



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20565-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 212 TO FACILITY OPERATING LICENSE NO. DPR-53
AND AMENDMENT NO. 189 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

On September 12, 1995, the U.S. Nuclear Regulatory Commission (NRC) approved issuance of a revision to 10 CFR Part 50, Appendix J, "Primary Reactor Containment Leakage Testing for Water-Cooled Power Reactors" which was subsequently published in the Federal Register on September 26, 1995, and became effective on October 26, 1995. The NRC added Option B, "Performance-Based Requirements," to allow licensees to voluntarily replace the prescriptive testing requirements of 10 CFR Part 50, Appendix J, with testing requirements based on both overall performance and the performance of individual components. Option B permits a licensee to choose Type A; or Type B and C; or Type A, B and C testing on a performance basis.

By letter dated January 16, 1996, Baltimore Gas and Electric Company (BGE), the licensee for the Calvert Cliffs Nuclear Power Plant, Unit Nos. 1 and 2, applied for amendments to Facility Licenses DPR-53 and DRP-69. The proposed changes would permit implementation of 10 CFR Part 50, Appendix J, Option B, for Type A testing only. BGE has established a "Primary Containment Leakage Rate Testing Program" and proposed adding this program to the Technical Specifications (TSs). The program references Regulatory Guide 1.163 "Performance-Based Containment Leak Test Program" which specifies a method acceptable to the NRC for complying with Option B.

2.0 BACKGROUND

Compliance with Appendix J provides assurance that the primary containment, including those systems and components which penetrate the primary containment, do not exceed the allowable leakage rate specified in the TSs and the TS Bases. The allowable leakage rate is determined so that the leakage assumed in the safety analyses is not exceeded.

On February 4, 1992, the NRC published a notice in the Federal Register (57 FR 4166) discussing a planned initiative to begin eliminating requirements marginal to safety which impose a significant regulatory burden. Part 50 of 10 CFR, Appendix J, "Primary Containment Leakage Testing for Water-Cooled Power Reactors," was considered for this initiative and the staff undertook a

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study of possible changes to this regulation. The study examined the previous performance history of domestic containments and examined the effect on risk of a revision to the requirements of Appendix J. The results of this study are reported in NUREG-1493, "Performance-Based Leak-Test Program."

Based on the results of this study, the staff developed a performance-based approach to containment leakage rate testing. On September 12, 1995, the NRC approved issuance of this revision to 10 CFR Part 50, Appendix J, which was subsequently published in the Federal Register on September 26, 1995, and became effective on October 26, 1995. The revision added Option B, "Performance-Based Requirements," to Appendix J to allow licensees to voluntarily replace the prescriptive testing requirements of Appendix J with testing requirements based on both overall and individual component leakage rate performance.

Regulatory Guide (RG) 1.163, "Performance-Based Containment Leak Test Program," was developed as a method acceptable to the NRC staff for implementing Option B. This regulatory guide states that the Nuclear Energy Institute (NEI) guidance document NEI 94-01, Rev. 0, "Industry Guideline for Implementing Performance-Based Option of 10 CFR Part 50, Appendix J," provides methods acceptable to the NRC staff for complying with Option B with four exceptions which are described therein.

Option B requires that RG 1.163 or another implementation document used by a licensee to develop a performance-based leakage testing program must be included, by general reference, in the plant TSs. BGE has referenced RG 1.163 in the Calvert Cliffs, Unit Nos. 1 and 2, TSs.

RG 1.163 specifies an extension in Type A test frequency to at least one test in 10 years based upon two consecutive successful tests. Type B tests may be extended up to a maximum interval of 10 years based upon completion of two consecutive successful tests and Type C tests may be extended up to 5 years based on two consecutive successful tests.

By letter dated October 20, 1995, NEI proposed TSs to implement Option B. After some discussion, the staff and NEI agreed on final TSs which were transmitted to NEI in a letter dated November 2, 1995. These TSs are to serve as a model for licensees to develop plant-specific TSs in preparing amendment requests to implement Option B.

In order for a licensee to determine the performance of each component, factors that are indicative of or affect performance, such as an administrative leakage limit, must be established. The administrative limit is selected to be indicative of the potential onset of component degradation. Although these limits are subject to NRC inspection to assure that they are selected in a reasonable manner, they are not TSs requirements. Failure to meet an administrative limit requires the licensee to return to the minimum value of the test interval.

Option B requires that the licensee maintain records to show that the criteria for Types A, B and C tests have been met. In addition, the licensee must maintain comparisons of the performance of the overall containment system and the individual components to show that the test intervals are adequate. These records are subject to NRC inspection. As previously noted, BGE is requesting Option B for Type A testing only.

3.0 EVALUATION

BGE's January 16, 1996, letter to the NRC proposes to establish a "Primary Containment Leakage Rate Testing Program" for Type A testing only and proposes to add this program to the Calvert Cliffs, Unit 1 and 2, TSs. The program will reference RG 1.163, "Performance-Based Containment Leak Test Program," which specifies methods acceptable to the NRC for complying with Option B. This requires a change to existing TSs 3.6.1.2, 4.6.1.2, 4.6.1.6.3 and the addition of the "Primary Containment Leakage Rate Testing Program" as TS 6.19. The corresponding TS Bases were also modified to reflect the proposed changes.

Option B permits a licensee to choose Type A; or Types B and C; or Types A, B and C; testing to be done on a performance basis. BGE has elected to perform only Type A testing on a performance basis; therefore, Types B and C leakage testing and reporting will continue to be performed as required by Option A and the current TSs. In addition, BGE reviewed its records for approved exemptions to Appendix J for the Calvert Cliffs units and did not identify any current exemptions which would effect the adoption of Option B for Type A testing.

BGE is developing its "Containment Leakage Rate Testing Program" in accordance with RG 1.163 and NEI 94-01. The performance-based program will be in place prior to implementing the proposed TSs. The program and records will be maintained at the site and available for NRC audit.

The TS changes proposed by BGE are in compliance with the requirements of Option B and consistent with the guidance of RG 1.163. The generic TSs included in the November 2, 1995, letter were used as the model for the proposed TSs with changes as necessary to implement Option B for Type A testing only and formatting changes to be consistent with the Calvert Cliffs TSs.

Therefore, based on the above, the NRC staff has determined that the proposed TSs and supporting TS Bases are acceptable.

4.0 STATE CONSULTATION

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

5.0 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 (61 FR 5810). 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.

6.0 CONCLUSION

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

Principal Contributors: J. Pulsipher
D. McDonald

Date: March 13, 1996

March 13, 1996

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. M94500) AND UNIT NO. 2 (TAC NO. M94501)

Dear Mr. Cruse:

The Commission has issued the enclosed Amendment No. 212 to Facility Operating License No. DPR-53 and Amendment No. 189 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 January 16, 1996.

The amendments revise the TSs to reflect the approval for the use of 10 CFR Part 50, Appendix J, Option B, for the Calvert Cliffs Nuclear Power Plant, Unit Nos. 1 and 2, containment leakage rate test program for Type A tests only.

A copy of the related Safety Evaluation is enclosed. A Notice of Issuance will be included in the Commission's next regular biweekly Federal Register notice.

Sincerely,

Original signed by:

Daniel G. McDonald, Jr., 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. 212 to DPR-53
- 2. Amendment No. 189 to DPR-69
- 3. Safety Evaluation

cc w/encls: See next page

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