



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

BALTIMORE GAS AND ELECTRIC COMPANY

DOCKET NO. 50-317

CALVERT CLIFFS NUCLEAR POWER PLANT UNIT NO. 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 168
License No. DPR-53

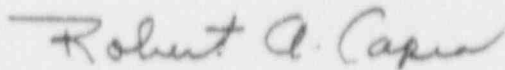
1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Baltimore Gas and Electric Company (the licensee) dated November 27, 1991, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act) and the Commission's 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. 168, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of the date of its issuance and shall be implemented within 30 days.

FOR THE NUCLEAR REGULATORY COMMISSION



Robert A. Capra, Director
Project Directorate I-1
Division of Reactor Projects - 1/11
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: February 19, 1992



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

BALTIMORE GAS AND ELECTRIC COMPANY

DOCKET NO. 50-318

CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NO. 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 147
License No. DPR-69

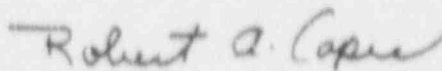
1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Baltimore Gas and Electric Company (the licensee) dated November 27, 1991, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act) and the Commission's 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. 147, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of the date of its issuance and shall be implemented within 30 days.

FOR THE NUCLEAR REGULATORY COMMISSION



Robert A. Capra, 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: February 19, 1992

ATTACHMENT TO LICENSE AMENDMENTS

AMENDMENT NO. 168 TO FACILITY OPERATING LICENSE NO. DPR-53

AMENDMENT NO. 147 TO FACILITY OPERATING LICENSE NO. DPR-69

DOCKET NOS. 50-317 AND 50-318

Revise Appendix A as follows:

Remove Pages

3/4 6-2

3/4 6-3

3/4 6-3a (DPR-53 only)

3/4 6-4* (DPR-69 only)

B 3/4 6-1

Insert Pages

3/4 6-2

3/4 6-3

3/4 6-3a

3/4 6-4* (DPR-69 only)

B 3/4 6-1

*A page that did not change, but is an overleaf.

CONTAINMENT SYSTEMS

CONTAINMENT LEAKAGE

LIMITING CONDITION FOR OPERATION

3.6.1.2 Containment leakage rates shall be limited to:

- a. An overall integrated leakage rate of:
 1. $\leq L_a$ (346,000 SCCM), 0.20 percent by weight of the containment air per 24 hours at P_a , 50 psig, or
 2. $\leq L_t$ (61,600 SCCM), 0.058 percent by weight of the containment air per 24 hours at a reduced pressure of P_t , 25 psig.
- b. A combined leakage rate of $\leq 0.50 L_a$ (173,000 SCCM), for all penetrations and valves subject to Type B and C tests when pressurized to P_a .

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With either (a) the measured overall integrated containment leakage rate exceeding $0.75 L_a$ (259,500 SCCM) or $0.75 L_t$ (46,200 SCCM), as applicable, or (b) with the measured combined leakage rate for all penetrations and valves subject to Types B and C tests exceeding $0.50 L_a$, restore the overall integrated containment leakage rate to less than or equal to $0.75 L_a$ or less than or equal to $0.75 L_t$, as applicable, and the combined leakage rate for all penetrations and valves subject to Type B and C tests to less than or equal to $0.50 L_a$ prior to increasing the Reactor Coolant System temperature above 200^oF.

SURVEILLANCE REQUIREMENTS

4.6.1.2 The containment leakage rates shall be demonstrated at the following test schedule and shall be determined in conformance with the criteria, methods and provisions specified in Appendix J of 10 CFR Part 50:

- a. Three Type A tests (Overall Integrated Containment Leakage Rate) shall be conducted at approximately equal intervals during shutdown at either P_a (50 psig) or at P_t (25 psig) during each 10-year service period.

CONTAINMENT SYSTEMS

CONTAINMENT LEAKAGE

LIMITING CONDITION FOR OPERATION

3.6.1.2 Containment leakage rates shall be limited to:

- a. An overall integrated leakage rate of:
 1. $\leq L_a$ (346,000 SCCM), 0.20 percent by weight of the containment air per 24 hours at P_a , 50 psig, or
 2. $\leq L_t$ (44,600 SCCM), 0.042 percent by weight of the containment air per 24 hours at a reduced pressure of P_t , 25 psig.
- b. A combined leakage rate of $\leq 0.50 L_a$ (173,000 SCCM) for all penetrations and valves subject to Type B and C tests when pressurized to P_a .

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With either (a) the measured overall integrated containment leakage rate exceeding $0.75 L_a$ (259,500 SCCM), or $0.75 L_t$ (33,400 SCCM), as applicable, or (b) with the measured combined leakage rate for all penetrations and valves subject to Types B and C tests exceeding $0.50 L_a$, restore the overall integrated containment leakage rate to less than or equal to $0.75 L_a$ or less than or equal to $0.75 L_t$, as applicable, and the combined leakage rate for all penetrations and valves subject to Type B and C tests to less than or equal to $0.50 L_a$ prior to increasing the Reactor Coolant System temperature above 200°F.

SURVEILLANCE REQUIREMENTS

4.6.1.2 The containment leakage rates shall be demonstrated at the following test schedule and shall be determined in conformance with the criteria, methods and provisions specified in Appendix J of 10 CFR Part 50:

- a. Three Type A tests (Overall Integrated Containment Leakage Rate) shall be conducted at approximately equal intervals during shutdown at either P_a (50 psig) or at P_t (25 psig) during each 10-year service period.

CONTAINMENT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

- b. If any periodic Type A test fails to meet either $0.75 L_a$ (259,500 SCCM) or $0.75 L_t$ (46,200 SCCM), the test schedule for subsequent Type A tests shall be reviewed and approved by the Commission. If two consecutive Type A Tests fail to meet either $0.75 L_a$ (259,500 SCCM) or $0.75 L_t$ (46,200 SCCM), a Type A test shall be performed at least every 18 months until two consecutive Type A tests meet either $0.75 L_a$ (259,500 SCCM) or $0.75 L_t$ (46,200 SCCM) at which time the above test schedule may be resumed.
- c. The accuracy of each Type A test shall be verified by a supplemental test which:
1. Confirms the accuracy of the Type A test by verifying that the difference between supplemental and Type A test data is within $0.25 L_a$ (86,500 SCCM) or $0.25 L_t$ (15,400 SCCM).
 2. Has a duration sufficient to establish accurately the change in leakage between the Type A test and supplemental test.
 3. Requires the quantity of gas injected into the containment or bled from the containment during the supplemental test to be equivalent to at least 25 percent of the total measured leakage rate at P_a (50 psig) or P_t (25 psig).
- d. Type B and C tests shall be conducted with gas at P_a (50 psig) at intervals of 24 months except for tests involving air locks.
- e. Air locks shall be tested and demonstrated OPERABLE per Surveillance Requirement 4.6.1.3.
- f. All test leakage rates shall be calculated using observed data converted to absolute values. Error analyses shall be performed to select a balanced integrated leakage measurement system.
- g. Containment purge isolation valves shall be demonstrated OPERABLE any time upon entering MODE 5 from power operation modes, unless the last surveillance test has been performed within the past 6 months or any time after being opened and prior to entering MODE 4 from shutdown modes by verifying that when the measured leakage rate is added to the leakage rates determined pursuant to Technical Specification 4.6.1.2.d for

* Exemption to Appendix "J" to 10 CFR 50.

CONTAINMENT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

- b. If any periodic Type A test fails to meet either $0.75 L_a$ (259,500 SCCM) or $0.75 L_t$ (33,400 SCCM), the test schedule for subsequent Type A tests shall be reviewed and approved by the Commission. If two consecutive Type A Tests fail to meet either $0.75 L_a$ (259,500 SCCM) or $0.75 L_t$ (33,400 SCCM), a Type A test shall be performed at least every 18 months until two consecutive Type A tests meet either $0.75 L_a$ (259,500 SCCM) or $0.75 L_t$ (33,400 SCCM); at which time the above test schedule may be resumed.
- c. The accuracy of each Type A test shall be verified by a supplemental test which:
1. Confirms the accuracy of the Type A test by verifying that the difference between supplemental and Type A test data is within $0.25 L_a$ (86,500 SCCM) or $0.25 L_t$ (11,100 SCCM).
 2. Has a duration sufficient to establish accurately the change in leakage between the Type A test and supplemental test.
 3. Requires the quantity of gas injected into the containment or bled from the containment during the supplemental test to be equivalent to at least 25 percent of the total measured leakage rate at P_a (50 psig) or P_t (25 psig).
- d. Type B and C tests shall be conducted with gas at P_a (50 psig) at intervals of 24 months except for tests involving air locks.*
- e. Air locks shall be tested and demonstrated OPERABLE per Surveillance Requirement 4.6.13.
- f. All test leakage rates shall be calculated using observed data converted to absolute values. Error analyses shall be performed to select a balanced integrated leakage measurement system.
- g. Containment purge isolation valves shall be demonstrated OPERABLE any time upon entering MODE 5 from power operation modes, unless the last surveillance test has been performed within the past 6 months or any time after being opened and prior to entering MODE 4 from shutdown modes by verifying that when the measured leakage rate is added to the leakage rates determined pursuant to Technical Specification 4.6.1.2.d for all other Type B or C penetrations, the combined leakage rate is less than or equal to $0.50 L_a$ (173,000 SCCM). The leakage rate for the containment purge isolation valves shall also be compared to the previously measured leakage rate to detect excessive valve degradation.

* Exemption to Appendix "J" to 10 CFR 50.

CONTAINMENT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

all other Type B or C penetrations, the combined leakage rate is less than or equal to 0.50 L_a (173,000 SCCM). The leakage rate for the containment purge isolation valves shall also be compared to the previously measured leakage rate to detect excessive valve degradation.

- h. The containment purge isolation valve seals shall be replaced with new seals at a frequency to ensure no individual seal remains in service greater than 2 consecutive fuel reload cycles.

CONTAINMENT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

- h. The containment purge isolation valve seals shall be replaced with new seals at a frequency to ensure no individual seal remains in service greater than 2 consecutive fuel reload cycles.

CONTAINMENT SYSTEMS

CONTAINMENT AIR LOCKS

LIMITING CONDITION FOR OPERATION

3.6.1.3 Each containment air lock shall be OPERABLE with:

- a. Both doors closed except when the air lock is being used for normal transit entry and exit through the containment, then at least one air lock door shall be closed, and
- b. An overall air lock leakage rate of $\leq 0.05 L_a$ (17,300 SCCM) at P_a , 50 psig.

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

ACTION:

- a. With an air lock inoperable, except as a result of an inoperable door gasket, restore the air lock to OPERABLE status within 24 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.
- b. With an air lock inoperable due to an inoperable door gasket:
 1. Maintain the remaining door of the affected air lock closed and sealed, and
 2. Restore the air lock 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

4.6.1.3 Each containment air lock shall be demonstrated OPERABLE:

- a.* After each opening, except when the air lock is being used for multiple entries, then at least once per 72 hours by verifying that the seal leakage is $< 0.0002 L_a$ (69.2 SCCM) as determined by precision flow measurement when the volume between the door seals is pressurized to a constant pressure of 15 psig.

* Except to Appendix "J" of 10 CFR 50.

3/4.6 CONTAINMENT SYSTEMS

BASES

3/4.6.1 PRIMARY CONTAINMENT

3/4.6.1.1 CONTAINMENT INTEGRITY

In **MODES 1, 2, 3, and 4**, primary **CONTAINMENT INTEGRITY** ensures that the release of radioactive materials from the containment atmosphere will be restricted to those leakage paths and associated leak rates assumed in the accident analyses. This restriction, in conjunction with the leakage rate limitation, will limit the site boundary radiation doses to within the limits of 10 CFR 100 during accident conditions. In **MODES 5 and 6**, the probability and consequences of these events are reduced because of the Reactor Coolant System (RCS) pressure and temperature limitations of these modes, by preventing operations which could lead to a need for containment isolation, and by providing containment isolation through penetration closure.

3/4.6.1.2 CONTAINMENT LEAKAGE

The limitations on containment leakage rates ensure that the total containment leakage volume will not exceed the value assumed in the accident analyses at the peak accident pressure, P_a . As an added conservatism, the measured overall integrated leakage rate is further limited to $\leq 0.75 L_a$ or $0.75 L_t$ (as applicable) during performance of the periodic tests to account for possible degradation of the containment leakage barriers between leak tests.

The surveillance testing for measuring leakage rates are consistent with the requirements of Appendix "J" of 10 CFR 50, except for the performance of Type B and C leakage testing. The allowable leakage rate has been proportionately reduced, as recommended in Generic Letter 91-04, to account for an extended surveillance schedule of 24 months + 25% (per Specification 4.0.2). This is an exemption from Appendix J to 10 CFR Part 50.

3/4.6.1.3 CONTAINMENT AIR LOCKS

The limitations on closure and leak rate for the containment air locks are required to meet the restrictions on **CONTAINMENT INTEGRITY** and containment leak rate. Surveillance testing of the air lock seals provides assurance that the overall air lock leakage will not become excessive due to seal damage during the intervals between air lock leakage tests.

3/4.6 CONTAINMENT SYSTEMS

BASES

3/4.6.1 PRIMARY CONTAINMENT

3/4.6.1.1 CONTAINMENT INTEGRITY

In **MODES** 1, 2, 3, and 4, primary **CONTAINMENT INTEGRITY** ensures that the release of radioactive materials from the containment atmosphere will be restricted to those leakage paths and associated leak rates assumed in the accident analyses. This restriction, in conjunction with the leakage rate limitation, will limit the site boundary radiation doses to within the limits of 10 CFR 100 during accident conditions. In **MODES** 5 and 6, the probability and consequences of these events are reduced because of the Reactor Coolant System (RCS) pressure and temperature limitations of these modes, by preventing operations which could lead to a need for containment isolation, and by providing containment isolation through penetration closure.

3/4.6.1.2 CONTAINMENT LEAKAGE

The limitations on containment leakage rates ensure that the total containment leakage volume will not exceed the value assumed in the accident analyses at the peak accident pressure, P_a . As an added conservatism, the measured overall integrated leakage rate is further limited to $\leq 0.75 L_a$ or $\leq 0.75 L_t$ (as applicable) during performance of the periodic tests to account for possible degradation of the containment leakage barriers between leakage tests.

The surveillance testing for measuring leakage rates are consistent with the requirements of Appendix "J" of 10 CFR 50, except for the performance of Type B and C leakage testing. The allowable leakage rate has been proportionately reduced, as recommended in Generic Letter 91-04, to account for an extended surveillance schedule of 24 months + 25% (per Specification 4.0.2). This is an exemption from Appendix J to 10 CFR Part 50.

3/4.6.1.3 CONTAINMENT AIR LOCKS

The limitations on closure and leak rate for the containment air locks are required to meet the restrictions on **CONTAINMENT INTEGRITY** and containment leak rate. Surveillance testing of the air lock seals provides assurance that the overall air lock leakage will not become excessive due to seal damage during the intervals between air lock leakage tests.