



UNITED STATES
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D. C. 20555

March 11, 1991

Docket No. 50-317

Mr. G. C. Creel
Vice President - Nuclear Energy
Baltimore Gas and Electric Company
Calvert Cliffs Nuclear Power Plant
MD Rts. 2 & 4
P. O. Box 1535
Lusby, Maryland 20657

Dear Mr. Creel:

SUBJECT: ISSUANCE OF AMENDMENTS FOR CALVERT CLIFFS NUCLEAR POWER PLANT,
UNIT NO. 1, (TAC NO. 79460)

The Commission has issued the enclosed Amendment No. 152 to Facility Operating License No. DPR-53 for the Calvert Cliffs Nuclear Power Plant, Unit No. 1. The amendments consist of changes to the Technical Specifications in response to your application transmitted by letter dated January 18, 1991.

This amendment adds a footnote to Technical Specification 4.6.1.2.d which provides a one-time schedule extension for the Type C local leak rate test (LLRT) for containment isolation valve 1-CVC-515. The required due date of March 23, 1991, is extended by the footnote to June 21, 1991, which is a period of approximately three months.

Your request also required a one-time schedule exemption for the LLRT on valve 1-CVC-515 from the schedule requirements which are also specified in 10 CFR Part 50, Appendix J, Paragraph III.D.3. The requested exemption was issued by our letter to you dated February 25, 1991.

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March 11, 1991

Mr. G. C. Creel

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A copy of the related Safety Evaluation is enclosed. A Notice of Issuance will be included in the Commission's next regular bi-weekly 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. 152 to DPR-53
- 2. Safety Evaluation

cc w/enclosures:
See next page

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Mr. G. C. Creel
Baltimore Gas & Electric Company

Calvert Cliffs Nuclear Power Plant
Unit Nos. 1 and 2

cc:

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

BALTIMORE GAS AND ELECTRIC COMPANY

DOCKET NO. 50-317

CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 152
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 January 18, 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:

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(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No.152, 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: March 11, 1991

ATTACHMENT TO LICENSE AMENDMENTS

AMENDMENT NO. 152 FACILITY OPERATING LICENSE NO. DPR-53

DOCKET NO.50-317

Revise Appendix A as follows:

Remove Page

3/4 6-3

3/4 6-4*

Insert Page

3/4 6-3

3/4 6-3a

3/4 6-4*

*Pages which did not change, but are overleaf.

CONTAINMENT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

- b. If any periodic Type A test fails to meet either $.75 L_a$ (259,500 SCCM) or $.75 L_t$ (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 $.75 L_a$ (259,500 SCCM) or $.75 L_t$ (46,200 SCCM), a Type A test shall be performed at least every 18 months until two consecutive Type A tests meet either $.75 L_a$ (259,500 SCCM) or $.75 L_t$ (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 no greater than 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

* A one-time extension has been granted for CVC-515. The test due March 23, 1991 has been extended to June 21, 1991.

CONTAINMENT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

all other Type B or C penetrations, the combined leakage rate is less than or equal to $0.60 L_a$ (207,600 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

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,

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



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 152 TO FACILITY OPERATING LICENSE NO. DPR-53
BALTIMORE GAS AND ELECTRIC COMPANY
CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT 1
DOCKET NO. 50-317

1.0 INTRODUCTION

By letter dated January 18, 1991, the licensee requested an amendment to the Calvert Cliffs, Unit 1, Technical Specifications (TSs). The request is to add a footnote to TS 4.6.1.2.d which will allow a one-time schedule extension for the required Type C local leak rate test (LLRT) for containment isolation valve number 1-CVC-515. The required due date for the LLRT of March 23, 1991, would be extended to June 21, 1991. This extension is for a period of approximately three months.

The licensee's request also required that a one-time schedule exemption for the LLRT on the subject valve be granted from the schedule requirements which are also specified in 10 CFR Part 50, Appendix J, Paragraph III.D.3. The requested Exemption and supporting Environmental Assessment were issued by letters dated February 25, 1991, and February 14, 1991, respectively.

2.0 BACKGROUND

The current Calvert Cliffs, Unit 1, TSs require that LLRTs be performed on all containment isolation valves at intervals no greater than 24 months. Valve 1-CVC-515 (515), for which the licensee has requested a one-time LLRT interval extension, is located in the Chemical Volume and Control System (CVCS). The 515 valve's normal system function is a letdown stop valve in a 2 inch letdown line. The 515 valve is in series with a second stop valve (516). Both valves, 515 and 516, are air operated and located inside of containment between one of the reactor cold legs and a regenerative heat exchanger. The outlet of the heat exchanger then exits the containment via penetration 2A. The 515 and 516 valves have a safety function as containment isolation valves for the 2A containment penetration during design basis accident conditions.

Valves 515 and 516 are normally open during plant operation and will fail close upon loss of air. Both valves receive CVCS isolation signals for abnormal conditions and Safety Injection Actuation Signal (SIAS) for design basis accident conditions. Both signals result in closing the valves.

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The safety-related function of containment isolation valves is to maintain containment integrity during and following a design basis event to prevent release of fission products to the environment. Each containment penetration has two isolation valves in series to assure containment isolation assuming a single failure.

All containment isolation valves normally have their LLRTs performed during a refueling or other planned outage of sufficient duration. All the containment isolation valves, except 515, are scheduled for their LLRT by June 21, 1991, which is 24 months from their last LLRT. However, valve 515 required maintenance in March of 1989 and a LLRT was performed after the maintenance. The valve was not retested in June with the other valves. The Unit 1 schedule included a planned outage in early March of 1991 which would have allowed all of the containment isolation valves to have LLRTs performed.

3.0 EVALUATION

The maximum allowable leakage for the LLRTs performed on valves 515 and 516 is administratively set at 10,000 standard cubic centimeters per minute (sccm). The licensee's review of the test results since 1979 indicate that the maximum LLRT leakage measured on valve 515 was 3,500 sccm and on valve 516 was 5,150 sccm. Both of these values have been well within the established limit. It should also be noted, that the maximum LLRT leakage measured on valve 515 in March of 1989 was only 13 sccm. Neither valve 515 or 516 have ever failed a LLRT.

The LLRTs are performed on the containment isolation valves to ensure that the total containment leakage will be within its specified limits. The TS limit imposed on the Calvert Cliffs, Unit 1, for total containment leakage is 346,000 sccm. The most recent Type A Integrated Leak Rate Test (ILRT), which is a measure of the total containment leakage, was performed on the Unit 1 containment in May of 1988. The measured results of the ILRT was 138,400 sccm which is well below the TS limit.

Although, as noted above, valves 515 and 516 have never failed a LLRT, other Unit 1 containment isolation valves have failed their LLRTs. The primary reason attributed to these failures has been increased leakage due to gradual wear during operational conditions. The temperatures, pressures, and flows to which the valves are exposed are much higher during unit operation than when the unit is shut down. Unit 1 has been shut down during most of the current 24-month LLRT test interval. As the result of the extended shutdown period during this test interval, the containment isolation valves have been exposed to less severe temperatures, pressures, and flows which should result in lower leakage of the individual valves.

The initial schedule for the shutdown of Unit 1 and the restart of Unit 2 would have allowed all of the containment isolation valves to have their LLRTs performed during the same outage, including valve 515. However, due to area electrical needs, the Pennsylvania-New Jersey-Maryland (PJM) Network requested that the licensee not shut down Unit 1 until late March. Also, subsequent delays in the restart of Unit 2 would result in conflicts for the licensee's

plant staff to provide operational support for the initial startup of Unit 2 and concurrent shutdown of Unit 1. The requested extension for performing the LLRT on valve 515 will allow for improved coordination of the plant staff to support both units in a safe manner while providing flexibility in performing all the Unit 1 outage related tasks.

4.0 SUMMARY

The staff has determined that the one-time requested extension for the schedule to perform the LLRT on valve 1-CVC-515 is acceptable. The staff's determination is based on: 1) the results of the LLRTs on both valves 515 and 516 which have never exceed the allowable leakage limits since 1979; 2) the results of the LLRTs on the Unit 1 containment, including the most recent which indicated that the total containment leakage was well below the TS limit; 3) the short period of time that Unit 1 was operated during the current 24-month LLRT interval; 4) the short duration of the requested extension resulting in a low likelihood of a design basis event occurring which requires containment isolation; and 5) the extension will allow for overall improvement in coordination of the activities of both Units 1 and 2 in a safe manner.

5.0 STATE CONSULTATION

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

6.0 ENVIRONMENTAL CONSIDERATION

The amendment changes a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 and changes surveillance requirements. The NRC staff has determined that the amendment involves 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 amendment involves no significant hazards consideration, and there has been no public comment on such finding (56 FR 4861). Accordingly, the amendment meets 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 amendment.

7.0 CONCLUSION

The Commission has concluded, based on the consideration 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 amendment will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor:
D. McDonald

Dated: March 11, 1991