

JAN 14 1985

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

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Dear Mr. Lundvall:

The Commission has issued the enclosed Amendment Nos. 97 and 79 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 Technical Specifications in partial response to your applications dated April 9 and June 29, 1984.

The amendments change the Technical Specifications to reflect (1) a change to the surveillance requirements for fire pumps to allow an alternate test method; (2) correction of a typographical error in a Unit 1 fire pump surveillance test; (3) clarification and correction of a typographical error concerning fire hose stations; (4) clarification of operability requirements for the component cooling water system; (5) clarification of valve surveillance for component cooling, service water and salt water systems; and (6) provision for backup instrumentation for the remote shutdown, wide range neutron flux instrumentation.

A copy of the related Safety Evaluation is enclosed. The notice of issuance will be included in the Commission's next monthly Federal Register notice.

Sincerely,

Original signed by:

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

Enclosures:

1. Amendment No. 97 to DPR-53
2. Amendment No. 79 to DPR-69
3. Safety Evaluation

cc w/enclosure:
See next page

ORB#3:DL
PMKreutzer
12/3/84

ORB#3:DL
DJaffe:dd
12/24/84

ORB#3:DL
JRMiller
12/26/84

OELD
12/27/84
1/2/85

AD:OR:DL
GCLainas
12/11/85



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. 97
License No. DPR-53

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The applications for amendment by Baltimore Gas & Electric Company (the licensee) dated April 9 and June 29, 1984, 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 applications, 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.

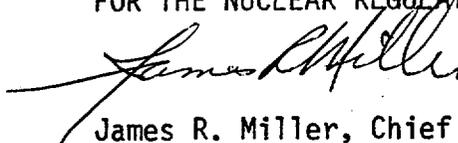
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Facility Operating License No. DPR-53 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 97, 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



James R. Miller, Chief
Operating Reactors Branch #3
Division of Licensing

Attachment:
Changes to the Technical
Specifications

Date of Issuance: January 14, 1985

ATTACHMENT TO LICENSE AMENDMENT NO. 97

FACILITY OPERATING LICENSE NO. DPR-53

DOCKET NO. 50-317

Replace the following pages of the Appendix "A" Technical Specifications with the enclosed pages. The revised pages are identified by Amendment number and contain vertical lines indicating the areas of change. The corresponding overleaf pages are provided to maintain document completeness.

Pages

3/4 3-38
3/4 7-14
3/4 7-15
3/4 7-16
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INSTRUMENTATION

REMOTE SHUTDOWN INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.3.5 The remote shutdown monitoring instrumentation channels shown in Table 3.3-9 shall be OPERABLE with readouts displayed external to the control room.

APPLICABILITY: MODES 1, 2 and 3.

ACTION:

- a. With the number of OPERABLE remote shutdown monitoring channels less than required by Table 3.3-9, either restore the inoperable channel to OPERABLE status within 30 days, or be in HOT SHUTDOWN within the next 12 hours.
- b. The provisions of Specification 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.3.3.5 Each remote shutdown monitoring instrumentation channel shall be demonstrated OPERABLE by performance of the CHANNEL CHECK and CHANNEL CALIBRATION operations at the frequencies shown in Table 4.3-6.

TABLE 3.3-9

REMOTE SHUTDOWN MONITORING INSTRUMENTATION

<u>INSTRUMENT</u>	<u>READOUT LOCATION</u>	<u>MEASUREMENT RANGE</u>	<u>MINIMUM CHANNELS OPERABLE</u>
1. Wide Range Neutron Flux	1C43*	0.1 cps-200% power*	1*
2. Reactor Trip Breaker Indication	Cable Spreading Room	OPEN-CLOSE	1/trip breaker
3. Reactor Coolant Cold Leg Temperature	1C43	212-705°F	1
4. Pressurizer Pressure	1C43	0-4000 psia	1
5. Pressurizer Level	1C43	0-360 inches	1
6. Steam Generator Pressure	1C43	0-1200 psig	1/steam generator
7. Steam Generator Level	1C43	-401 to +63.5 inches	1/steam generator

*When the 1C43 instrumentation is inoperable, the wide range neutron flux monitors located in the auxiliary feedwater pump room may be utilized to meet this requirement. During the period when the instruments are utilized to meet the above requirement, they will be subject to the surveillance requirements of Table 4.3-6.

PLANT SYSTEMS

3/4.7.2 STEAM GENERATOR PRESSURE/TEMPERATURE LIMITATION

LIMITING CONDITION FOR OPERATION

3.7.2.1 The temperatures of both the primary and secondary coolants in the steam generators shall be $> 80^{\circ}\text{F}$ when the pressure of either coolant in the steam generator is > 200 psig.

APPLICABILITY: At all times.

ACTION:

With the requirements of the above specification not satisfied:

- a. Reduce the steam generator pressure of the applicable side to < 200 psig within 30 minutes, and
- b. Perform an engineering evaluation to determine the effect of the overpressurization on the structural integrity of the steam generator. Determine that the steam generator remains acceptable for continued operation prior to increasing its temperatures above 200°F .

SURVEILLANCE REQUIREMENTS

4.7.2.1 The pressure in each side of the steam generators shall be determined to be < 200 psig at least once per hour when the temperature of either the primary or secondary coolant $< 80^{\circ}\text{F}$.

PLANT SYSTEMS

3/4.7.3 COMPONENT COOLING WATER SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.3.1 At least two component cooling water loops shall be OPERABLE. At least one component cooling water heat exchanger shall be operating and the remaining component cooling water heat exchanger may be in standby.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With only one component cooling water loop OPERABLE, restore at least two loops 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

4.7.3.1 At least two component cooling water loops shall be demonstrated OPERABLE:

- a. 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.
- b. At least once per 18 months during shutdown, by verifying that each automatic valve servicing safety related equipment actuates to its correct position on a Safety Injection Actuation test signal.

PLANT SYSTEMS

3/4.7.4 SERVICE WATER SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.4.1 At least two independent service water loops shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With only one service water loop OPERABLE, restore at least two loops 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

- 4.7.4.1 At least two service water loops shall be demonstrated OPERABLE:
- a. 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.
 - b. At least once per 18 months during shutdown, by verifying that each automatic valve servicing safety related equipment actuates to its correct position on Safety Injection Actuation and Containment Spray Actuation test signals.

PLANT SYSTEMS

3/4.7.5 SALT WATER SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.5.1 At least two independent salt water loops shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With only one salt water loop OPERABLE, restore at least two loops 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

4.7.5.1 At least two salt water loops shall be demonstrated OPERABLE:

- a. 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.
- b. At least once per 18 months during shutdown, by verifying that each automatic valve servicing safety related equipment actuates to its correct position on a Safety Injection Actuation test signal.

PLANT SYSTEMS

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 through-out 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. Cycling each valve in the flow path that is not testable during plant operation through at least one complete cycle of full travel, and
 4. Verifying that each high pressure pump starts (sequentially) to maintain the fire suppression water system pressure \geq 80 psig.
- g. At least once per 3 years by 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.

PLANT SYSTEMS

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, during shutdown, 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 ≥ 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 ≥ 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.

PLANT SYSTEMS

FIRE HOSE STATIONS

LIMITING CONDITION FOR OPERATION

3.7.11.4 The fire hose stations shown in Table 3.7-6 shall be OPERABLE.

APPLICABILITY: Whenever equipment in the areas protected by the fire hose stations is required to be OPERABLE.

ACTION:

- a. With one or more of the fire hose stations shown in Table 3.7-6 inoperable, route an additional equivalent capacity fire hose to the unprotected area(s) from an OPERABLE hose station within 1 hour. Restore the fire hose station(s) to OPERABLE status within 14 days or prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within the next 30 days outlining the action taken, the cause of the inoperability and the plans and schedule for restoring the fire hose station(s) to OPERABLE status.
- b. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.7.11.4 Each of the fire hose stations shown in Table 3.7-6 shall be demonstrated OPERABLE;

- a. At least once per 31 days by visual inspection of the station to assure all required equipment is at the station. Hose stations located in the containment shall be visually inspected on each scheduled reactor shutdown, but not more frequently than every 31 days.
- b. At least once per 18 months by:
 1. Removing the hose for inspection and re-racking, and
 2. Replacement of all degraded gaskets in couplings.
- c. At least once per 3 years by:
 1. Partially opening each hose station valve to verify valve OPERABILITY and no flow blockage.
 2. Conducting a hose hydrostatic test at a pressure at least 50 psig greater than the maximum pressure available at that hose station or replacement with a new hose.

TABLE 3.7-6

FIRE HOSE STATIONS

<u>LOCATION</u>	<u>ELEVATION</u>	<u>NUMBER OF HOSE STATIONS</u>
1. Containment	10'	2
	45'	2
	69'	2
2. Auxiliary Building	-15'*	1**
	-10'*	2**
	5'	6
	27'	3
	45'	5
3. Turbine Building, Heater Bay Outside Service Water Pump Rooms and Aux Feedwater Pump Rooms	69'*	4
	12'	3
	27'	2
	45'	3
4. Intake Structure	10'*	1

*Fire Hose Stations required for primary protection to ensure the OPERABILITY of safety related equipment.

**Hose Stations which serve both Units 1 and 2.



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. 79
License No. DPR-69

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The applications for amendment by Baltimore Gas & Electric Company (the licensee) dated April 9 and June 29, 1984, 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 applications, 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.

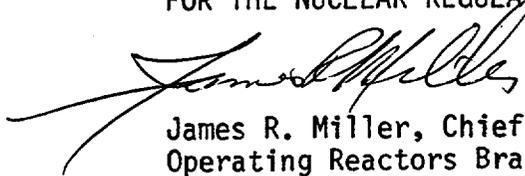
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.2 of Facility Operating License No. DPR-69 is hereby amended to read as follows:

2. Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 79, 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



James R. Miller, Chief
Operating Reactors Branch #3
Division of Licensing

Attachment:
Changes to the Technical
Specifications

Date of Issuance: January 14, 1985

ATTACHMENT TO LICENSE AMENDMENT NO. 79

FACILITY OPERATING LICENSE NO. DPR-69

DOCKET NO. 50-318

Replace the following pages of the Appendix "A" Technical Specifications with the enclosed pages. The revised pages are identified by Amendment number and contain vertical lines indicating the areas of change. The corresponding overleaf pages are provided to maintain document completeness.

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INSTRUMENTATION

REMOTE SHUTDOWN INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.3.5 The remote shutdown monitoring instrumentation channels shown in Table 3.3-9 shall be OPERABLE with readouts displayed external to the control room.

APPLICABILITY: MODES 1, 2 and 3.

ACTION:

- a. With the number of OPERABLE remote shutdown monitoring channels less than required by Table 3.3-9, either restore the inoperable channel to OPERABLE status within 30 days, or be in HOT SHUTDOWN within the next 12 hours.
- b. The provisions of Specification 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.3.3.5 Each remote shutdown monitoring instrumentation channel shall be demonstrated OPERABLE by performance of the CHANNEL CHECK and CHANNEL CALIBRATION operations at the frequencies shown in Table 4.3-6.

TABLE 3.3-9

REMOTE SHUTDOWN MONITORING INSTRUMENTATION

<u>INSTRUMENT</u>	<u>READOUT LOCATION</u>	<u>MEASUREMENT RANGE</u>	<u>MINIMUM CHANNELS OPERABLE</u>
1. Wide Range Neutron Flux *	2C43	0.1 cps-200%	1
2. Reactor Trip Breaker Indication	Cable Spreading Room	OPEN-CLOSE	1/trip breaker
3. Reactor Coolant Cold Leg Temperature	2C43	212-705°F	1
4. Pressurizer Pressure	2C43	0-1600 psia	1
5. Pressurizer Level	2C43	0-360 inches	1
6. Steam Generator Pressure	2C43	0-1200 psig	1/steam generator
7. Steam Generator Level	2C43	-401 to +63.5 inches	1/steam generator

*When the 2C43 instrumentation is inoperable, the wide range neutron flux monitors located in the auxiliary feedwater pump room may be utilized to meet this requirement. During the period when the instruments are utilized to meet the above requirement, they will be subject to the surveillance requirements of Table 4.3-6.

PLANT SYSTEMS

3/4.7.2 STEAM GENERATOR PRESSURE/TEMPERATURE LIMITATION

LIMITING CONDITION FOR OPERATION

3.7.2.1 The temperatures of both the primary and secondary coolants in the steam generators shall be $> 90^{\circ}\text{F}$ when the pressure of either coolant in the steam generator is > 200 psig.

APPLICABILITY: At all times.

ACTION:

With the requirements of the above specification not satisfied:

- a. Reduce the steam generator pressure of the applicable side to ≤ 200 psig within 30 minutes, and
- b. Perform an engineering evaluation to determine the effect of the overpressurization on the structural integrity of the steam generator. Determine that the steam generator remains acceptable for continued operation prior to increasing its temperatures above 200°F .

SURVEILLANCE REQUIREMENTS

4.7.2.1 The pressure in each side of the steam generators shall be determined to be < 200 psig at least once per hour when the temperature of either the primary or secondary coolant $< 90^{\circ}\text{F}$.

PLANT SYSTEMS

3/4.7.3 COMPONENT COOLING WATER SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.3.1 At least two component cooling water loops shall be OPERABLE. At least one component cooling water heat exchanger shall be operating and the remaining component cooling water heat exchanger may be in standby.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With only one component cooling water loop OPERABLE, restore at least two loops 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

4.7.3.1 At least two component cooling water loops shall be demonstrated OPERABLE:

- a. 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.
- b. At least once per 18 months during shutdown, by verifying that each automatic valve servicing safety related equipment actuates to its correct position on a Safety Injection Actuation test signal.

PLANT SYSTEMS

3/4.7.4 SERVICE WATER SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.4.1 At least two independent service water loops shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With only one service water loop OPERABLE, restore at least two loops 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

4.7.4.1 At least two service water loops shall be demonstrated OPERABLE:

- a. 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.
- b. At least once per 18 months during shutdown, by verifying that each automatic valve servicing safety related equipment actuates to its correct position on Safety Injection Actuation and Containment Spray Actuation test signals.

PLANT SYSTEMS

3/4.7.5 SALT WATER SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.5.1 At least two independent salt water loops shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With only one salt water loop OPERABLE, restore at least two loops 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

4.7.5.1 At least two salt water loops shall be demonstrated OPERABLE:

- a. 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.
- b. At least once per 18 months during shutdown, by verifying that each automatic valve servicing safety related equipment actuates to its correct position on a Safety Injection Actuation test signal.

PLANT SYSTEMS

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. Cycling each valve in the flow path that is not testable during plant operation through at least one complete cycle of full travel, and
 4. Verifying that each high pressure pump starts (sequentially) to maintain the fire suppression water system pressure ≥ 80 psig.
- g. At least once per 3 years by 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.

PLANT SYSTEMS

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, during shutdown, 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.

PLANT SYSTEMS

FIRE HOSE STATIONS

LIMITING CONDITION FOR OPERATION

3.7.11.4 The fire hose stations shown in Table 3.7-6 shall be OPERABLE.

APPLICABILITY: Whenever equipment in the areas protected by the fire hose stations is required to be OPERABLE.

ACTION:

- a. With one or more of the fire hose stations shown in Table 3.7-6 inoperable, route an additional equivalent capacity fire hose to the unprotected area(s) from an OPERABLE hose station within 1 hour. Restore the fire hose station(s) to OPERABLE status within 14 days, or prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within the next 30 days outlining the action taken, the cause of the inoperability and the plans and schedule for restoring the fire hose station(s) to OPERABLE status.

The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

b.

SURVEILLANCE REQUIREMENTS

4.7.11.4 Each of the fire hose stations shown in Table 3.7-6 shall be demonstrated OPERABLE;

- a. At least once per 31 days by visual inspection of the station to assure all required equipment is at the station. Hose stations located in the containment shall be visually inspected on each scheduled reactor shutdown, but not more frequently than every 31 days.
- b. At least once per 18 months by:
 1. Removing the hose for inspection and re-racking, and
 2. Replacement of all degraded gaskets in couplings.
- c. At least once per 3 years by:
 1. Partially opening each hose station valve to verify valve OPERABILITY and no flow blockage.
 2. Conducting a hose hydrostatic test at a pressure at least 50 psig greater than the maximum pressure available at that hose station or replacement with a new hose.

TABLE 3.7-6

FIRE HOSE STATIONS

UNIT 2

<u>LOCATION</u>	<u>ELEVATION</u>	<u>NUMBER OF HOSE STATIONS</u>
1. Containment	10'	2
	45'	2
	69'	2
2. Auxiliary Building	-15'*	1**
	-10'*	2**
	5'	3
	27'	2
	45'	4
	69**	3
3. Turbine Building, Heater Bay Outside Service Water Pump Rooms and Aux Feedwater Pump Rooms	12'	2
Outside Switchgear Room	27'	1
Outside Switchgear Room	45'	2
4. Intake Structure	10'*	1

*Fire Hose Stations required for primary protection to ensure the OPERABILITY of safety related equipment.

**Hose Stations which serve both Units 1 and 2.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NOS. 97 AND 79

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

BALTIMORE GAS AND ELECTRIC COMPANY

CALVERT CLIFFS NUCLEAR POWER PLANT UNIT NOS. 1 AND 2

DOCKET NOS. 50-317 AND 50-318

Introduction

By applications for license amendments dated April 9, 1984 and June 29, 1984, Baltimore Gas and Electric (BG&E) requested changes to the Technical Specifications (TS) for Calvert Cliffs Units 1 and 2. The proposed amendments would change the Unit 1 and Unit 2 TS to reflect: (1) a change to the surveillance requirements for fire pumps to allow an alternate test method, (2) correction of a typographical error in a Unit 1 fire pump surveillance test, (3) clarification and correction of a typographical error concerning fire hose stations, (4) clarification of operability requirements for the component cooling water system, (5) clarification of valve surveillance for component cooling, service water and salt water systems, and (6) provision for backup instrumentation for the remote shutdown, wide range neutron flux instrumentation.

These changes to the TS are in partial response to the applications dated April 9, 1984 and June 29, 1984. The remaining issues addressed in these applications will be addressed in future correspondence.

Discussion and Evaluation

Calvert Cliffs Units 1 and 2 TS 3/4.7.11, "Fire Suppression Systems," includes operability and surveillance requirements for the electric and diesel powered fire pumps. One such surveillance requirement, applicable to both diesel and electric powered pumps, requires a monthly test by operating these pumps "... on recirculation flow." The term "recirculation" means the establishment of a flow path by which a quantity of fluid discharged from the pump is routed back to the suction side of the pump. BG&E has proposed a change to TS 3/4.7.11 to delete the phrase "... on recirculation flow" to allow for use of an alternate test method for the diesel and electric powered fire pumps.

The National Fire Codes, Volume 2, Chapter 20, Section 26, 1983 requires each fire pump to have a circulation relief valve. The code states that,

Each pump shall be provided with an automatic relief valve set below the shutoff pressure at minimum expected suction pressure. It shall provide circulation of sufficient water to prevent the pump from overheating when operating with no discharge.

BG&E has proposed that these valves be utilized to provide a flow path in lieu of a recirculation flow path.

Our review of the alternate test method, involving the establishment of a fire pump flow path via the circulation relief valve, indicates that it provides an acceptable monthly demonstration of fire pump operability. Since the alternate test method is acceptable, use of this test will continue to demonstrate the reliability of the fire pumps. We therefore conclude that the proposed change to TS 3/4.7.11 is acceptable.

An additional change to Unit 1 TS 3/4.7.11 has been proposed to correct a typographical error. The word "fluch" in TS 4.7.11.1.1.d should actually be "flush." The proposed change has no effect on TS 4.7.11.1.1.d other than to correct a typographical error and therefore we find the proposed change to be acceptable.

BG&E has proposed to correct a typographical error in TS Table 3.7-6, "Fire Hose Stations." Entry number 3 Table 3.7-6 contains the words "... Aux Feed Water Pipe Rooms" which should actually be "Aux Feedwater Pump Rooms." The proposed change to TS Table 3.7-6 has no effect other than the correction of the typographical error and is therefore acceptable.

BG&E has proposed a second change to TS Table 3.7-6. This change involves entry number 2 which describes hose stations on the -10' and -15' levels of the auxiliary buildings. Since these hose stations are common to Units 1 and 2 (the hose stations are situated such that equipment from both units can be reached by the water spray) BG&E has proposed a clarifying footnote to indicate this commonality. The TS entry, as presently worded, could be misinterpreted to mean that these hose stations are located at both Units 1 and 2 and thus would represent 6 hose stations rather than the 3 hose stations actually installed.

We conclude that the addition of the clarifying footnote to TS Table 3.7-6 represents a necessary clarification, does not otherwise affect TS Table 3.7-6, and is therefore acceptable.

BG&E has proposed a change to Unit 1 and 2 TS 3.7.3.1, "Component Cooling Water System." At the present time, TS 3.7.3.1 requires that "At least two component cooling water loops shall be OPERABLE." The licensee has proposed that the following be added to the operability requirements for the component

cooling water (CCW) system: "At least one component cooling water heat exchanger shall be operating and the remaining component cooling water heat exchanger may be in standby." The proposed change to TS 3.7.3.1 has been requested in order to reflect actual operating practices associated with the CCW system.

The CCW system for each Calvert Cliffs Unit consists of 3 motor driven pumps, 2 heat exchangers, a head tank, and associated valves, piping, instrumentation, and controls. Cooling water for the CCW heat exchangers is supplied by the salt water system which discharges its water directly to the ultimate heat sink (Chesapeake Bay). During normal operation, the CCW system supplies cooling water to a number of safety-related components. The Calvert Cliffs FSAR, Section 9.5.2, states that, "During normal plant operation, one of the pumps and one of the heat exchangers are required for cooling service." The remaining CCW heat exchanger is normally maintained in "standby" status with its discharge valve closed. In the event of a Loss of Coolant Accident (LOCA), the CCW system services important safety-related components; however, the CCW system is designed so as not to supply cooling water immediately following a LOCA. During this period, the salt water system supply to the CCW heat exchanger is isolated. After a minimum of 36 minutes, salt water flow to the CCW heat exchangers is automatically reinitiated and CCW cooling begins. Existing emergency procedures instruct the reactor operators to open the outlet valve in the CCW heat exchanger. A time of 36 minutes is judged to be adequate for operators to take manual action in this regard.

The proposed change to TS 3.7.3.1 serves to further document an operating mode, involving use of a single CCW heat exchanger during normal operation, that has been previously used and is described in the FSAR. In the event of LOCA, starting from operation with one CCW heat exchanger, a combination of manual actions and automatic features assure proper postaccident functioning of the CCW system. Accordingly, the proposed change to TS 3.7.3.1 is acceptable.

BG&E has proposed a change to Unit 1 and 2 TS 4.7.3.1., 4.7.4.1, and 4.7.5.1 which provide Surveillance Requirements for the component cooling water, service water, and salt water systems, respectively. At the present time each of these TS contains a surveillance requiring that,

At least once per 31 days by verifying that each valve (manual, power operated or automatic) servicing safety related equipment that is not locked, sealed or otherwise secured in position, is in its correct position.

BG&E has proposed replacing the phrase "... servicing safety related equipment..." with the phrase "... in the flowpath ...". This proposed change would clearly identify the class of valves which require monthly verification.

Systems such as the component cooling water, service water, and salt water systems contain a considerable number of valves. Not all of these valves have the same safety significance and thus need not be subjected to the same

type or frequency of surveillance. One class of valves performs functions which are minor from a safety standpoint. These functions include: drains vents, and instrument isolation (root) valves. Mispositioning of these valves would either be obvious during routine operation (i.e. a closed instrument root valve would cause the associated instrument to be inoperable) or perform functions which are minor with regard to the completion of the safety function of the system. These types of valves are typically quite numerous and monthly surveillance, with regard to position, is unnecessary.

At the present time Unit 1 and 2 TS 4.5.2 requires the following monthly test of valves in the emergency core cooling system (ECCS):

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.

The above wording appropriately excludes valves outside the flow path (valves with minor safety significance) from this routine surveillance. BG&E has proposed adopting this same surveillance requirement for the component cooling water, service water, and salt water cooling systems (TS 4.7.3.1, 4.7.4.1. and 4.7.5.1); thus, the valve surveillance requirements of these systems would be consistent with similar requirements for the ECCS. Moreover unsecured valves in the main flow paths of these systems, whose misposition would prevent these systems from completing their safety function, would still require periodic surveillance. For this reason, a high degree of assurance is maintained that these systems will be capable of performing their safety functions. Accordingly, the proposed changes to TS 4.7.3.1, 4.7.4.1 and 4.7.5.1 are acceptable.

BG&E has requested a change to Units 1 and 2 TS 3/4.3.3.5, "Remote Shutdown Instrumentation," to allow the use of alternate wide range neutron flux instrumentation. BG&E has installed new remote shutdown panels in the Unit 1 and 2 switch gear rooms (1C43 and 2C43). The remote shutdown panels had been located in the Unit 1 and 2 auxiliary feedwater pump (AFWP) rooms. The use of the new wide range neutron flux instrumentation, incorporated into the new remote shutdown panels, was approved by changes to TS 3.4.3.3.5 issued on June 6, 1984 (Unit 2, Amendment No. 75) and November 17, 1983 (Unit 1, Amendment No. 88).

On March 19, 1984, the new Unit 1 wide range neutron flux instrumentation began showing evidence of possible impending failure and was subsequently declared inoperable. On April 19, 1984 the NRC issued a change to TS 3.4.3.3.5 (Unit 1, Amendment No. 91) to allow the use of the wide range neutron flux instrumentation, still located in the Unit 1 AFWP room, until such time as the new instrumentation could be repaired. BG&E subsequently requested, by application dated June 29, 1984, a change to the Unit 1 and 2 TS 3/4.3.3.5 to allow use of the wide range neutron flux instrumentation, located in the Units 1 and 2 AFWP rooms, at any time when the wide range neutron flux instrumentation at the new remote shutdown panels becomes inoperable.

The wide range neutron flux instrumentation located in the AFWP rooms has

been shown by prior service to be reliable equipment. During the period when they would be required, when the primary wide range neutron flux instrumentation (located at 1C43 and 2C43) are inoperable, the instrumentation in the AFWP would be required to undergo routine surveillance. In addition, in the event that the wide range neutron flux instrumentation in the AFWP rooms are required to be operable under emergency conditions, communications can be established between the AFWP rooms and the remainder of the remote shutdown instrumentation located at 1(2)C43. Based upon the above, we find that the proposed change to TS 3/4.3.3.5 is acceptable.

Environmental Consideration

Changes (2) and (3) of the amendments involve changes in recordkeeping, reporting, or administrative procedures or requirements. Accordingly, with respect to these items, the amendments meet the eligibility criteria for categorical exclusion set forth in 10 CFR Sec. 51.22(c)(10). Changes (1), (4), (5), and (6) of the amendments involve a change in the installation or use of a facility component located within the restricted area and a change in surveillance requirements. The 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 these amendments involve no significant hazards consideration and there has been no public comment on such finding. Accordingly, with respect to changes (1), (4), (5), and (6), these amendments meet the eligibility criteria for categorical exclusion set forth in 10 CFR Sec. 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 these amendments.

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 the amendments will not be inimical to the common defense and security or to the health and safety of the public.

Date: January 14, 1985

Principal Contribution:
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