



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

May 21, 1993

Docket Nos. 50-317
and 50-318

Mr. Robert E. Denton
Vice President - Nuclear Energy
Baltimore Gas and Electric Company
Calvert Cliffs Nuclear Power Plant
1650 Calvert Cliffs Parkway
Lusby, Maryland 20657-4702

Dear Mr. Denton:

SUBJECT: ISSUANCE OF AMENDMENTS FOR CALVERT CLIFFS NUCLEAR POWER PLANT,
UNIT NO. 1 (TAC NO. M84603) AND UNIT NO. 2 (TAC NO. M84604)

The Commission has issued the enclosed Amendment No.181 to Facility Operating License No. DPR-53 and Amendment No.157 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 September 25, 1992, as supplemented on May 7, 1993.

The amendments revise the Technical Specifications by expanding the acceptable methods for obtaining samples from charcoal filter units. The change includes the option to take charcoal samples from standard adsorber trays in accordance with the U.S. Nuclear Regulatory Commission Regulatory Guide 1.52, "Design, Testing, and Maintenance Criteria for Post Accident Engineered Safety Feature Atmosphere Cleanup System Air Filtration and Absorption Units of Light-Water-Cooled Nuclear Power Plants," Revision 2, dated March 1978.

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. 181 to DPR-53
2. Amendment No. 157 to DPR-69
3. Safety Evaluation

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cc w/enclosures:
See next page

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Mr. Robert E. Denton
Baltimore Gas & Electric Company

Calvert Cliffs Nuclear Power Plant
Unit Nos. 1 and 2

cc:

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Calvert County Board of
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Mr. Larry Bell
NRC Technical Training Center
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Resident Inspector
c/o U.S. Nuclear Regulatory
Commission
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St. Leonard, Maryland 20685

Mr. Richard I. McLean
Administrator - Radioecology
Department of Natural Resources
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Regional Administrator, Region I
U.S. Nuclear Regulatory Commission
475 Allendale Road
King of Prussia, Pennsylvania 19406

DATED: May 21, 1993

AMENDMENT NO. 181 TO FACILITY OPERATING LICENSE NO. DPR-53-CALVERT CLIFFS
UNIT 1

AMENDMENT NO. 157 TO FACILITY OPERATING LICENSE NO. DPR-69-CALVERT CLIFFS
UNIT 2

Docket File

NRC & Local PDRs

PDI-1 Reading

S. Varga, 14/E/4

J. Calvo, 14/A/4

R. Capra

C. Vogar

D. McDonald

OGC

D. Hagan, 3302 MNBB

C. Liang, 8/E/23

G. Hill (8), P1-22

Wanda Jones, P-370

C. Grimes, 11/F/23

L. Cunningham, 10/D/4

ACRS (10)

OPA

OC/LFMB

PD I-1 Plant File

C. Cowgill, Region I

cc: Plant Service list

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555-0001

BALTIMORE GAS AND ELECTRIC COMPANY

DOCKET NO. 50-317

CALVERT CLIFFS NUCLEAR POWER PLANT UNIT NO. 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 181
License No. DPR-53

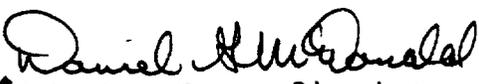
1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Baltimore Gas and Electric Company (the licensee) dated September 25, 1992, as supplemented on May 7, 1993, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (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. 181, 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

Acting
for

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: May 21, 1993



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

BALTIMORE GAS AND ELECTRIC COMPANY

DOCKET NO. 50-318

CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 157
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 September 25, 1992, as supplemented on May 7, 1993, 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. 157, 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

acting for

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: May 21, 1993

ATTACHMENT TO LICENSE AMENDMENTS

AMENDMENT NO. 181 FACILITY OPERATING LICENSE NO. DPR-53

AMENDMENT NO. 157 FACILITY OPERATING LICENSE NO. DPR-69

DOCKET NOS. 50-317 AND 50-318

Revise Appendix A as follows:

	<u>Remove Pages</u>	<u>Insert Pages</u>
UNIT 1	3/4 6-21	3/4 6-21
	3/4 6-34	3/4 6-34
	3/4 7-18	3/4 7-18
	3/4 7-19	3/4 7-19
	3/4 7-22	3/4 7-22
	3/4 9-16	3/4 9-16
UNIT 2	3/4 6-17	3/4 6-17
	3/4 6-30	3/4 6-30
	3/4 7-18	3/4 7-18
	3/4 7-19	3/4 7-19
	3/4 7-22	3/4 7-22
	3/4 9-16	3/4 9-16
	3/4 9-17	3/4 9-17

3/4.6 CONTAINMENT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

3. Verifying within 31 days after removal that a laboratory analysis of a representative carbon sample obtained from an adsorber tray or from an adsorber test tray in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, demonstrates a removal efficiency of $\geq 95\%$ for radioactive elemental iodine when the sample is tested in accordance with ANSI N510-1975 (130°C, 95% R.H.).
4. Verifying a filter train flow rate of 20,000 cfm $\pm 10\%$ during system operation when tested in accordance with ANSI N510-1975.

- c. After every 720 hours of charcoal adsorber operation by:

Verifying within 31 days after removal that a laboratory analysis of a representative carbon sample obtained from an adsorber tray or from an adsorber test tray in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, demonstrates a removal efficiency of $\geq 95\%$ for radioactive elemental iodine when the sample is tested in accordance with ANSI N510-1975 (130°C, 95% R.H.).

Subsequent to reinstalling the adsorber tray used for obtaining the carbon sample, the filter train shall be demonstrated **OPERABLE** by also verifying that the charcoal adsorbers remove $\geq 99\%$ of a halogenated hydrocarbon refrigerant test gas when they are tested in-place in accordance with Regulatory Positions C.5.a and C.5.d of Regulatory Guide 1.52 Revision 2 March 1978 while operating the filter train at a flow rate of 20,000 cfm $\pm 10\%$.

- d. At least once per **REFUELING INTERVAL** by:

1. Verifying that the pressure drop across the combined HEPA filters and charcoal adsorber banks is < 6 inches Water Gauge while operating the filter train at a flow rate of 20,000 cfm $\pm 10\%$.

3/4.6 CONTAINMENT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

2. Verifying that the HEPA filter banks remove $\geq 99\%$ of the DOP when they are tested in-place in accordance with Regulatory Positions C.5.a and C.5.d of Regulatory Guide 1.52 Revision 2 March 1978 while operating the filter train at a flow rate of 2000 cfm $\pm 10\%$.
 3. Verifying within 31 days after removal that a laboratory analysis of a representative carbon sample obtained from an adsorber tray or from an adsorber test tray in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, demonstrates a removal efficiency of $\geq 90\%$ for radioactive methyl iodine when the sample is tested in accordance with ANSI N510-1975 (30°C, 95% R.H.).
 4. Verifying a system flow rate of 2000 cfm $\pm 10\%$ during system operation when tested in accordance with ANSI N510-1975.
- c. After every 720 hours of charcoal adsorber operation by:

Verifying within 31 days after removal that a laboratory analysis of a representative carbon sample obtained from an adsorber tray or from an adsorber test tray in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, demonstrates a removal efficiency of $\geq 90\%$ for radioactive methyl iodine when the sample is tested in accordance with ANSI N510-1975 (30°C, 95% R.H.).

Subsequent to reinstalling the adsorber tray used for obtaining the carbon sample, the filter train shall be demonstrated **OPERABLE** by verifying that the charcoal adsorbers remove $\geq 99\%$ of the halogenated hydrocarbon refrigerant test gas when they are tested in-place in accordance with Regulatory Positions C.5.a and C.5.d of Regulatory Guide 1.52 Revision 2 March 1978 while operating the ventilation system at a flow rate of 2000 cfm $\pm 10\%$.

3/4.7 PLANT SYSTEMS

SURVEILLANCE REQUIREMENTS

4.7.6.1 The Control Room Emergency Ventilation System shall be demonstrated **OPERABLE**:

- a. At least once per 62 days, on a **STAGGERED TEST BASIS**, by deenergizing the backup Control Room air conditioner and verifying that the emergency Control Room air conditioners maintain the air temperature $\leq 104^{\circ}\text{F}$ for at least 12 hours when in the recirculation mode.
- b. At least once per 31 days by initiation flow through each HEPA filter and charcoal adsorber train and verifying that each train operates for at least 15 minutes.
- c. At least once per 18 months or (1) after any structural maintenance on the HEPA filter or charcoal adsorber housing, or (2) following painting, fire or chemical release in any ventilation zone communicating with the system by:
 1. Verifying that the charcoal adsorbers remove $\geq 99\%$ of a halogenated hydrocarbon refrigerant test gas when they are tested in-place in accordance with Regulatory Positions C.5.a and C.5.d of Regulatory Guide 1.52 Revision 2 March 1978 while operating the ventilation system at a flow rate of $2000 \text{ cfm} \pm 10\%$.
 2. Verifying that the HEPA filter banks remove $\geq 99\%$ of the DOP when they are tested in-place in accordance with Regulatory Positions C.5.a and C.5.c of Regulatory Guide 1.52 Revision 2 March 1978 while operating the ventilation system at a flow rate of $2000 \text{ cfm} \pm 10\%$.
 3. Verifying within 31 days after removal that a laboratory analysis of a representative carbon sample obtained from an adsorber tray or from an adsorber test tray in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, demonstrates a removal efficiency of $\geq 90\%$ for radioactive methyl iodine when the sample is tested in accordance with ANSI N510-1975 (30°C , 95% R.H.).

3/4.7 PLANT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

4. Verifying a system flow rate of 2000 cfm \pm 10% during system operation when tested in accordance with ANSI N510-1975.

d. After every 720 hours of charcoal adsorber operation by:

Verifying within 31 days after removal that a laboratory analysis of a representative carbon sample obtained from an adsorber tray or from an adsorber test tray in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, demonstrates a removal efficiency of \geq 90% for radioactive methyl iodine when the sample is tested in accordance with ANSI N510-1975 (30°C, 95% R.H.).

Subsequent to reinstalling the adsorber tray used for obtaining the carbon sample, the filter train shall be demonstrated **OPERABLE** by also verifying that the charcoal adsorbers remove \geq 99% of a halogenated hydrocarbon refrigerant test gas when they are tested in-place in accordance with Regulatory Positions C.5.a and C.5.d of Regulatory Guide 1.52 Revision 2 March 1978 while operating the ventilation system at a flow of 2000 cfm \pm 10%.

e. At least once per 18 months by:

1. Verifying that the pressure drop across the combined HEPA filters and charcoal adsorber banks is $<$ 4 inches Water Gauge while operating the ventilation system at a flow rate of 2000 cfm \pm 10%.
2. Verifying that on a Control Room high radiation test signal, the system automatically switches into a recirculation mode of operation with flow through the HEPA filters and charcoal adsorber banks and that both of the isolation valves in each inlet duct and common exhaust duct, and the isolation valve in the toilet area exhaust duct, close.

3/4.7 PLANT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

2. Verifying that the HEPA filter banks remove $\geq 99\%$ of the DOP when they are tested in-place in accordance with Regulatory Positions C.5.a and C.5.c of Regulatory Guide 1.52 Revision 2 March 1978 while operating the filter train at a flow rate of 3000 cfm $\pm 10\%$.
 3. Verifying within 31 days after removal that a laboratory analysis of a representative carbon sample obtained from an adsorber tray or from an adsorber test tray in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, demonstrates a removal efficiency of $\geq 90\%$ for radioactive methyl iodine when the sample is tested in accordance with ANSI N510-1975 (30°C, 95% R.H.).
 4. Verifying a system flow rate of 3000 cfm $\pm 10\%$ during system operation when tested in accordance with ANSI N510-1975.
- c. After every 720 hours of charcoal adsorber operation by:
- Verifying within 31 days after removal that a laboratory analysis of a representative carbon sample obtained from an adsorber tray or from an adsorber test tray in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, demonstrates a removal efficiency of $\geq 90\%$ for radioactive methyl iodine when the sample is tested in accordance with ANSI N510-1975 (30°C, 95% R.H.).
- Subsequent to reinstalling the adsorber tray used for obtaining the carbon sample, the filter train shall be demonstrated **OPERABLE** by also verifying that the charcoal adsorbers remove $\geq 99\%$ of a halogenated hydrocarbon refrigerant test gas when they are tested in-place in accordance with Regulatory Positions C.5.a and C.5.d of Regulatory Guide 1.52 Revision 2 March 1978 while operating the ventilation system at a flow rate of 3000 cfm $\pm 10\%$.
- d. At least once per 18 months by verifying that the pressure drop across the combined HEPA filters and charcoal adsorber banks is < 4 inches Water Gauge while operating the filter train at a flow rate of 3000 cfm $\pm 10\%$.

3/4.9 REFUELING OPERATIONS

SURVEILLANCE REQUIREMENTS (Continued)

- b. At least once per 18 months or (1) after any structural maintenance on the HEPA filter or charcoal adsorber housing, or (2) following painting, fire or chemical release in any ventilation zone communicating with the system by:
1. Verifying that the charcoal adsorbers remove $\geq 99\%$ of a halogenated hydrocarbon refrigerant test gas when they are tested in-place in accordance with Regulatory Positions C.5.a and C.5.d of Regulatory Guide 1.52 Revision 2 March 1978 while operating the ventilation system at a flow rate of 32,000 cfm $\pm 10\%$.
 2. Verifying that the HEPA filter banks remove $\geq 99\%$ of the DOP when they are tested in-place in accordance with Regulatory Positions C.5.a and C.5.c of Regulatory Guide 1.52 Revision 2 March 1978 while operating the ventilation system at a flow rate of 32,000 cfm $\pm 10\%$.
 3. Verifying within 31 days after removal that a laboratory analysis of a representative carbon sample obtained from an adsorber tray or from an adsorber test tray in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, demonstrates a removal efficiency of $\geq 90\%$ for radioactive methyl iodine when the sample is tested in accordance with ANSI N510-1975 (30°C, 95% R.H.).
 4. Verifying a system flow rate of 32,000 cfm $\pm 10\%$ during system operation when tested in accordance with ANSI N510-1975.
- c. After every 720 hours of charcoal adsorber operation by:
- Verifying within 31 days after removal that a laboratory analysis of a representative carbon sample obtained from an adsorber tray or from an adsorber test tray in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, demonstrates a removal efficiency of $\geq 90\%$ for radioactive methyl iodine when the sample is tested in accordance with ANSI N510-1975 (30°C, 95% R.H.).

3/4.6 CONTAINMENT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

3. Verifying within 31 days after removal that a laboratory analysis of a representative carbon sample obtained from an adsorber tray or from an adsorber test tray in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, demonstrates a removal efficiency of $\geq 95\%$ for radioactive elemental iodine when the sample is tested in accordance with ANSI N510-1975 (130°C, 95% R.H.).
 4. Verifying a filter train flow rate of 20,000 cfm $\pm 10\%$ during system operation when tested in accordance with ANSI N510-1975.
- c. After every 720 hours of charcoal adsorber operation by:

Verifying within 31 days after removal that a laboratory analysis of a representative carbon sample obtained from an adsorber tray or from an adsorber test tray in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, demonstrates a removal efficiency of $\geq 95\%$ for radioactive elemental iodine when the sample is tested in accordance with ANSI N510-1975 (130°C, 95% R.H.).

Subsequent to reinstalling the adsorber tray used for obtaining the carbon sample, the filter train shall be demonstrated **OPERABLE** by also verifying that the charcoal adsorbers remove $\geq 99\%$ of a halogenated hydrocarbon refrigerant test gas when they are tested in-place in accordance with Regulatory Positions C.5.a and C.5.d of Regulatory Guide 1.52 Revision 2 March 1978 while operating the filter train at a flow rate of 20,000 cfm $\pm 10\%$.

3/4.6 CONTAINMENT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

2. Verifying that the HEPA filter banks remove $\geq 99\%$ of the DOP when they are tested in-place in accordance with Regulatory Positions C.5.a and C.5.d of Regulatory Guide 1.52 Revision 2 March 1978 while operating the filter train at a flow rate of 2000 cfm $\pm 10\%$.
 3. Verifying within 31 days after removal that a laboratory analysis of a representative carbon sample obtained from an adsorber tray or from an adsorber test tray in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, demonstrates a removal efficiency of $\geq 90\%$ for radioactive methyl iodine when the sample is tested in accordance with ANSI N510-1975 (30°C, 95% R.H.).
 4. Verifying a system flow rate of 2000 cfm $\pm 10\%$ during system operation when tested in accordance with ANSI N510-1975.
- c. After every 720 hours of charcoal adsorber operation by:
- Verifying within 31 days after removal that a laboratory analysis of a representative carbon sample obtained from an adsorber tray or from an adsorber test tray in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, demonstrates a removal efficiency of $\geq 90\%$ for radioactive methyl iodine when the sample is tested in accordance with ANSI N510-1975 (30°C, 95% R.H.).

3/4.7 PLANT SYSTEMS

SURVEILLANCE REQUIREMENTS

4.7.6.1 The Control Room Emergency Ventilation System shall be demonstrated **OPERABLE**:

- a. At least once per 62 days, on a **STAGGERED TEST BASIS**, by deenergizing the backup Control Room air conditioner and verifying that the emergency Control Room air conditioners maintain the air temperature $\leq 104^{\circ}\text{F}$ for at least 12 hours when in the recirculation mode.
- b. At least once per 31 days by initiation flow through each HEPA filter and charcoal adsorber train and verifying that each train operates for at least 15 minutes.
- c. At least once per 18 months or (1) after any structural maintenance on the HEPA filter or charcoal adsorber housing, or (2) following painting, fire or chemical release in any ventilation zone communicating with the system by:
 1. Verifying that the charcoal adsorbers remove $\geq 99\%$ of a halogenated hydrocarbon refrigerant test gas when they are tested in-place in accordance with Regulatory Positions C.5.a and C.5.d of Regulatory Guide 1.52 Revision 2 March 1978 while operating the ventilation system at a flow rate of 2000 cfm $\pm 10\%$.
 2. Verifying that the HEPA filter banks remove $\geq 99\%$ of the DOP when they are tested in-place in accordance with Regulatory Positions C.5.a and C.5.c of Regulatory Guide 1.52 Revision 2 March 1978 while operating the ventilation system at a flow rate of 2000 cfm $\pm 10\%$.
 3. Verifying within 31 days after removal that a laboratory analysis of a representative carbon sample obtained from an adsorber tray or from an adsorber test tray in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, demonstrates a removal efficiency of $\geq 90\%$ for radioactive methyl iodine when the sample is tested in accordance with ANSI N510-1975 (30°C, 95% R.H.).

3/4.7 PLANT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

4. Verifying a system flow rate of 2000 cfm \pm 10% during system operation when tested in accordance with ANSI N510-1975.

d. After every 720 hours of charcoal adsorber operation by:

Verifying within 31 days after removal that a laboratory analysis of a representative carbon sample obtained from an adsorber tray or from an adsorber test tray in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, demonstrates a removal efficiency of \geq 90% for radioactive methyl iodine when the sample is tested in accordance with ANSI N510-1975 (30°C, 95% R.H.).

Subsequent to reinstalling the adsorber tray used for obtaining the carbon sample, the filter train shall be demonstrated **OPERABLE** by also verifying that the charcoal adsorbers remove \geq 99% of a halogenated hydrocarbon refrigerant test gas when they are tested in-place in accordance with Regulatory Positions C.5.a and C.5.d of Regulatory Guide 1.52 Revision 2 March 1978 while operating the ventilation system at a flow of 2000 cfm \pm 10%.

e. At least once per 18 months by:

1. Verifying that the pressure drop across the combined HEPA filters and charcoal adsorber banks is $<$ 4 inches Water Gauge while operating the ventilation system at a flow rate of 2000 cfm \pm 10%.
2. Verifying that on a control room high radiation test signal, the system automatically switches into a recirculation mode of operation with flow through the HEPA filters and charcoal adsorber banks and that both of the isolation valves in each inlet duct and common exhaust duct, and the isolation valve in the toilet area exhaust duct, close.

3/4.7 PLANT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

2. Verifying that the HEPA filter banks remove $\geq 99\%$ of the DOP when they are tested in-place in accordance with Regulatory Positions C.5.a and C.5.c of Regulatory Guide 1.52 Revision 2 March 1978 while operating the filter train at a flow rate of 3000 cfm $\pm 10\%$.
 3. Verifying within 31 days after removal that a laboratory analysis of a representative carbon sample obtained from an adsorber tray or from an adsorber test tray in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, demonstrates a removal efficiency of $\geq 90\%$ for radioactive methyl iodine when the sample is tested in accordance with ANSI N510-1975 (30°C, 95% R.H.).
 4. Verifying a system flow rate of 3000 cfm $\pm 10\%$ during system operation when tested in accordance with ANSI N510-1975.
- c. After every 720 hours of charcoal adsorber operation by:
- Verifying within 31 days after removal that a laboratory analysis of a representative carbon sample obtained from an adsorber tray or from an adsorber test tray in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, demonstrates a removal efficiency of $\geq 90\%$ for radioactive methyl iodine when the sample is tested in accordance with ANSI N510-1975 (30°C, 95% R.H.).
- Subsequent to reinstalling the adsorber tray used for obtaining the carbon sample, the filter train shall be demonstrated **OPERABLE** by also verifying that the charcoal adsorbers remove $\geq 99\%$ of a halogenated hydrocarbon refrigerant test gas when they are tested in-place in accordance with Regulatory Positions C.5.a and C.5.d of Regulatory Guide 1.52 Revision 2 March 1978 while operating the ventilation system at a flow rate of 3000 cfm $\pm 10\%$.
- d. At least once per 18 months by verifying that the pressure drop across the combined HEPA filters and charcoal adsorber banks is < 4 inches Water Gauge while operating the filter train at a flow rate of 3000 cfm $\pm 10\%$.

3/4.9 REFUELING OPERATIONS

SURVEILLANCE REQUIREMENTS (Continued)

- b. At least once per 18 months or (1) after any structural maintenance on the HEPA filter or charcoal adsorber housing, or (2) following painting, fire or chemical release in any ventilation zone communicating with the system by:
1. Verifying that the charcoal adsorbers remove $\geq 99\%$ of a halogenated hydrocarbon refrigerant test gas when they are tested in-place in accordance with Regulatory Positions C.5.a and C.5.d of Regulatory Guide 1.52 Revision 2 March 1978 while operating the ventilation system at a flow rate of 32,000 cfm $\pm 10\%$.
 2. Verifying that the HEPA filter banks remove $\geq 99\%$ of the DOP when they are tested in-place in accordance with Regulatory Positions C.5.a and C.5.c of Regulatory Guide 1.52 Revision 2 March 1978 while operating the ventilation system at a flow rate of 32,000 cfm $\pm 10\%$.
 3. Verifying within 31 days after removal that a laboratory analysis of a representative carbon sample obtained from an adsorber tray or from an adsorber test tray in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, demonstrates a removal efficiency of $\geq 90\%$ for radioactive methyl iodine when the sample is tested in accordance with ANSI N510-1975 (30°C, 95% R.H.).
 4. Verifying a system flow rate of 32,000 cfm $\pm 10\%$ during system operation when tested in accordance with ANSI N510-1975.

3/4.9 REFUELING OPERATIONS

SURVEILLANCE REQUIREMENTS (Continued)

- c. After every 720 hours of charcoal adsorber operation by:

Verifying within 31 days after removal that a laboratory analysis of a representative carbon sample obtained from an adsorber tray or from an adsorber test tray in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, demonstrates a removal efficiency of $\geq 90\%$ for radioactive methyl iodine when the sample is tested in accordance with ANSI N510-1975 (30°C, 95% R.H.).

Subsequent to reinstalling the adsorber tray used for obtaining the carbon sample, the filter train shall be demonstrated **OPERABLE** by also verifying that the charcoal adsorbers remove $\geq 99\%$ of a halogenated hydrocarbon refrigerant test gas when they are tested in-place in accordance with Regulatory Positions C.5.a and C.5.d of Regulatory Guide 1.52 Revision 2 March 1978 while operating the ventilation system at a flow rate of 32,000 cfm $\pm 10\%$.

- d. At least once per 18 months by:

1. Verifying that the pressure drop across the combined HEPA filters and charcoal adsorber banks is < 4 inches Water Gauge while operating the ventilation system at a flow rate of 32,000 cfm $\pm 10\%$.
2. Verifying that each exhaust fan maintains the spent fuel storage pool area at a measurable negative pressure relative to the outside atmosphere during system operation.

- e. After each complete or partial replacement of a HEPA filter bank by verifying that the HEPA filter banks remove $\geq 99\%$ of the DOP when they are tested in-place in accordance with Regulatory Positions C.5.a and C.5.c of Regulatory Guide 1.52 Revision 2 March 1978 while operating the ventilation system at a flow rate of 32,000 cfm $\pm 10\%$.



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 181 TO FACILITY OPERATING LICENSE NO. DPR-53
AND AMENDMENT NO. 157 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 September 25, 1992, as supplemented on May 7, 1993, 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 requested changes would revise the TS by expanding the acceptable methods for obtaining samples from charcoal filter units. The May 7, 1993, letter provided clarifying information that did not change the initial no significant hazards consideration determination.

The current TS allow the charcoal samples to be taken from sectioned adsorber test trays only. The proposed change would include the option to take charcoal samples from standard absorber trays in accordance with the U.S. Nuclear Regulatory Commission's Regulatory Guide (RG) 1.52, "Design, Testing, and Maintenance Criteria for Post Accident Engineered Safety Feature Atmosphere Cleanup System Air Filtration and Absorption Units of Light-Water-Cooled Nuclear Power Plants," Revision 2, dated March 1978. The following TS and systems would be affected by the proposed change: TS 4.6.3.1.b.3 and 4.6.3.1.c.1 for the Iodine Removal System; TS 4.6.6.1.b.3 and 4.6.6.1.c.1 for the Penetration Room Exhaust Air Filtration System; TS 4.7.6.1.c.3 and 4.7.6.1.d for the Control Room Emergency Ventilation System; TS 4.7.7.1.b.3 and 4.7.7.1.c for the Emergency Core Cooling System Pump Room Exhaust Air Filtration System; and TS 4.9.12.b.3 and 4.9.12.c for the Spent Fuel Pool Ventilation System.

2.0 BACKGROUND

Amendment No. 83 to Facility Operating License No. DPR-53 and Amendment No. 66 to Facility Operating License No. DPR-69 for the Calvert Cliffs Nuclear Power Plant, Unit Nos. 1 and 2, respectively, were issued on May 5, 1983. The amendments allowed the use of sectioned test trays for charcoal filter testing. The option of taking samples from standard absorber trays was deleted in that it was believed, at that time, that this method of testing would not be used in the future. However, the licensee has indicated it has had some difficulty in obtaining sectioned test trays in recent years and is

proposing to restore the option of taking charcoal samples from standard adsorber trays.

3.0 EVALUATION

The proposed amendments do not change the testing method or test acceptance criteria for any charcoal filter sample testing. The licensee performs charcoal filter elemental and organic iodine penetration testing in accordance with ANSI N510-1975 as currently required by the Calvert Cliffs TS. The testing protocol used is the Idaho National Engineering Laboratory (INEL) which was recommended in the NRC Information Notice 87-32, "Deficiencies in the Testing of Nuclear-Grade Activated Charcoal."

The proposed amendments would allow the test samples to be taken from an adsorber tray as well as from an adsorber test tray which is in the current TS. The proposed change also specifically states that the test samples be obtained in accordance with Regulatory Position C.6.b of RG 1.52, Revision 2, March 1978. As noted in the licensee's request, the sample collection methods, including sample mixing, sample size and taking of successive samples, remains unchanged.

The staff has determined that the proposed changes which allow the test samples to be taken from adsorber trays as well as test trays to be acceptable. This determination is based on: 1) the testing method or test acceptance criteria will not be changed; 2) the TS Bases will be changed to indicate the use of the INEL testing Protocol; 3) the sample collection methods remain unchanged; and 4) the test samples will be obtained in accordance with Regulatory Position C.6.b of RG 1.52, Revision 2, March 1978. Therefore, the proposed changes to TS 4.6.3.1.b.3, 4.6.3.1.c.1, 4.6.6.1.b.3, 4.6.6.1.c.1, 4.7.6.1.c.3, 4.7.6.1.d, 4.7.7.1.b.3, 4.7.7.1.c, 4.9.12.b.3, and 4.9.12.c are acceptable.

4.0 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.

5.0 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. 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 (57 FR 48813). 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.

6.0 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: May 21, 1993

May 21, 1993

Mr. Robert E. Denton
Vice President - Nuclear Energy
Baltimore Gas and Electric Company
Calvert Cliffs Nuclear Power Plant
1650 Calvert Cliffs Parkway
Lusby, Maryland 20657-4702

Dear Mr. Denton:

SUBJECT: ISSUANCE OF AMENDMENTS FOR CALVERT CLIFFS NUCLEAR POWER PLANT,
UNIT NO. 1 (TAC NO. M84603) AND UNIT NO. 2 (TAC NO. M84604)

The Commission has issued the enclosed Amendment No. 181 to Facility Operating License No. DPR-53 and Amendment No. 157 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 September 25, 1992, as supplemented on May 7, 1993.

The amendments revise the Technical Specifications by expanding the acceptable methods for obtaining samples from charcoal filter units. The change includes the option to take charcoal samples from standard adsorber trays in accordance with the U.S. Nuclear Regulatory Commission Regulatory Guide 1.52, "Design, Testing, and Maintenance Criteria for Post Accident Engineered Safety Feature Atmosphere Cleanup System Air Filtration and Absorption Units of Light-Water-Cooled Nuclear Power Plants," Revision 2, dated March 1978.

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. 181 to DPR-53
- 2. Amendment No. 157 to DPR-69
- 3. Safety Evaluation

cc w/enclosures:

See next page

Distribution:

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PDI-1:LA	PDI-1:PM <i>[Signature]</i>	PRRB <i>[Signature]</i>	OGC <i>[Signature]</i>	PDI-1:D <i>[Signature]</i>	
CVogan <i>[Signature]</i>	DMcDonald:smm	LCunningham	<i>[Signature]</i>	RACapra	
5/19/93	05/07/93	5/17/93	5/13/93	05/21/93	1/1