonstrated **OPERABLE**:

a. At least once per 31 days by:

1. Verifying that upon a Recirculation Actuation Test Signal, the containment sump isolation valves open and that a recirculation mode flow path via an **OPERABLE** shutdown cooling heat exchanger is established.

2. Verifying that each valve (manual, power operated, or automatic) in the flow path that is not locked, sealed or otherwise secured in position is positioned to take suction from the RWT on a Containment Pressure-High test signal.

* With pressurizer pressure $\geq$ 1750 psia.

3/4.6.2 DEPRESSURIZATION AND COOLING SYSTEMS

CONTAINMENT SPRAY SYSTEM

LIMITING CONDITION FOR OPERATION

3.6.2.1 Two independent containment spray systems shall be **OPERABLE** with each spray system capable of taking suction from the RWT on a Containment Spray Actuation Signal and Safety Injection Actuation Signal and automatically transferring suction to the containment sump on a Recirculation Actuation Signal. Each spray system flow path from the containment sump shall be via an **OPERABLE** shutdown cooling heat exchanger.

APPLICABILITY: **MODES** 1, 2, and 3*.

ACTION:

With one containment spray system inoperable, restore the inoperable spray system to **OPERABLE** status within 72 hours or be in at least **HOT STANDBY** within the next 6 hours and in **COLD SHUTDOWN** within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.6.2.1 Each containment spray system shall be demonstrated **OPERABLE**:

a. At least once per 31 days by:

1. Verifying that upon a Recirculation Actuation Test Signal, the containment sump isolation valves open and that a recirculation mode flow path via an **OPERABLE** shutdown cooling heat exchanger is established.

2. Verifying that each valve (manual, power operated, or automatic) in the flow path that is not locked, sealed or otherwise secured in position is positioned to take suction from the RWT on a Containment Pressure-High test signal.

* With pressurizer pressure $\geq$ 1750 psia.

SURVEILLANCE REQUIREMENTS

4.7.11.1.1 The fire suppression water system shall be demonstrated **OPERABLE:**

a. At least once per 7 days by verifying the contained water supply volume.

b. At least once per 31 days on a **STAGGERED TEST BASIS** by starting the electric motor driven pump and operating it for at least 15 minutes. This test shall be performed on a **STAGGERED TEST BASIS** with the test required by 4.7.11.1.2.a.2.

c. At least once per 31 days by verifying that each valve (manual, power operated or automatic) in the flow path that is not locked, sealed, or otherwise secured in position, is in its correct position.

d. At least once per 12 months by performance of a system flush of the filled portions of the system.

e. At least once per 12 months by cycling each testable valve in the flow path through at least one complete cycle of full travel.

f. At least once per 18 months by performing a system functional test which includes simulated automatic actuation of the system throughout its operating sequence, and:

1. Verifying that each automatic valve in the flow path actuates to its correct position,

2. Verifying that each pump develops at least 2500 gpm at a discharge pressure of 125 psig,

3. Verifying that each high pressure pump starts (sequentially) to maintain the fire suppression water system pressure $\geq$ 80 psig.

g. At least once per refueling interval by: (1) performing a flow test of the system in accordance with Chapter 5, Section 11 of the Fire Protection Handbook, 14th Edition, published by the National Fire Protection Association, and (2) performing a system functional test which includes simulated automatic actuation of the system throughout its operating sequence and cycling each valve in the flow path that is not testable during plant operation through at least one complete cycle of full travel.

SURVEILLANCE REQUIREMENTS (Continued)

4.7.11.1.2 The fire pump diesel engine shall be demonstrated **OPERABLE**:

a. At least once per 31 days by verifying:

1. The diesel fuel oil day storage tank contains at least 174 gallons of fuel, and

2. The diesel starts from ambient conditions and operates for at least 30 minutes. This test shall be performed on a **STAGGERED TEST BASIS** with the test required by Specification 4.7.11.1.1.b.

b. At least once per 92 days by verifying that a sample of diesel fuel from the fuel storage tank, obtained in accordance with ASTM-D270-65, is within the acceptable limits specified in Table 1 of ASTM D975-74 when checked for viscosity, water and sediment.

c. At least once per 18 months by:

1. Subjecting the diesel to an inspection in accordance with procedures prepared in conjunction with its manufacturer's recommendations for the class of service, and

2. Verifying the diesel starts from ambient conditions on the auto-start signal and operates for $\geq$ 20 minutes while loaded with the fire pump.

4.7.11.1.3 The fire pump diesel starting 24-volt battery bank and charger shall be demonstrated **OPERABLE**:

a. At least once per 7 days by verifying that:

1. The electrolyte level of each battery is above the plates, and

2. The overall battery voltage is $\geq$ 24 volts.

b. At least once per 92 days by verifying that the specific gravity is appropriate for continued service of the battery.

c. At least once per 18 months by verifying that:

1. The batteries, cell plates and battery racks show no visual indication of physical damage or abnormal deterioration, and

2. The battery-to-battery and terminal connections are clean, tight, free of corrosion and coated with anti-corrosion material.

SURVEILLANCE REQUIREMENTS (Continued)

4.7.11.1.2 The fire pump diesel engine shall be demonstrated **OPERABLE**:

a. At least once per 31 days by verifying:

1. The diesel fuel oil day storage tank contains at least 174 gallons of fuel, and

2. The diesel starts from ambient conditions and operates for at least 30 minutes. This test shall be performed on a **STAGGERED TEST BASIS** with the test required by Specification 4.7.11.1.1.b.

b. At least once per 92 days by verifying that a sample of diesel fuel from the fuel storage tank, obtained in accordance with ASTM-D270-65, is within the acceptable limits specified in Table 1 of ASTM D975-74 when checked for viscosity, water and sediment.

c. At least once per 18 months by:

1. Subjecting the diesel to an inspection in accordance with procedures prepared in conjunction with its manufacturer's recommendations for the class of service, and

2. Verifying the diesel starts from ambient conditions on the auto-start signal and operates for $\geq$ 20 minutes while loaded with the fire pump.

4.7.11.1.3 The fire pump diesel starting 24-volt battery bank and charger shall be demonstrated **OPERABLE**:

a. At least once per 7 days by verifying that:

1. The electrolyte level of each battery is above the plates, and

2. The overall battery voltage is $\geq$ 24 volts.

b. At least once per 92 days by verifying that the specific gravity is appropriate for continued service of the battery.

c. At least once per 18 months by verifying that:

1. The batteries, cell plates and battery racks show no visual indication of physical damage or abnormal deterioration, and

2. The battery-to-battery and terminal connections are clean, tight, free of corrosion and coated with anti-corrosion material.

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 154 TO FACILITY OPERATING LICENSE NO. DPR-53

AND AMENDMENT NO. 134 TO FACILITY OPERATING LICENSE NO. DPR-69

BALTIMORE GAS AND ELECTRIC COMPANY

CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NOS. 1 AND 2

DOCKET NOS. 50-317 AND 50-318

1.0 INTRODUCTION

By letter dated June 16, 1988, as supplemented on December 4, 1989, the Baltimore Gas and Electric Company (the licensee) submitted a request for changes to the Calvert Cliffs Nuclear Power Plant, Unit Nos. 1 and 2, Technical Specifications (TS). The first change would modify TS 4.6.2.1.a.2 which requires verification that the valves in the Containment Spray System flow path are positioned to take suction from the refueling water tank upon receipt of a containment pressure high test signal. The change excludes those valves in the flow path which are locked, sealed, or otherwise secured in position from the verification requirement. The second change modifies TS 4.7.11.1.2.c which provides surveillance requirements to demonstrate the operability of the fire pump diesel engine. The change removes the requirement to perform the surveillance when the reactors are shut down, thus allowing the surveillance to be performed in the specified time interval regardless of the operating status of the reactor units.

The licensee's June 16, 1988, submittal requested five specific TS changes. This safety evaluation only addressees change request numbers 4 and 5 as described above. The other three requests have been previously acted upon. The December 4, 1989, submittal provided a copy of the procedure used by the licensee to provide the administrative control requirements for locked valves and was included in our initial no significant hazards consideration determination.

2.0 EVALUATION

The current TSs require that all the valves in the Containment Spray System flow path be verified to be in position to take suction from the refueling water tank upon receipt of a containment pressure high signal to assure operability. The requested change will exclude those valves which are locked, sealed, or otherwise secured in position. The licensee indicated, and we verified, that valves which are locked sealed or otherwise secured in position are already excluded from the verification requirement for the Emergency Core Cooling System, Component Cooling Water System, Service Water System, and the Salt Water System.

The licensee provided a copy of the procedure used to define the administrative controls required for locked valves. The procedure provides: the criteria for locking valves; the acceptable methods used to lock valves; tagging requirements; surveillance requirements; and record keeping requirements. The procedure, Calvert Cliffs Instruction 309B, Locked Valves, would be applicable to the Containment Spray System valves which would be excluded from the current TS requirement to verify their position at least once every 31 days.

We have determined that the exclusion of those valves which are locked, sealed, or otherwise secured in position from the surveillance requirement of TS 4.6.2.1.a.2 is acceptable. This change will make the surveillance requirements for the Containment Spray System consistent with the other safety-related systems identified above and administrative controls for the locked valves are included in the Calvert Cliffs Instruction 309B to provide reasonable assurance the valves will be properly positioned.

The second request is to delete the requirement that the 18-month surveillance test on the fire pump's diesel engine be done only when the units are shutdown. The licensee noted that the shutdown conflicts with the current 24-month refueling cycles and would require a dual unit outage since the diesel-driven 2500 gpm fire pump is shared between both units. A redundant 2500 gpm fire pump is also shared by both units and is electrically-driven to provide diversity. Additionally, the fire main distribution system has the capability to place back-up fire pumps on the system to establish the necessary redundancy during periods of extended maintenance on any of the primary fire equipment. The two back-up pumps, one electrically-driven and one diesel-driven, are each rated at 1500 gpm. They are both placed in-service when any of the primary pumps are taken out-of-service. The licensee further indicates that administrative controls are in place to ensure that preventive maintenance is not simultaneously performed on both the primary and back-up pumps. The flow from one back-up pump can meet the design flow requirements of the fire suppression system.

We have determined that deleting the requirement of TS 4.7.11.1.2.c to perform the 18-month surveillance tests on the diesel-driven fire pump only when the units are shut down is acceptable. This determination is based on the design of the fire suppression system, as discussed above, and greater risk of a fire when the units are shut down and the conflicting 18-month shutdown requirement with the current 24-month fuel cycles. As noted in the licensee's request, the type of activities and materials being used during shutdown periods (i.e., electrical work, welding, testing, and the use of combustibles) increases the likelihood of a fire.

3.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Maryland State official was notified of the proposed issuance of the amendments. The State official had no comments.

4.0 ENVIRONMENTAL CONSIDERATION

The amendments change a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20, and changes to surveillance requirements. The NRC staff has determined that the amendments involve no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendments involve no significant hazards consideration, and there has been no public comment on such finding (55 FR 2431). Accordingly, the amendments meet the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b) no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendments.

5.0 CONCLUSION

The Commission has 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, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendments will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor:

D. McDonald

Date: June 10, 1991

A copy of the related Safety Evaluation is enclosed. A Notice of Issuance will be included in the Commission's next regular biweekly Federal Register notice.

Sincerely,

ORIGINAL SIGNED BY:

Daniel G. McDonald, Senior Project Manager
Project Directorate I-1
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Enclosures:
1. Amendment No. 154 to DPR-53
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3. Safety Evaluation

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