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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

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

AND AMENDMENT NO. 147 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 November 27, 1991, the Baltimore Gas and Electric Company (the licensee) submitted a request for changes to the Calvert Cliffs Nuclear Power Plant, Unit Nos. 1 and 2, Technical Specifications (TS). The requested changes would reduce the combined allowable leakage rate limit for Type B and C local leak rate tests (LLRT) from the current value of 0.60 L_a to a new value of 0.50 L_a. The requested changes would also allow the surveillance intervals for performing Type B and C LLRT on containment penetrations and isolation valves, respectively, to be increased to a maximum test interval of 30 months. Finally, administrative changes are included which delete outdated footnotes and change the wording of action statements to be consistent with the current guidance.

As requested in Generic Letter (GL) 91-04, dated April 2, 1991, "Changes In Technical Specification Surveillance Intervals to Accommodate a 24-month Fuel Cycle," the licensee provided an evaluation in support of the change which concludes that the effect on safety is small and does not invalidate any assumption in the plant licensing basis. Subsequent to increasing the refueling interval from 18 months to 24 months, the licensee requested amendments to the TS of both units which added the definition, "Refueling Interval - at least once per 24-months" to Table 1.2 of TS Definition 1.22, "Frequency Notation." The definition for "R - at least once per 18-months" remains. This is necessary to assure the safety-related systems and components which have not yet been approved for 24-month surveillance intervals, have their surveillance performed at the required 18-month intervals. This is accomplished during scheduled mid-cycle surveillance/maintenance outages until all the safety-related systems and components have been approved for the 24-month refueling interval. The Commission issued Amendment No. 133 to Facility Operating License No. DPR-53 and Amendment No. 114 to Facility Operating License No. DPR-69 for Units 1 and 2, respectively, by letter dated December 21, 1988, which included the definition for a 24-month refueling interval.

Subsequent to issuance of the above amendments, TS Base 4.0.2 was updated in accordance with the guidance provided in GL 91-04. This was accomplished in

Amendment No. 165 to Facility Operating License No. DPR-53 and Amendment No. 145 to Facility Operating License No. DPR-69 for Units Nos. 1 and 2, respectively, by letter dated November 18, 1991.

The licensee's November 27, 1991, letter also requested an exemption from Appendix J to 10 CFR Part 50 in accordance with the guidance provided in Enclosure 3 to GL 91-04. The NRC staff issued an environmental assessment in support of the requested exemption by letter dated January 15, 1992, and the exemption was issued by letter dated February 3, 1992. These actions were noticed in the Federal Register on January 23, 1992 (57 FR 2791) and February, 10, 1992 (57 FR 4894), respectively.

Enclosure 3 to GL 91-04 indicates two issues need to be addressed to support a surveillance interval increase up to 30 months. These issues are: (1) a possible reduction in the combined leakage limit for Type B and C LLRT, and (2) the basis for concluding that the containment leakage rate would be maintained within the acceptable limits with an LLRT interval increase up to 30 months. The licensee has addressed these two issues for Calvert Cliffs, Units 1 and 2, in its request dated November 27, 1991.

2.0 EVALUATION

The first issue is a reduction in the combined containment penetration leakage rate limit for Type B and C tests which increases the margin to a maximum allowable leakage rate L_a. The Code of Federal Regulations at 10 CFR Part 50, Appendix J, defines L_a as the maximum allowable leakage rate as specified in a facility's TS. The Calvert Cliffs TS, Section 3.6.1.2, requires that the combined leakage rate for all containment penetrations and isolation valves subject to Type B and C tests be limited to a combined leakage rate of less than or equal to 0.60 L_a, which is 207,600 Standard Cubic Centimeters per Minute (SCCM) for each unit's containment. This constitutes a margin of 0.40 L_a (40 percent of L_a). The proposed amendments would change the TS Section 3.6.1.2 limit to a value of less than or equal to 0.50 L_a, which is 173,000 SCCM. This increases the margin from 40 percent to 50 percent.

The NRC staff has determined that the proposed change in the combined leakage rate limit, which provides an overall increase in margin of 25 percent (40 percent to 50 percent), is consistent with the guidance provided in GL 91-04 and is, therefore, acceptable.

The second issue is the basis for concluding that the containment leakage will be maintained within acceptable limits based on an extrapolation of past Type B and C LLRT data, taking into account an LLRT interval limit of 30 months. The 30-month maximum limit is based on a 24-month fuel cycle and a 25 percent extension allowed by TS Section 4.0.2 for all required TS surveillances unless otherwise specified. The proposed amendments would change TS 4.6.1.2.d, which would allow the use of TS Section 4.0.2 for a maximum of 30 months.

The licensee has provided data for the 20 LLRT performed since 1979. Six of these LLRT results are found to be in excess of the combined leakage rate

limit at the end of the operating cycle. The results have been considered in light of the causes of the excessive leakage rates and the corrective actions taken by the licensee. A review by the NRC staff of containment isolation test data for pressurized water reactors during the 1965 through 1983 period indicates that the leakage rate data as reported by the licensee at the end of the Calvert Cliffs facility operating cycles falls within a typical range. In all cases but one, corrective action was successfully taken to reduce leakage on affected penetrations to a small fraction of the combined leakage rate limit of 0.60 L_a. The licensee reviewed the LLRT data to determine if the causes of the leakage were random or recurring. Only the recurring leakage events were used to project the leakage rate at the end of a 30-month LLRT interval considering the leakage rate increase on a monthly basis for all past surveillance intervals. The projected leakage rate at the end of a 30-month LLRT interval was found to be below the maximum allowable leakage rate limit. Similar results were obtained from the projection of the recurring leakage over time, using the five most recent time-dependent leakage rates.

The NRC staff has reviewed the LLRT results provided by the licensee as well as the methodology used in extrapolating previous Type B and C LLRT data to a 30-month test interval and finds that there is reasonable assurance that the containment leakage rate would be maintained within acceptable limits with a LLRT interval increase limited to 30 months.

The amendment also requested removal of the footnote to TS Section 4.6.1.2.d, which granted a one-time extension for testing CVC-515 until June 21, 1991, for Unit 1 and the footnote to TS, Section 4.6.1.2.d, which was a one-time exemption for Type B and C tests during the heatup following the Unit 2, Cycle 9 restart, which has been completed. Minor changes to the wording in the action statements were proposed to be consistent with the current guidance provided in the Combustion Engineering Standard Technical Specifications (NUREG-0212).

The NRC staff has reviewed these proposed changes and determined that the footnotes are no longer applicable and the word changes are consistent with our current guidance and are, therefore, acceptable.

The NRC staff has also reviewed the proposed changes to TS Bases 3/4.6.1.2 and determine they reflect the proposed changes discussed above and are, therefore, acceptable.

3.0 SUMMARY

Based on the above evaluation, the NRC staff has determined that the increase in the margin to the maximum allowable leakage rate (L_a) and the results, including the methodology used of the extrapolated LLRT data, are consistent with the guidance provided in GL 91-04 and provide reasonable assurance that the overall impact on safety resulting from the requested changes is determined to be small and that the initial assumptions in the Calvert Cliffs Nuclear Power Plant, Units 1 and 2, licensing bases remain valid.

4.0 STATE CONSULTATION

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

5.0 ENVIRONMENTAL CONSIDERATION

The amendments change a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 and changes to the surveillance requirements. The NRC staff has determined that the amendments involve no significant increase in the amounts, and no significant change in the types, of any effluent 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 (56 FR 66917). Accordingly, the amendments meet the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b) no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendments.

6.0 CONCLUSION

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

Principal Contributors:
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Date: February 19, 1992

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,

Orignial 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. 168 to DPR-53
2. Amendment No. 147 to DPR-69
3. Safety Evaluation

cc w/enclosures:
See next page

OFC	:PDI-1:LA	:PDI-1:PM	:OGC	:PDI-1:D	: SPLB: BC
NAME	:CVogan	:DMcDonald:rb	:	:RCapra	: CE McCRAKEN
DATE	:1/22/92 2/3/92	: 1/27/92	:2/11/92	:2/19/92	: / /92

DATED: February 19, 1992

AMENDMENT NO. 168 TO FACILITY OPERATING LICENSE NO. DPR-53-CALVERT CLIFFS UNIT 1
AMENDMENT NO. 147 TO FACILITY OPERATING LICENSE NO. DPR-69-CALVERT CLIFFS UNIT 2

Docket File
NRC & Local PDRs
PDI-1 Reading
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Plant File

cc: Plant Service list