March 7, 1997

Mr. Charles H. Cruse
Vice President - Nuclear Energy
Baltimore Gas and Electric Company
Calvert Cliffs Nuclear Power Plant
1650 Calvert Cliffs Parkway
Lusby, MD 20657-4702

SUBJECT: ISSUANCE OF AMENDMENTS FOR CALVERT CLIFFS NUCLEAR POWER PLANT UNIT NO. 1 (TAC NO. M96350) AND UNIT NO. 2 (TAC NO. M96351)

Dear Mr. Cruse:

The Commission has issued the enclosed Amendment No. 221 to Facility Operating License No. DPR-53 and Amendment No. 197 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 (TSs) in response to your application transmitted by letter dated August 1, 1996.

The amendments modify the TSs requirements to allow use of blind flanges during Modes 1-4 in the Calvert Cliffs 1 and 2 containment purge system instead of the two outboard 48-inch isolation valves.

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,

/S/

Alexander W. Dromerick, Senior Project Manager
Project Directorate I-1
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Docket Nos. 50-317
and 50-318

Enclosures: 1. Amendment No. 221 to DPR-53
2. Amendment No. 197 to DPR-69
3. Safety Evaluation

cc w/encls: See next page

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001
March 7, 1997

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Vice President - Nuclear Energy
Baltimore Gas and Electric Company
Calvert Cliffs Nuclear Power Plant
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cc w/encls: See next page

cc:

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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. 221
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 August 1, 1996, 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. 221 , 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 by the end of the 1998 refueling outage.

FOR THE NUCLEAR REGULATORY COMMISSION

S. Singh Bajwa, Acting 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: March 7, 1997

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. 197
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 August 1, 1996, 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. 197 , 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 by the end of the 1997 refueling outage.

FOR THE NUCLEAR REGULATORY COMMISSION

S. Singh Bajwa, Acting 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: March 7, 1997

ATTACHMENT TO LICENSE AMENDMENT

AMENDMENT NO. 221 FACILITY OPERATING LICENSE NO. DPR-53

DOCKET NO. 50-317

Revise Appendix A as follows:

Remove Pages	Insert Pages
V	V
3/4 3-12	3/4 3-12
3/4 6-2	3/4 6-2
3/4 6-3	3/4 6-3
3/4 6-14 through 3/4 6-20	3/4 6-14 through 3/4 6-20*
3/4 6-21 through 3/4 6-22	3/4 6-21 through 3/4 6-22
3/4 6-23 through 3/4 6-28	3/4 6-23 through 3/4 6-27*
3/4 9-5	3/4 9-5
B 3/4 6-3	B 3/4 6-3

*Indicates Rollover Pages

TABLE OF CONTENTS

LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS

TABLE 3.3-3 (Continued)

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION

FUNCTIONAL UNIT	TOTAL NO. OF CHANNELS	CHANNELS TO TRIP	MINIMUM CHANNELS OPERABLE	APPLICABLE MODES	ACTION
6. CONTAINMENT PURGE VALVES ISOLATION					
a. Manual (Purge Valve Control Switches)	1/valve	1/valve	1/valve	6**	8
b. Containment Radiation - High Area Monitor	4	2	3	6**	8
7. LOSS OF POWER					
a. 4.16 kv Emergency Bus Undervoltage (Loss of Voltage)	4/Bus	2/Bus	3/Bus	1, 2, 3	7*
b. 4.16 kv Emergency Bus Undervoltage (Degraded Voltage)	4/Bus	2/Bus	3/Bus	1, 2, 3	7*

SURVEILLANCE REQUIREMENTS (Continued)

d. By verifying that the containment purge blind flanges are installed and sealed prior to entering MODE 4 following a shutdown where the blind flanges were removed, by conducting a Type B test per 10 CFR Part 50, Appendix J. If only one blind flange was removed, only that blind flange must be tested unless testing is required by Technical Specification 4.6.1.2.

3/4.6 CONTAINMENT SYSTEMS

3/4.6.1 PRIMARY CONTAINMENT

Containment Leakage

LIMITING CONDITION FOR OPERATION

3.6.1.2 Containment leakage rates shall be limited to:

a. A maximum allowable containment leakage rate, L_a, as specified in Specification 6.5.6, "Containment Leakage Rate Testing Program."

b. A combined leakage rate of $\leq 0.60\ L_a$ for all penetrations and valves subject to Types B and C tests, as specified in Specification 6.5.6, "Containment Leakage Rate Testing Program.".

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION: With either (a) the measured overall integrated containment leakage rate exceeding the acceptance criteria specified in the Containment Leakage Rate Testing Program, or (b) with the measured combined leakage rate for all penetrations and valves subject to Types B and C tests exceeding $0.60\ L_a$, restore the overall integrated containment leakage rate and the combined leakage rate for all penetrations and valves subject to Types B and C tests to within the acceptance criteria specified in the Containment Leakage Rate Testing Program, prior to increasing the Reactor Coolant System temperature above 200°F.

SURVEILLANCE REQUIREMENTS

4.6.1.2 The containment leakage rates shall be determined in conformance with the criteria, methods, schedule, and provisions specified in the Containment Leakage Rate Testing Program:

a. Perform required visual examinations and leakage rate testing, except for containment air lock testing, in accordance with the Containment Leakage Rate Testing Program.

3/4.6.2 DEPRESSURIZATION AND COOLING SYSTEMS

Containment Spray System

LIMITING CONDITION FOR OPERATION

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

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

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

SURVEILLANCE REQUIREMENTS

4.6.2.1 Each Containment Spray System shall be demonstrated **OPERABLE**:

a. At least once per 31 days by:

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

b. At least once per 92 days by:

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

c. At least once per **REFUELING INTERVAL**, during shutdown, by:

1. Verifying that each automatic valve in the flow path actuates to its correct position on the appropriate ESFAS test signal.

2. Verifying that each spray pump starts automatically on the appropriate ESFAS test signal.

---

* With pressurizer pressure $\geq$ 1750 psia.

SURVEILLANCE REQUIREMENTS (Continued)

d. At least once per 5 years by performing an air or smoke flow test through each spray header and verifying each spray nozzle is unobstructed.

3/4.6 CONTAINMENT SYSTEMS

3/4.6.2 DEPRESSURIZATION AND COOLING SYSTEMS

Containment Cooling System

LIMITING CONDITION FOR OPERATION

3.6.2.2 Two independent groups of containment air recirculation and cooling units shall be **OPERABLE** with two units to each group.

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

ACTION:

a. With one group of required containment air recirculation and cooling units inoperable and both Containment Spray Systems **OPERABLE**, restore the inoperable group of air recirculation and cooling units to **OPERABLE** status within 7 days or be in at least **HOT SHUTDOWN** within 12 hours.

b. With three required containment air recirculation and cooling units inoperable and both Containment Spray Systems **OPERABLE**, restore at least one required air recirculation and cooling unit to **OPERABLE** status within 8 hours or be in at least **HOT SHUTDOWN** within 12 hours. Restore both above required groups of containment air recirculation and cooling units to **OPERABLE** status within 7 days or be in at least **HOT SHUTDOWN** within 12 hours.

c. With one group of required containment air recirculation and cooling units inoperable and one Containment Spray System inoperable, restore the inoperable Containment Spray System to **OPERABLE** status within 72 hours or be in at least **HOT SHUTDOWN** within 12 hours. Restore the inoperable group of containment air recirculation and cooling units to **OPERABLE** status within 7 days of initial loss or be in at least **HOT SHUTDOWN** within 12 hours.

SURVEILLANCE REQUIREMENTS

4.6.2.2 Each containment air recirculation and cooling unit shall be demonstrated **OPERABLE:**

a. At least once per 31 days on a **STAGGERED TEST BASIS** by:

1. Starting each unit from the control room.

SURVEILLANCE REQUIREMENTS (Continued)

2. Verifying that each unit operates for at least 15 minutes.

3. Verifying a cooling water flow rate of $\geq$ 2000 gpm to each cooling unit when the full flow service water outlet valves are fully open.

b. At least once per **REFUELING INTERVAL** by verifying that each unit starts automatically on the appropriate ESFAS test signal.

3/4.6 CONTAINMENT SYSTEMS

3/4.6.3 IODINE REMOVAL SYSTEM

LIMITING CONDITION FOR OPERATION

3.6.3.1 Three independent containment iodine filter trains shall be **OPERABLE.**

APPLICABILITY: **MODES** 1, 2, 3 and 4.

ACTION: With one iodine filter train inoperable, restore the inoperable train to **OPERABLE** status within 7 days or be in at least **HOT STANDBY** within the next 6 hours and in **COLD SHUTDOWN** within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.6.3.1 Each iodine filter train shall be demonstrated **OPERABLE:**

a. At least once per 31 days on a **STAGGERED TEST BASIS** by initiating, from the control room, flow through the HEPA filter and charcoal adsorber train and verifying that the train operates for at least 15 minutes.

b. At least once per **REFUELING INTERVAL** or (1) after any structural maintenance on the HEPA filter or charcoal adsorber housings, 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 filter train at a flow rate of 20,000 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 filter train at a flow rate of 20,000 cfm $\pm$ 10%.

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 ≥ 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 ± 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 ≥ 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 ≥ 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 ± 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 ± 10%.

SURVEILLANCE REQUIREMENTS (Continued)

2. Verifying that the filter train starts on the appropriate ESFAS test signal.

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 filter train at a flow rate of 20,000 cfm $\pm$ 10%.

f. After each complete or partial replacement of a charcoal adsorber bank by 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%.

g. After maintenance affecting the air flow distribution by testing in-place and verifying that the air flow distribution is uniform within $\pm$ 20% of the average flow per unit when tested in accordance with the provisions of Section 9 of "Industrial Ventilation" and Section 8 of ANSI N510-1975.

3/4.6 CONTAINMENT SYSTEMS

3/4.6.4 CONTAINMENT ISOLATION VALVES

LIMITING CONDITION FOR OPERATION

3.6.4.1 Each containment isolation valve shall be **OPERABLE.*** #

APPLICABILITY: **MODES** 1, 2, 3, and 4.

ACTION: With one or more of the isolation valve(s) inoperable, either:

a. Restore the inoperable valve(s) to **OPERABLE** status within 4 hours, or

b. Isolate each affected penetration within 4 hours by use of at least one deactivated automatic valve secured in the isolation position, or

c. Isolate the affected penetration within 4 hours by use of at least one closed manual valve or blind flange; or

d. Be in at least **HOT STANDBY** within the next 6 hours and in **COLD SHUTDOWN** within the following 30 hours.

e. The provisions of Specification 3.0.4 are not applicable provided that the affected penetration is isolated.

SURVEILLANCE REQUIREMENTS

4.6.4.1.1 Each containment isolation valve shall be demonstrated **OPERABLE**# prior to returning the valve to service after maintenance, repair, or replacement work is performed on the valve or its associated actuator, control, or power circuit by performance of a cycling test and verification of isolation time.

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* Valves that are normally closed may be opened on an intermittent basis under administrative control.

\# Containment purge isolation valves isolation times will only apply in **MODE** 6 when the valves are required to be **OPERABLE** and they are open.

SURVEILLANCE REQUIREMENTS (Continued)

4.6.4.1.2 Each containment isolation valve shall be demonstrated **OPERABLE** during the **COLD SHUTDOWN** or **REFUELING MODE** at least once per **REFUELING INTERVAL** by:

a. Verifying that on each containment isolation Channel A or Channel B test signal, each required isolation valve actuates to its isolation position.

b. Verifying that on each Safety Injection Actuation Channel A or Channel B test signal, each required isolation valve actuates to its isolation position.

4.6.4.1.3 The isolation time of each power-operated or automatic containment isolation valve shall be determined to be within its limit when tested pursuant to Technical Specification 4.0.5.

3/4.6 CONTAINMENT SYSTEMS

3/4.6.5 COMBUSTIBLE GAS CONTROL

Hydrogen Analyzers

LIMITING CONDITION FOR OPERATION

3.6.5.1 Two independent containment hydrogen analyzers shall be **OPERABLE.**

APPLICABILITY: **MODES** 1 and 2.

ACTION:

a. With one hydrogen analyzer inoperable, restore the inoperable analyzer to **OPERABLE** status within 30 days or:

   1. Verify containment atmosphere grab sampling capability and prepare and submit a special report to the Commission pursuant to 10 CFR 50.4 within the following 30 days, outlining the **ACTION** taken, the cause for the inoperability, and the plans and schedule for restoring the system to **OPERABLE** status, or

   2. Be in at least **HOT STANDBY** within the next 6 hours.

b. With both hydrogen analyzers inoperable, restore at least one inoperable analyzer to **OPERABLE** status within 72 hours or be in at least **HOT STANDBY** within the next 6 hours.

c. Specification 3.0.4 is not applicable to this requirement.

SURVEILLANCE REQUIREMENTS

4.6.5.1.1 Each hydrogen analyzer shall be demonstrated **OPERABLE** at least bi-weekly on a **STAGGERED TEST BASIS** by drawing a sample from the Waste Gas System through the hydrogen analyzer.

4.6.5.1.2 Each hydrogen analyzer shall be demonstrated **OPERABLE** at least once per 92 days on a **STAGGERED TEST BASIS** by performing a **CHANNEL CALIBRATION** using sample gases in accordance with manufacturers' recommendations.

3/4.6 CONTAINMENT SYSTEMS

3/4.6.5 COMBUSTIBLE GAS CONTROL

Electric Hydrogen Recombiners - W

LIMITING CONDITION FOR OPERATION

3.6.5.2 Two independent Containment Hydrogen Recombiner Systems shall be **OPERABLE.**

APPLICABILITY: **MODES** 1 and 2.

ACTION: With one Hydrogen Recombiner System inoperable, restore the inoperable system to **OPERABLE** status within 30 days or be in at least **HOT STANDBY** within the next 6 hours.

SURVEILLANCE REQUIREMENTS

4.6.5.2 Each Hydrogen Recombiner System shall be demonstrated **OPERABLE:**

a. At least once per 6 months by verifying during a recombiner system functional test that the minimum heater sheath temperature increases to $\geq$ 700°F within 90 minutes and is maintained for at least 2 hours.

b. At least once per **REFUELING INTERVAL** by:

1. Performing a **CHANNEL CALIBRATION** of all recombiner instrumentation and control circuits.

2. Verifying through a visual examination that there is no evidence of abnormal conditions within the recombiners (i.e., loose wiring or structural connections, deposits of foreign materials, etc.)

3. Verifying during a recombiner system functional test that the heater sheath temperature increase to $\geq$ 1200°F within 5 hours is maintained for at least 4 hours.

4. Verifying the integrity of the heater electrical circuits by performing a continuity and resistance to ground test following the above required functional test. The resistance to ground for any heater phase shall be $\geq$ 10,000 ohms.

3/4.6 CONTAINMENT SYSTEMS

3/4.6.6 PENETRATION ROOM EXHAUST AIR FILTRATION SYSTEM

LIMITING CONDITION FOR OPERATION

3.6.6.1 Two independent containment penetration room exhaust air filter trains shall be **OPERABLE.**

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

ACTION: With one containment penetration room exhaust air filter train inoperable, restore the inoperable train to **OPERABLE** status within 7 days or be in at least **HOT STANDBY** within the next 6 hours and in **COLD SHUTDOWN** within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.6.6.1 Each containment penetration room exhaust air filter train shall be demonstrated **OPERABLE:**

a. At least once per 31 days on **STAGGERED TEST BASIS** by initiating, from the control room, flow through the HEPA filter and charcoal adsorber train and verifying that the train operates for at least 15 minutes.

b. At least once per 18 months or (1) after any structural maintenance on the HEPA filter or charcoal adsorber housings, 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 filter train at a flow rate of 2000 cfm $\pm$ 10%.

SURVEILLANCE REQUIREMENTS (Continued)

2. Verifying that the HEPA filter banks remove ≥ 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 ± 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 ≥ 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 ± 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 ≥ 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 ≥ 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 ± 10%.

SURVEILLANCE REQUIREMENTS (Continued)

d. At least once per 18 months 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 2000 cfm ± 10%.

2. Verifying that the filter train starts on Containment Isolation Test Signal.

e. After each complete or partial replacement of a HEPA filter bank by verifying that the HEPA filter banks remove ≥ 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 2000 cfm ± 10%.

f. After each complete or partial replacement of a charcoal adsorber bank by verifying that the charcoal adsorbers remove ≥ 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 2000 cfm ± 10%.

g. After maintenance affecting the air flow distribution by testing in-place and verifying that the air flow distribution is uniform within ± 20% of the average flow per unit when tested in accordance with the provisions of Section 9 of "Industrial Ventilation" and Section 8 of ANSI N510 1975.

SURVEILLANCE REQUIREMENTS

4.9.4 Each of the above required containment penetrations shall be determined to be either in its required condition or capable of being closed by an **OPERABLE** automatic containment purge valve within 72 hours prior to the start of and at least once per 7 days during **CORE ALTERATIONS** and movement of irradiated fuel in the containment by:

a. Verifying the penetrations are in their required condition, or

b. Testing the containment purge valves per Specification 4.9.9.

3/4.6.2 DEPRESSURIZATION AND COOLING SYSTEMS

3/4.6.2.1 Containment Spray System

The **OPERABILITY** of the Containment Spray System ensures that containment depressurization and cooling capability will be available in the event of a LOCA. The pressure reduction and resultant lower containment leakage rate are consistent with the assumptions used in the accident analyses.

3/4.6.2.2 Containment Cooling System

The **OPERABILITY** of the Containment Cooling System ensures that 1) the containment air temperature will be maintained within limits during normal operation, and 2) adequate heat removal capacity is available during post-LOCA conditions.

3/4.6.3 IODINE REMOVAL SYSTEM

The **OPERABILITY** of the containment iodine filter trains ensures that sufficient iodine removal capability will be available in the event of a LOCA. The reduction in containment iodine inventory reduces the resulting **SITE BOUNDARY** radiation doses associated with containment leakage. The operation of this system and resultant iodine removal capacity are consistent with the assumptions used in the LOCA analyses.

3/4.6.4 CONTAINMENT ISOLATION VALVES

The **OPERABILITY** of the containment isolation valves ensure that the containment atmosphere will be isolated from the outside environment in the event of a release of radioactive material to the containment atmosphere or pressurization of the containment. Containment isolation within the time limits specified in plant procedures ensures that the release of radioactive material to the environment will be consistent with the assumptions used in the analyses for a LOCA.

ATTACHMENT TO LICENSE AMENDMENT

AMENDMENT NO. 197 FACILITY OPERATING LICENSE NO. DPR-69

DOCKET NO. 50-318

Revise Appendix A as follows:

Remove Pages	Insert Pages
V	V
3/4 3-12	3/4 3-12
3/4 6-2 through 3/4 6-3	3/4 6-2 through 3/4 6-3
3/4 6-10 through 3/4 6-16	3/4 6-10 through 3/4 6-16*
3/4 6-17 through 3/4 6-18	3/4 6-17 through 3/4 6-18
3/4 6-19 through 3/4 6-24	3/4 6-19 through 3/4 6-23*
3/4 9-5	3/4 9-5
B 3/4 6-3	B 3/4 6-3

*Indicates Rollover Pages

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LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS

TABLE 3.3-3 (Continued)

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION

FUNCTIONAL UNIT	TOTAL NO. OF CHANNELS	CHANNELS TO TRIP	MINIMUM CHANNELS OPERABLE	APPLICABLE MODES	ACTION
6. CONTAINMENT PURGE VALVES ISOLATION					
a. Manual (Purge Valve Control Switches)	1/valve	1/valve	1/valve	6**	8
b. Containment Radiation - High Area Monitor	4	2	3	6**	8
7. LOSS OF POWER					
a. 4.16 kv Emergency Bus Undervoltage (Loss of Voltage)	4/Bus	2/Bus	3/Bus	1, 2, 3	7*
b. 4.16 kv Emergency Bus Undervoltage (Degraded Voltage)	4/Bus	2/Bus	3/Bus	1, 2, 3	7*

SURVEILLANCE REQUIREMENTS (Continued)

d. By verifying that the containment purge blind flanges are installed and sealed prior to entering MODE 4 following a shutdown where the blind flanges were removed, by conducting a Type B test per 10 CFR Part 50, Appendix J. If only one blind flange was removed, only that blind flange must be tested unless testing is required by Technical Specification 4.6.1.2.

3/4.6 CONTAINMENT SYSTEMS

3/4.6.1 PRIMARY CONTAINMENT

Containment Leakage

LIMITING CONDITION FOR OPERATION

3.6.1.2 Containment leakage rates shall be limited to:

a. A maximum allowable containment leakage rate, L_a, as specified in Specification 6.5.6, "Containment Leakage Rate Testing Program."

b. A combined leakage rate of $\leq 0.60\ L_a$, for all penetrations and valves subject to Types B and C tests, as specified in Specification 6.5.6, "Containment Leakage Rate Testing Program."

APPLICABILITY: **MODES 1, 2, 3 and 4.**

ACTION: With either (a) the measured overall integrated containment leakage rate exceeding the acceptance criteria specified in the Containment Leakage Rate Testing Program, or (b) with the measured combined leakage rate for all penetrations and valves subject to Types B and C tests exceeding $0.60\ L_a$, restore the overall integrated containment leakage rate, and the combined leakage rate for all penetrations and valves subject to Type B and C tests to within the acceptance criteria specified in the Containment Leakage Rate Testing Program prior to increasing the Reactor Coolant System temperature above 200°F.

SURVEILLANCE REQUIREMENTS

4.6.1.2 The containment leakage rates shall be determined in conformance with the criteria, methods, schedule, and provisions specified in the Containment Leakage Rate Testing Program:

a. Perform required visual examinations and leakage rate testing, except for containment air lock testing, in accordance with the Containment Leakage Rate Testing Program.

3/4.6 CONTAINMENT SYSTEMS

3/4.6.2 DEPRESSURIZATION AND COOLING SYSTEMS

Containment Spray System

LIMITING CONDITION FOR OPERATION

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

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

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

SURVEILLANCE REQUIREMENTS

4.6.2.1 Each Containment Spray System shall be demonstrated **OPERABLE**:

a. At least once per 31 days by:

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

b. At least once per 92 days by:

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

c. At least once per **REFUELING INTERVAL**, during shutdown, by:

1. Verifying that each automatic valve in the flow path actuates to its correct position on the appropriate ESFAS test signal.

2. Verifying that each spray pump starts automatically on the appropriate ESFAS test signal.

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* With pressurizer pressure $\geq$ 1750 psia.

SURVEILLANCE REQUIREMENTS (Continued)

d. At least once per 5 years by performing an air or smoke flow test through each spray header and verifying each spray nozzle is unobstructed.

3/4.6 CONTAINMENT SYSTEMS

3/4.6.2 DEPRESSURIZATION AND COOLING SYSTEMS

Containment Cooling System

LIMITING CONDITION FOR OPERATION

3.6.2.2 Two independent groups of containment air recirculation and cooling units shall be **OPERABLE** with two units to each group.

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

ACTION:

a. With one group of required containment air recirculation and cooling units inoperable and both Containment Spray Systems **OPERABLE**, restore the inoperable group of air recirculation and cooling units to **OPERABLE** status within 7 days or be in at least **HOT SHUTDOWN** within 12 hours.

b. With three required containment air recirculation and cooling units inoperable and both Containment Spray Systems **OPERABLE**, restore at least one required air recirculation and cooling unit to **OPERABLE** status within 8 hours or be in at least **HOT SHUTDOWN** within 12 hours. Restore both above required groups of containment air recirculation and cooling units to **OPERABLE** status within 7 days or be in at least **HOT SHUTDOWN** within 12 hours.

c. With one group of required containment air recirculation and cooling units inoperable and one Containment Spray System inoperable, restore the inoperable Containment Spray System to **OPERABLE** status within 72 hours or be in at least **HOT SHUTDOWN** within 12 hours. Restore the inoperable group of containment air recirculation and cooling units to **OPERABLE** status within 7 days of initial loss or be in at least **HOT SHUTDOWN** within 12 hours.

SURVEILLANCE REQUIREMENTS

4.6.2.2 Each containment air recirculation and cooling unit shall be demonstrated **OPERABLE:**

a. At least once per 31 days on a **STAGGERED TEST BASIS** by:

1. Starting each unit from the control room.

SURVEILLANCE REQUIREMENTS (Continued)

2. Verifying that each unit operates for at least 15 minutes.

3. Verifying a cooling water flow rate of $\geq$ 2000 gpm to each cooling unit when the full flow service water outlet valves are fully open.

b. At least once per **REFUELING INTERVAL** by verifying that each unit starts automatically on the appropriate ESFAS test signal.

3/4.6 CONTAINMENT SYSTEMS

3/4.6.3 IODINE REMOVAL SYSTEM

LIMITING CONDITION FOR OPERATION

3.6.3.1 Three independent containment iodine filter trains shall be **OPERABLE.**

APPLICABILITY: **MODES** 1, 2, 3 and 4.

ACTION: With one iodine filter train inoperable, restore the inoperable train to **OPERABLE** status within 7 days or be in at least **HOT STANDBY** within the next 6 hours and in **COLD SHUTDOWN** within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.6.3.1 Each iodine filter train shall be demonstrated **OPERABLE:**

a. At least once per 31 days on a **STAGGERED TEST BASIS** by initiating, from the control room, flow through the HEPA filter and charcoal adsorber train and verifying that the train operates for at least 15 minutes.

b. At least once per **REFUELING INTERVAL** or (1) after any structural maintenance on the HEPA filter or charcoal adsorber housings, 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 filter train at a flow rate of 20,000 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 filter train at a flow rate of 20,000 cfm $\pm$ 10%.

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 ≥ 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 ± 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 ≥ 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 ≥ 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 ± 10%.

SURVEILLANCE REQUIREMENTS (Continued)

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 ± 10%.

2. Verifying that the filter train starts on the appropriate ESFAS test signal.

e. After each complete or partial replacement of a HEPA filter bank by verifying that the HEPA filter banks remove ≥ 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 20,000 cfm ± 10%.

f. After each complete or partial replacement of a charcoal adsorber bank by verifying that the charcoal adsorbers remove ≥ 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 ± 10%.

g. After maintenance affecting the air flow distribution by testing in-place and verifying that the air flow distribution is uniform within ± 20% of the average flow per unit when tested in accordance with the provisions of Section 9 of "Industrial Ventilation" and Section 8 of ANSI N510-1975.

3/4.6 CONTAINMENT SYSTEMS

3/4.6.4 CONTAINMENT ISOLATION VALVES

LIMITING CONDITION FOR OPERATION

3.6.4.1 Each containment isolation valve shall be **OPERABLE.*** #

APPLICABILITY: **MODES 1, 2, 3, and 4.**

ACTION: With one or more of the isolation valve(s) inoperable, either:

a. Restore the inoperable valve(s) to **OPERABLE** status within 4 hours, or

b. Isolate each affected penetration within 4 hours by use of at least one deactivated automatic valve secured in the isolation position, or

c. Isolate the affected penetration within 4 hours by use of at least one closed manual valve or blind flange; or

d. Be in at least **HOT STANDBY** within the next 6 hours and in **COLD SHUTDOWN** within the following 30 hours.

e. The provisions of Specification 3.0.4 are not applicable provided that the affected penetration is isolated.

SURVEILLANCE REQUIREMENTS

4.6.4.1.1 Each containment isolation valve shall be demonstrated **OPERABLE**# prior to returning the valve to service after maintenance, repair, or replacement work is performed on the valve or its associated actuator, control, or power circuit by performance of a cycling test and verification of isolation time.

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* Valves that are normally closed may be opened on an intermittent basis under administrative control.

\# Containment purge isolation valves isolation times will only apply in **MODE** 6 when the valves are required to be **OPERABLE** and they are open.

SURVEILLANCE REQUIREMENTS (Continued)

4.6.4.1.2 Each containment isolation valve shall be demonstrated **OPERABLE** during the **COLD SHUTDOWN** or **REFUELING MODE** at least once per **REFUELING INTERVAL** by:

a. Verifying that on each containment isolation Channel A or Channel B test signal, each required isolation valve actuates to its isolation position.

b. Verifying that on each Safety Injection Actuation Channel A or Channel B test signal, each required isolation valve actuates to its isolation position.

4.6.4.1.3 The isolation time of each power-operated or automatic containment isolation valve shall be determined to be within its limit when tested pursuant to Technical Specification 4.0.5.

3/4.6 CONTAINMENT SYSTEMS

3/4.6.5 COMBUSTIBLE GAS CONTROL

Hydrogen Analyzers

LIMITING CONDITION FOR OPERATION

3.6.5.1 Two independent containment hydrogen analyzers shall be **OPERABLE.**

APPLICABILITY: **MODES 1 and 2.**

ACTION:

a. With one hydrogen analyzer inoperable, restore the inoperable analyzer to **OPERABLE** status within 30 days or:

   1. Verify containment atmosphere grab sampling capability and prepare and submit a special report to the Commission pursuant to Specification 6.9.2 within the following 30 days, outlining the action taken, the cause for the inoperability, and the plans and schedule for restoring the system to **OPERABLE** status, or

   2. Be in at least **HOT STANDBY** within the next 6 hours.

b. With both hydrogen analyzers inoperable, restore at least one inoperable analyzer to **OPERABLE** status within 72 hours or be in at least **HOT STANDBY** within the next 6 hours.

c. Specification 3.0.4 is not applicable to this requirement.

SURVEILLANCE REQUIREMENTS

4.6.5.1.1 Each hydrogen analyzer shall be demonstrated **OPERABLE** at least bi-weekly on a **STAGGERED TEST BASIS** by drawing a sample from the Waste Gas System through the hydrogen analyzer.

4.6.5.1.2 Each hydrogen analyzer shall be demonstrated **OPERABLE** at least once per 92 days on a **STAGGERED TEST BASIS** by performing a **CHANNEL CALIBRATION** using sample gases in accordance with manufacturers' recommendations.

3/4.6 CONTAINMENT SYSTEMS

3/4.6.5 COMBUSTIBLE GAS CONTROL

Electric Hydrogen Recombiners - W

LIMITING CONDITION FOR OPERATION

3.6.5.2 Two independent Containment Hydrogen Recombiner Systems shall be **OPERABLE.**

APPLICABILITY: **MODES** 1 and 2.

ACTION: With one Hydrogen Recombiner System inoperable, restore the inoperable system to **OPERABLE** status within 30 days or be in at least **HOT STANDBY** within the next 6 hours.

SURVEILLANCE REQUIREMENTS

4.6.5.2 Each Hydrogen Recombiner System shall be demonstrated **OPERABLE:**

a. At least once per 6 months by verifying during a recombiner system functional test that the minimum heater sheath temperature increases to $\geq$ 700°F within 90 minutes and is maintained for at least 2 hours.

b. At least once per **REFUELING INTERVAL** by:

1. Performing a **CHANNEL CALIBRATION** of all recombiner instrumentation and control circuits.

2. Verifying through a visual examination that there is no evidence of abnormal conditions within the recombiners (i.e., loose wiring or structural connections, deposits of foreign materials, etc.)

3. Verifying during a recombiner system functional test that the heater sheath temperature increase to $\geq$ 1200°F within 5 hours is maintained for at least 4 hours.

4. Verifying the integrity of the heater electrical circuits by performing a continuity and resistance to ground test following the above required functional test. The resistance to ground for any heater phase shall be $\geq$ 10,000 ohms.

3/4.6 CONTAINMENT SYSTEMS

3/4.6.6 PENETRATION ROOM EXHAUST AIR FILTRATION SYSTEM

LIMITING CONDITION FOR OPERATION

3.6.6.1 Two independent containment penetration room exhaust air filter trains shall be **OPERABLE.**

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

ACTION: With one containment penetration room exhaust air filter train inoperable, restore the inoperable train to **OPERABLE** status within 7 days or be in at least **HOT STANDBY** within the next 6 hours and in **COLD SHUTDOWN** within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.6.6.1 Each containment penetration room exhaust air filter train shall be demonstrated **OPERABLE:**

a. At least once per 31 days on **STAGGERED TEST BASIS** by initiating, from the control room, flow through the HEPA filter and charcoal adsorber train and verifying that the train operates for at least 15 minutes.

b. At least once per 18 months or (1) after any structural maintenance on the HEPA filter or charcoal adsorber housings, 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 filter train at a flow rate of 2000 cfm $\pm$ 10%.

SURVEILLANCE REQUIREMENTS (Continued)

2. Verifying that the HEPA filter banks remove ≥ 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 ± 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 ≥ 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 ± 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 ≥ 90% for radioactive methyl iodine when the sample is tested in accordance with ANSI N510-1975 (30°C, 95% R.H.).

SURVEILLANCE REQUIREMENTS (Continued)

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 ≥ 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 ± 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 < 6 inches Water Gauge while operating the filter train at a flow rate of 2000 cfm ± 10%.

2. Verifying that the filter train starts on Containment Isolation Test Signal.

e. After each complete or partial replacement of a HEPA filter bank by verifying that the HEPA filter banks remove ≥ 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 2000 cfm ± 10%.

f. After each complete or partial replacement of a charcoal adsorber bank by verifying that the charcoal adsorbers remove ≥ 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 2000 cfm ± 10%.

g. After maintenance affecting the air flow distribution by testing in-place and verifying that the air flow distribution is uniform within ± 20% of the average flow per unit when tested in accordance with the provisions of Section 9 of "Industrial Ventilation" and Section 8 of ANSI N510 1975.

SURVEILLANCE REQUIREMENTS

4.9.4 Each of the above required containment penetrations shall be determined to be either in its required condition or capable of being closed by an **OPERABLE** automatic containment purge valve within 72 hours prior to the start of and at least once per 7 days during **CORE ALTERATIONS** and movement of irradiated fuel in the containment by:

a. Verifying the penetrations are in their required condition, or

b. Testing the containment purge valves per Specification 4.9.9.

3/4.6.2 DEPRESSURIZATION AND COOLING SYSTEMS

3/4.6.2.1 Containment Spray System

The **OPERABILITY** of the Containment Spray System ensures that containment depressurization and cooling capability will be available in the event of a LOCA. The pressure reduction and resultant lower containment leakage rate are consistent with the assumptions used in the accident analyses.

3/4.6.2.2 Containment Cooling System

The **OPERABILITY** of the Containment Cooling System ensures that 1) the containment air temperature will be maintained within limits during normal operation, and 2) adequate heat removal capacity is available during post-LOCA conditions.

3/4.6.3 IODINE REMOVAL SYSTEM

The **OPERABILITY** of the containment iodine filter trains ensures that sufficient iodine removal capability will be available in the event of a LOCA. The reduction in containment iodine inventory reduces the resulting **SITE BOUNDARY** radiation doses associated with containment leakage. The operation of this system and resultant iodine removal capacity are consistent with the assumptions used in the LOCA analyses.

3/4.6.4 CONTAINMENT ISOLATION VALVES

The **OPERABILITY** of the containment isolation valves ensure that the containment atmosphere will be isolated from the outside environment in the event of a release of radioactive material to the containment atmosphere or pressurization of the containment. Containment isolation within the time limits specified in plant procedures ensures that the release of radioactive material to the environment will be consistent with the assumptions used in the analyses for a LOCA.

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 221 TO FACILITY OPERATING LICENSE NO. DPR-53

AND AMENDMENT NO. 197 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 August 1, 1996, the Baltimore Gas and Electric Company, the licensee for Calvert Cliffs Nuclear Power Plant, Unit Nos. 1 and 2, applied for an amendment to the Facility Operating License Nos. DPR-53 and DPR-69. The proposed amendment would modify the Technical Specification (TS) requirements to allow use of blind flanges during Modes 1-4 in the Calvert Cliffs 1 and 2 Containment Purge System instead of the two outboard 48-inch isolation valves. The licensee indicated that the proposed changes provide a more reliable means of containment isolation for the two associated containment penetrations with no significant risk to public health and safety.

2.0 DISCUSSION AND EVALUATION

The containment purge system is a part of the containment ventilating systems designed to "provide a suitable environment for equipment and personnel with a maximum amount of safety and operating convenience" (final safety analysis report, Section 9.8). The purge system operates only during the plant shutdown and refueling modes (Operational Modes 5 and 6). The current configuration contains two air-operated, 48-inch butterfly valves, one inside the containment (inboard) and one outside of the containment (outboard), located in the supply and exhaust ducts. During power operations (Modes 1 to 4) the valves are in the "fail closed" position, with power supply disconnected. When entering Modes 5 and 6, the valves power supply is restored and the purge system becomes active.

The modification planned by the licensee will replace the two outboard containment isolation valves with testable blind flanges during plant Operational Modes 1, 2, 3, and 4. The blind flanges will form the containment pressure boundary for the penetration during these modes of operation. The blind flanges to be installed have a double, concentric, O-Ring surface with provisions for testing, and are designed in accordance with the applicable ASME Code and Standards for the containment purge system. Testing would be performed by pressurizing the annular volume formed between the double O-Rings, the blind flange and the weldneck mating flange attached to the containment penetration sleeve.

The only credible leakage path for the affected penetration would be past the O-Rings into the secondary containment which has a filtered discharge to the plant vent. The flanged penetrations would be tested in accordance with the 10 CFR Part 50, Appendix J testing requirements for Type B penetrations incorporating resilient seals. The resilient O-Ring seals in the blind flanges would not be subject to the mechanical forces which degrade the resilient seals of the 48-inch valves. With the blind flanges installed and tested, the isolation valves will no longer be required for containment isolation. Therefore, because the blind flanges are not subject to mechanical forces causing degradation and because the flanges would be tested in accordance with 10 CFR Part 50, Appendix J requirements, the staff finds the change acceptable.

3.0 STATE CONSULTATION

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

4.0 ENVIRONMENTAL CONSIDERATION

The amendments change a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. 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 (61 FR 47975). Accordingly, the amendments meet the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b) no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendments.

5.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendments will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: A. Drozd

Date: March 7, 1997

DATED: March 7, 1997

AMENDMENT NO. 221 TO FACILITY OPERATING LICENSE NO. DPR-53-CALVERT CLIFFS UNIT 1
AMENDMENT NO. 197 TO FACILITY OPERATING LICENSE NO. DPR-69-CALVERT CLIFFS UNIT 2

Docket File
PUBLIC
PDI-1 Reading
S. Varga, 14/E/4
S. Bajwa
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OGC
G. Hill (2), T-5 C3
C. Grimes, 013/H15
A. Drozd
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L. Doerflein, Region I

cc: Plant Service list

140039