

August 6, 1986

016

Docket Nos. 50-317
and 50-318

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Mr. J. A. Tiernan
Vice President - Nuclear Energy
Baltimore Gas & Electric Company
P. O. Box 1475
Baltimore, Maryland 21203

Dear Mr. Tiernan:

The Commission has issued the enclosed Amendment Nos. 120 and 102 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 response to your applications dated April 10, 1985 and April 14, 1986. These amendments complete our action on your application dated April 10, 1985. The remaining items associated with your April 14, 1986 application will be addressed in future correspondence.

The amendments change the Technical Specifications (TS) as follows:
(1) TS 4.1.2.2c surveillance requirement is modified to allow verification of boron injection flow path on SIAS signal at least every 18 months during any time period, (2) Incorporate the Main Steam Header Noble Gas Effluent Monitor (TS Tables 3.3-6 and 4.3-3) as per guidance provided in Generic Letter 83-37 (Several related administrative changes are also addressed), (3) Change the Unit 2 TS Table 3.3-9, "Remote Shutdown Monitoring Instrumentation", regarding the range of the pressurizer pressure instrumentation.

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

Sincerely,

Scott Alexander McNeil

Scott A. Mc Neil, Project Manager
PWR Project Directorate #8
Division of PWR Licensing-B

Enclosures:

1. Amendment No. 120 to DPR-53
2. Amendment No. 102 to DPR-69
3. Safety Evaluation

cc w/enclosure:

See next page

*See previous concurrences-addition of FOB on concurrence only change

PBD#8*
PMKreutzer
7/8/86

PBD#8*
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7/15/86

PBD#8
ATHadani
8/15/86

OGC-Bethesda*
CWoodhead
7/17/86

FOB
WRegan
8/15/86

RSB
CThomas
8/14/86

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PDR ADDOCK 05000317
P PDR

Docket Nos. 50-317
and 50-318

Mr. J. A. Tiernan
Vice President - Nuclear Energy
Baltimore Gas & Electric Company
P. O. Box 1475
Baltimore, Maryland 21203

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OELD	LJHarmon
ACRS-10	EButcher

Dear Mr. Tiernan:

The Commission has issued the enclosed Amendment Nos. and 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 response to your applications dated April 10, 1985 and April 14, 1986. These amendments complete our action on your application dated April 10, 1985. The remaining items associated with your April 14, 1986 application will be addressed in future correspondence.

The amendments change the Technical Specifications (TS) as follows:

(1) TS 4.1.2.2c surveillance requirement is modified to allow verification of boron injection flow path on SIAS signal at least every 18 months during any time period, (2) Incorporate the Main Steam Header Noble Gas Effluent Monitor (TS Tables 3.3-6 and 4.3-3) as per guidance provided in Generic Letter 83-37 (Several related administrative changes are also addressed), (3) Change the Unit 2 TS Table 3.3-9, "Remote Shutdown Monitoring Instrumentation", regarding the range of the pressurizer pressure instrumentation.

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

Sincerely,



Scott A. Mc Neil, Project Manager
PWR Project Directorate #8
Division of PWR Licensing-B

Enclosures:

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

cc w/enclosure:
See next page

PBD#8
PMKreutzer
7/18/86

PBD#8
SMcNeil
7/15/86

PBD#8
ATHadani
/ /86

Osc
Woodhead
7/17/86

Mr. J. A. Tiernan
Baltimore Gas & Electric Company

Calvert Cliffs Nuclear Power Plant

cc:

Mr. William T. Bowen, President
Calvert County Board of
Commissioners
Prince Frederick, Maryland 20768

Regional Administrator, Region I
U.S. Nuclear Regulatory Commission
Office of Executive Director
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Resident Inspector
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Department of Natural Resources
Energy Administration, Power Plant
Siting Program
ATTN: Mr. T. Magette
Tawes State Office Building
Annapolis, Maryland 21204



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. 120
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 10, 1985, and April 14, 1986, 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.

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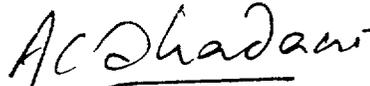
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Facility Operating License No. DPR-53 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No.120 , 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



Ashok C. Thadani, Director
PWR Project Directorate #8
Division of PWR Licensing-B

Attachment:
Changes to the Technical
Specifications

Date of Issuance: August 6, 1986

ATTACHMENT TO LICENSE AMENDMENT NO. 120

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.

Remove Pages

3/4 1-9
3/4 3-26
3/4 3-28
B 3/4 3-2

Insert Pages

3/4 1-9
3/4 3-26
3/4 3-28
B 3/4 3-2

REACTIVITY CONTROL SYSTEMS

FLOW PATHS - OPERATING

LIMITING CONDITION FOR OPERATION

3.1.2.2 At least two of the following three boron injection flow paths and one associated heat tracing circuit shall be OPERABLE:

- a. Two flow paths from the boric acid storage tanks required to be OPERABLE pursuant to Specifications 3.1.2.8 and 3.1.2.9 via either a boric acid pump or a gravity feed connection, and a charging pump to the Reactor Coolant System, and
- b. The flow path from the refueling water tank via a charging pump to the Reactor Coolant System.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With only one of the above required boron injection flow paths to the Reactor Coolant System OPERABLE, restore at least two boron injection flow paths to the Reactor Coolant System to OPERABLE status within 72 hours or be in at least HOT STANDBY and borated to a SHUTDOWN MARGIN equivalent to at least 3% $\Delta k/k$ at 200°F within the next 6 hours; restore at least two flow paths to OPERABLE status within the next 7 days or be in COLD SHUTDOWN within the next 30 hours.

SURVEILLANCE REQUIREMENTS

4.1.2.2 At least two of the above required flow paths shall be demonstrated OPERABLE:

- a. At least once per 7 days by verifying that the temperature of the heat traced portion of the flow path from the concentrated boric acid tanks is above the temperature limit line shown on Figure 3.1-1.
- b. 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.
- c. At least once per 18 months by verifying on a SIAS test signal that
1) each automatic valve in the flow path actuates to its correct position, and 2) each boric acid pump starts.

REACTIVITY CONTROL SYSTEMS

CHARGING PUMP - SHUTDOWN

LIMITING CONDITION FOR OPERATION

3.1.2.3 At least one charging pump or one high pressure safety injection pump in the boron injection flow path required OPERABLE pursuant to Specification 3.1.2.1 shall be OPERABLE and capable of being powered from an OPERABLE emergency bus.

APPLICABILITY: MODES 5 and 6.

ACTION:

With no charging pump or high pressure safety injection pump OPERABLE, suspend all operations involving CORE ALTERATIONS or positive reactivity changes until at least one of the required pumps is restored to OPERABLE status.

SURVEILLANCE REQUIREMENTS

4.1.2.3 No additional Surveillance Requirements other than those required by Specification 4.0.5.

INSTRUMENTATION

3/4.3.3 MONITORING INSTRUMENTATION

RADIATION MONITORING INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.3.1 The radiation monitoring instrumentation channels shown in Table 3.3-6 shall be OPERABLE with their alarm/trip setpoints within the specified limits.

APPLICABILITY: As shown in Table 3.3-6.

ACTION:

- a. With a radiation monitoring channel alarm/trip setpoint exceeding the value shown in Table 3.3-6, adjust the setpoint to within the limit within 4 hours or declare the channel inoperable.
- b. With one or more radiation monitoring channels inoperable, take the ACTION shown in Table 3.3-6.
- c. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.3.3.1 Each radiation monitoring instrumentation channel shall be demonstrated OPERABLE by the performance of the CHANNEL CHECK, CHANNEL CALIBRATION and CHANNEL FUNCTIONAL TEST operations during the modes and at the frequencies shown in Table 4.3-3.

TABLE 3.3-6

RADIATION MONITORING INSTRUMENTATION

<u>INSTRUMENT</u>	<u>MINIMUM CHANNELS OPERABLE</u>	<u>APPLICABLE MODES</u>	<u>ALARM/TRIP SETPOINT</u>	<u>MEASUREMENT RANGE</u>	<u>ACTION</u>
1. AREA MONITORS					
a. Containment					
i. Purge & Exhaust Isolation	3	6	≤ 220 mr/hr	10 ⁻¹ - 10 ⁴ mr/hr	16
b. Containment Area High Range	2	1, 2, 3, & 4	≤ 10 R/hr	1 - 10 ⁸ R/hr	30
2. PROCESS MONITORS					
a. Containment					
i. Gaseous Activity					
a) RCS Leakage Detection	1	1, 2, 3, & 4	Not Applicable	1 - 10 ⁶ cpm	14
ii. Particulate Activity					
a) RCS Leakage Detection	1	1, 2, 3, & 4	Not Applicable	1 - 10 ⁶ cpm	14
b. Noble Gas Effluent Monitors					
i. Main Vent Wide Range	1	1, 2, 3, & 4	*	10 ⁻⁷ to 10 ⁺⁵ µCi/cc	30
ii. Main Steam Header	2	1, 2, 3, & 4	*	10 ⁻² to 10 ⁵ R/hr	30

*Alarm setpoint to be specified in a controlled document (e.g., setpoint control manual)

CALVERT CLIFFS - UNIT 1

3/4 3-26

Amendment No. 89, 99, 109, 118, 120

TABLE 3.3-6 (Continued)

TABLE NOTATION

- ACTION 14 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, comply with the ACTION requirements of Specification 3.4.6.1.
- ACTION 16 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, comply with the ACTION requirements of Specification 3.9.9.
- ACTION 30 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, initiate the preplanned alternate method of monitoring the appropriate parameter(s), within 72 hours, and:
- 1) either restore the inoperable channel(s) to OPERABLE status within 7 days of the event, or
 - 2) prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within 30 days following the event, outlining the action taken, the cause of the inoperability, and the plans and schedule for restoring the system to OPERABLE status.

TABLE 4.3-3

RADIATION MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

<u>INSTRUMENT</u>	<u>CHANNEL CHECK</u>	<u>CHANNEL CALIBRATION</u>	<u>CHANNEL FUNCTIONAL TEST</u>	<u>MODES IN WHICH SURVEILLANCE REQUIRED</u>
1. AREA MONITORS				
a. Containment				
i. Purge & Exhaust Isolation	S	R	M	6
b. Containment Area High Range	S	R	M	1, 2, 3, & 4
2. PROCESS MONITORS				
a. Containment				
i. Gaseous Activity				
a) RCS Leakage Detection	S	R	M	1, 2, 3, & 4
ii. Particulate Activity				
a) RCS Leakage Detection	S	R	M	1, 2, 3, & 4
b. Noble Gas Effluent Monitors				
i. Main Vent Wide Range	S	R	M	1, 2, 3, & 4
ii. Main Steam Header	S	R	M	1, 2, 3, & 4

*The CHANNEL CHECK shall be accomplished by comparing samples independently drawn from the main vent.

CALVERT CLIFFS - UNIT 1

3/4 3-28

Amendment No. 99, 109, 118, 120

3/4.3 INSTRUMENTATION

BASES

3/4.3.1 and 3/4.3.2 PROTECTIVE AND ENGINEERED SAFETY FEATURES (ESF) INSTRUMENTATION

The OPERABILITY of the protective and ESF instrumentation systems and bypasses ensure that 1) the associated ESF action and/or reactor trip will be initiated when the parameter monitored by each channel or combination thereof exceeds its setpoint, 2) the specified coincidence logic is maintained, 3) sufficient redundancy is maintained to permit a channel to be out of service for testing or maintenance, and 4) sufficient system functional capability is available for protective and ESF purposes from diverse parameters.

The OPERABILITY of these systems is required to provide the overall reliability, redundancy and diversity assumed available in the facility design for the protection and mitigation of accident and transient conditions. The integrated operation of each of these systems is consistent with the assumptions used in the accident analyses.

The surveillance requirements specified for these systems ensure that the overall system functional capability is maintained comparable to the original design standards. The periodic surveillance tests performed at the minimum frequencies are sufficient to demonstrate this capability.

The measurement of response time at the specified frequencies provides assurance that the protective and ESF action function associated with each channel is completed within the time limit assumed in the accident analyses. No credit was taken in the analyses for those channels with response times indicated as not applicable.

Response time may be demonstrated by any series of sequential, overlapping or total channel test measurements provided that such tests demonstrate the total channel response time as defined. Sensor response time verification may be demonstrated by either 1) in place, onsite or offsite test measurements or 2) utilizing replacement sensors with certified response times.

3/4.3.3 MONITORING INSTRUMENTATION

3/4.3.3.1 RADIATION MONITORING INSTRUMENTATION

The OPERABILITY of the radiation monitoring channels ensures that 1) the radiation levels are continually measured in the areas served

INSTRUMENTATION

BASES

by the individual channels and 2) the alarm or automatic action is initiated when the radiation level trip setpoint is exceeded.

3/4.3.3.2 INCORE DETECTORS

The OPERABILITY of the incore detectors with the specified minimum complement of equipment ensures that the measurements obtained from use of this system accurately represent the spatial neutron flux distribution of the reactor core.

3/4.3.3.3. SEISMIC INSTRUMENTATION

The OPERABILITY of the seismic instrumentation ensures that sufficient capability is available to promptly determine the magnitude of a seismic event and evaluate the response of those features important to safety. This capability is required to permit comparison of the measured response to that used in the design basis for the facility and is consistent with the recommendations of Regulatory Guide 1.12, "Instrumentation for Earthquakes," April 1974.

3/4.3.3.4 METEOROLOGICAL INSTRUMENTATION

The OPERABILITY of the meteorological instrumentation ensures that sufficient meteorological data is available for estimating potential radiation doses to the public as a result of routine or accidental release of radioactive materials to the atmosphere. This capability is required to evaluate the need for initiating protective measures to protect the health and safety of the public and is consistent with the recommendations of Regulatory Guide 1.23 "Onsite Meteorological Programs," February 1972, as supplemented by Supplement 1 to NUREG-0737.

3/4.3.3.5 REMOTE SHUTDOWN INSTRUMENTATION

The OPERABILITY of the remote shutdown instrumentation ensures that sufficient capability is available to permit shutdown and maintenance of HOT STANDBY of the facility from locations outside of the control room. This capability is required in the event control room habitability is lost and is consistent with General Design Criteria 19 of 10 CFR 50.



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. 102
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 10, 1985, and April 14, 1986, 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 Appendix A, as revised through Amendment No. 102, 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



Ashok C. Thadani, Director
PWR Project Directorate #8
Division of PWR Licensing-B

Attachment:
Changes to the Technical
Specifications

Date of Issuance: August 6, 1986

ATTACHMENT TO LICENSE AMENDMENT NO. 102

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.

Remove Pages

3/4 1-9
3/4 3-26
3/4 3-27
3/4 3-28
3/4 3-38
B 3/4 3-2

Insert Pages

3/4 1-9
3/4 3-26
3/4 3-27
3/4 3-28
3/4 3-38
B 3/4 3-2

REACTIVITY CONTROL SYSTEMS

FLOW PATHS - OPERATING

LIMITING CONDITION FOR OPERATION

3.1.2.2 At least two of the following three boron injection flow paths and one associated heat tracing circuit shall be OPERABLE:

- a. Two flow paths from the boric acid storage tanks required to be OPERABLE pursuant to Specifications 3.1.2.8 and 3.1.2.9 via either a boric acid pump or a gravity feed connection, and a charging pump to the Reactor Coolant System, and
- b. The flow path from the refueling water tank via a charging pump to the Reactor Coolant System.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With only one of the above required boron injection flow paths to the Reactor Coolant System OPERABLE, restore at least two boron injection flow paths to the Reactor Coolant System to OPERABLE status within 72 hours or be in at least HOT STANDBY and borated to a SHUTDOWN MARGIN equivalent to at least $3\% \Delta k/k$ at 200°F within the next 6 hours; restore at least two flow paths to OPERABLE status within the next 7 days or be in COLD SHUTDOWN within the next 30 hours.

SURVEILLANCE REQUIREMENTS

4.1.2.2 At least two of the above required flow paths shall be demonstrated OPERABLE:

- a. At least once per 7 days by verifying that the temperature of the heat traced portion of the flow path from the concentrated boric acid tanks is above the temperature limit line shown on Figure 3.1-1.
- b. 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.
- c. At least once per 18 months by verifying on a SIAS test signal that:
 - (1) each automatic valve in the flow path actuates to its correct position, and
 - (2) each boric acid pump starts.

REACTIVITY CONTROL SYSTEMS

CHARGING PUMP - SHUTDOWN

LIMITING CONDITION FOR OPERATION

3.1.2.3 At least one charging pump or one high pressure safety injection pump in the boron injection flow path required OPERABLE pursuant to Specification 3.1.2.1 shall be OPERABLE and capable of being powered from an OPERABLE emergency bus.

APPLICABILITY: MODES 5 and 6.

ACTION:

With no charging pump or high pressure safety injection pump OPERABLE, suspend all operations involving CORE ALTERATIONS or positive reactivity changes until at least one of the required pumps is restored to OPERABLE status.

SURVEILLANCE REQUIREMENTS

4.1.2.3 No additional Surveillance Requirements other than those required by Specification 4.0.5.

INSTRUMENTATION

3/4.3.3 MONITORING INSTRUMENTATION

RADIATION MONITORING INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.3.1 The radiation monitoring instrumentation channels shown in Table 3.3-6 shall be OPERABLE with their alarm/trip setpoints within the specified limits.

APPLICABILITY: As shown in Table 3.3-6.

ACTION:

- a. With a radiation monitoring channel alarm/trip setpoint exceeding the value shown in Table 3.3-6, adjust the setpoint to within the limit within 4 hours or declare the channel inoperable.
- b. With one or more radiation monitoring channels inoperable, take the ACTION shown in Table 3.3-6.
- c. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.3.3.1 Each radiation monitoring instrumentation channel shall be demonstrated OPERABLE by the performance of the CHANNEL CHECK, CHANNEL CALIBRATION and CHANNEL FUNCTIONAL TEST operations during the modes and at the frequencies shown in Table 4.3-3.

TABLE 3.3-6

RADIATION MONITORING INSTRUMENTATION

<u>INSTRUMENT</u>	<u>MINIMUM CHANNELS OPERABLE</u>	<u>APPLICABLE MODES</u>	<u>ALARM/TRIP SETPOINT</u>	<u>MEASUREMENT RANGE</u>	<u>ACTION</u>
1. AREA MONITORS					
a. Containment					
i. Purge & Exhaust Isolation	3	6	≤ 220 mr/hr	10 ⁻⁴ - 10 ⁴ mr/hr	16
b. Containment Area High Range	2	1, 2, 3 & 4	≤ 10 R/hr	1 - 10 ⁸ R/hr	30
2. PROCESS MONITORS					
a. Containment					
i. Gaseous Activity					
a) RCS Leakage Detection	1	1, 2, 3 & 4	Not Applicable	10 ¹ - 10 ⁶ cpm	14
ii. Particulate Activity					
a) RCS Leakage Detection	1	1, 2, 3 & 4	Not Applicable	10 ¹ - 10 ⁶ cpm	14
b. Noble Gas Effluent Monitors					
i. Main Vent Wide Range	1	1, 2, 3 & 4	*	10 ⁻⁷ to 10 ⁵ µCi/cc	30
ii. Main Steam Header	2	1, 2, 3 & 4	*	10 ⁻² to 10 ⁵ R/hr	30

*Alarm setpoint to be specified in a controlled document (e.g., setpoint control manual).

CALVERT CLIFFS - UNIT 2

3/4 3-26

Amendment No. 70, 81, 92, 96, 102

TABLE 3.3-6 (Continued)

TABLE NOTATION

- ACTION 14 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, comply with the ACTION requirements of Specification 3.4.6.1.
- ACTION 16 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, comply with the ACTION requirements of Specification 3.9.9.
- ACTION 30 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, initiate the preplanned alternate method of monitoring the appropriate parameter(s), within 72 hours, and:
- 1) either restore the inoperable channel(s) to OPERABLE status within 7 days of the event, or
 - 2) prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within 30 days following the event, outlining the action taken, the cause of the inoperability, and the plans and schedule for restoring the system to OPERABLE status.

TABLE 4.3-3

RADIATION MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

<u>INSTRUMENT</u>	<u>CHANNEL CHECK</u>	<u>CHANNEL CALIBRATION</u>	<u>CHANNEL FUNCTIONAL TEST</u>	<u>MODES IN WHICH SURVEILLANCE REQUIRED</u>
1. AREA MONITORS				
a. Containment				
i. Purge & Exhaust Isolation	S	R	M	6
b. Containment Area High Range	S	R	M	1, 2, 3 & 4
2. PROCESS MONITORS				
a. Containment				
i. Gaseous Activity				
a) RCS Leakage Detection	S	R	M	1, 2, 3 & 4
ii. Particulate Activity				
a) RCS Leakage Detection	S	R	M	1, 2, 3 & 4
b. Noble Gas Effluent Monitors				
i. Main Vent Wide Range	S	R	M	1, 2, 3 & 4
ii. Main Steam Header	S	R	M	1, 2, 3 & 4

CALVERT CLIFFS - UNIT 2

3/4 3-28

Amendment No. 87, 92, 96, 102

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	0-4000 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.

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3/4.3.1 and 3/4.3.2 PROTECTIVE AND ENGINEERED SAFETY FEATURES (ESF) INSTRUMENTATION

The OPERABILITY of the protective and ESF instrumentation systems and bypasses ensure that 1) the associated ESF action and/or reactor trip will be initiated when the parameter monitored by each channel or combination thereof exceeds its setpoint, 2) the specified coincidence logic is maintained, 3) sufficient redundancy is maintained to permit a channel to be out of service for testing or maintenance, and 4) sufficient system functional capability is available for protective and ESF purposes from diverse parameters.

The OPERABILITY of these systems is required to provide the overall reliability, redundancy and diversity assumed available in the facility design for the protection and mitigation of accident and transient conditions. The integrated operation of each of these systems is consistent with the assumptions used in the accident analyses.

The surveillance requirements specified for these systems ensure that the overall system functional capability is maintained comparable to the original design standards. The periodic surveillance tests performed at the minimum frequencies are sufficient to demonstrate this capability.

The measurement of response time at the specified frequencies provides assurance that the protective and ESF action function associated with each channel is completed within the time limit assumed in the accident analyses. No credit was taken in the analyses for those channels with response times indicated as not applicable.

Response time may be demonstrated by any series of sequential, overlapping or total channel test measurements provided that such tests demonstrate the total channel response time as defined. Sensor response time verification may be demonstrated by either 1) in place, onsite or offsite test measurements or 2) utilizing replacement sensors with certified response times.

3/4.3.3 MONITORING INSTRUMENTATION

3/4.3.3.1 RADIATION MONITORING INSTRUMENTATION

The OPERABILITY of the radiation monitoring channels ensures that 1) the radiation levels are continually measured in the areas served

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by the individual channels and 2) the alarm or automatic action is initiated when the radiation level trip setpoint is exceeded.

3/4.3.3.2 INCORE DETECTORS

The OPERABILITY of the incore detectors with the specified minimum complement of equipment ensures that the measurements obtained from use of this system accurately represent the spatial neutron flux distribution of the reactor core.

3/4.3.3.3 SEISMIC INSTRUMENTATION

The OPERABILITY of the seismic instrumentation ensures that sufficient capability is available to promptly determine the magnitude of a seismic event and evaluate the response of those features important to safety. This capability is required to permit comparison of the measured response to that used in the design basis for the facility and is consistent with the recommendations of Regulatory Guide 1.12, "Instrumentation for Earthquakes," April 1974.

3/4.3.3.4 METEOROLOGICAL INSTRUMENTATION

The OPERABILITY of the meteorological instrumentation ensures that sufficient meteorological data is available for estimating potential radiation doses to the public as a result of routine or accidental release of radioactive materials to the atmosphere. This capability is required to evaluate the need for initiating protective measures to protect the health and safety of the public and is consistent with the recommendations of Regulatory Guide 1.23, "Onsite Meteorological Programs", February 1972, as supplemented by Supplement 1 to NUREG-0737.

3/4.3.3.5 REMOTE SHUTDOWN INSTRUMENTATION

The OPERABILITY of the remote shutdown instrumentation ensures that sufficient capability is available to permit shutdown and maintenance of HOT STANDBY of the facility from locations outside of the control room. This capability is required in the event control room habitability is lost and is consistent with General Design Criteria 19 of 10 CFR 50.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NOS. 120 AND 102

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 10, 1985 and April 14, 1986, the Baltimore Gas & Electric Company (BG&E) requested changes to the Technical Specifications (TS) for Calvert Cliffs Units 1 and 2.

The following proposed technical specification changes are in partial response to BG&E's application dated April 14, 1986. The remaining two issues will be addressed in separate correspondence. The first proposed technical specification (TS) change is also in response to BG&E's application dated April 10, 1985 and would complete our action on this request. The proposed TS changes are: 1. Change Units 1 & 2 TS 4.1.2.2c surveillance requirement to allow verification of boron injection flow path on SIAS signal at least every 18 months during any time period. 2. Change Units 1 & 2 TS to incorporate the Main Steam Header Noble Gas Effluent Monitor (TS Tables 3.3-6 and 4.3-3) as per guidance provided in Generic Letter 83-37. Several related administrative changes are also submitted with this proposed TS. 3. Change Unit 2 TS Table 3.3-9, "Remote Shutdown Monitoring Instrumentation", thus recognizing the "as-is" plant design.

Discussion and Evaluation

Change No. 1 proposes to change the surveillance (TS 4.1.2.2c) which requires verification of the proper operation of components in the boron injection flow paths on a SIAS test signal every 18 months during shutdown. This proposal would delete the "during shutdown" restriction and allow this test to be performed at any time. This change was previously proposed for Unit 2 in BG&E's April 10, 1985 amendment request.

Operability of the boron injection flow path is important to safety in that flow from boron injection is credited in the analysis of the small break loss-of-coolant accident (LOCA). Testing of the boron injection flow path during reactor operation would not completely disable the boron injection capability in that at least two flow paths would still be available for emergency use during testing. Moreover, the boron injection flow paths being tested would be unavailable during only a short period of time during which a concurrent LOCA would be unlikely.

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Accordingly, based upon the above, the proposed change to TS 4.1.2.2c is acceptable in that, even during testing, adequate flow from boron injection would be available in accordance with the assumptions used in the small break LOCA analysis.

Change No. 2 would incorporate the Main Steam Header Noble Gas Effluent Monitor into TS Tables 3.3-6 and 4.3-3. This change is being proposed as requested by NUREG-0737, "Clarification of TMI Action Plan Requirements," and further guided by Generic Letter 83-37, "NUREG-0737 Technical Specifications."

The proposed changes to the TS incorporate Limiting Conditions for Operation and Surveillance Requirements in the TS which ensure a high degree of certainty that the main steam header noble gas effluent monitor will be available, post-accident, to provide an important assessment capability. Accordingly, the proposed changes to TS Tables 3.3-6 and 4.3-3 are acceptable.

Several administrative changes to the TS have also been proposed as a part of Change No. 2. The licensee has proposed to correct several typographical errors on Unit 2 TS pages 3-27. In addition, a footnote in Unit 1 and 2 TS Table 4.3-3 would be deleted in that it applied to a previously deleted TS; thus, the footnote is no longer needed.

The proposed changes described above are minor in nature and do not effect any regulatory requirements in the TS. Accordingly, these changes to the TS are acceptable.

BG&E has also proposed a change to the Bases for TS 3/4.3.3.1. A previous license amendment transferred control of the iodine and particulate sampling program to Section 6.0 of the Technical Specifications. Therefore, the Bases for Radiation Monitoring Instrumentation should be updated by removing reference to the iodine and particulate samplers. This change to the TS Bases is acceptable.

Change No. 3 would modify the range of the pressurizer pressure instrumentation installed on the Unit 2 remote shutdown panel. At the present time, TS 3.3-9 "Remote Shutdown Monitoring Instrumentation," describes the Pressurizer Pressure indicating range as 0-1600 psia. Recently installed, upgraded, instrumentation for pressurizer pressure on the remote shutdown panel has a range of 0-4000 psia. This proposed change to the TS was previously approved for Unit 1.

The remote shutdown instrumentation is provided for monitoring purposes only. The instrumentation does not provide inputs for automatically actuated equipment. This change simply recognizes the expanded range of the improved instrumentation. Based upon the above, the proposed change to TS Table 3.3-9 is acceptable.

ENVIRONMENTAL CONSIDERATION

These amendments involve a change in the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 or 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 published a proposed finding that these amendments involve no significant hazards consideration and there has been no public comment on such finding. Accordingly, these 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 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: August 6, 1986

Principal Contributor:
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