

UNITED STATES NUCLEAR REGULATORY COMMISSION

In the Matter of

BALTIMORE GAS AND ELECTRIC
COMPANY(Calvert Cliffs Nuclear Power
Plant, Unit Nos. 1 and 2)Docket Nos. 50-317
and 50-318EXEMPTION

I.

The Baltimore Gas and Electric Company (BG&E/licensee) is the holder of Facility Operating License Nos. DPR-53 and DPR-69, which authorizes operation of the Calvert Cliffs Nuclear Power Plant, Unit Nos. 1 and 2 (the facilities), respectively. The licenses provide, among other things, that the facilities are subject to all rules, regulations and Orders of the Nuclear Regulatory Commission (the Commission) now or hereafter in effect.

The facilities are pressurized water reactors located at the licensee's site in Calvert County, Maryland.

II.

The Code of Federal Regulations at 10 CFR Part 50, Appendix J, Paragraphs III.D.2 and III.D.3, require that licensees perform Type B and C tests during each reactor shutdown for refueling but in no case at intervals greater than 2 years. Type B and C tests are local leak rate tests (LIRT) of containment penetrations and isolation valves.

III.

By letter dated November 27, 1991, the licensee requested an exemption from 10 CFR Part 50, Appendix J, Paragraphs III.D.2 and III.D.3. Specifically, the licensee requested an exemption to extend the Type B and C LLRT interval for containment penetrations and isolation valves beyond the 2-year limit specified in the regulations to a maximum of 30 months.

The Commission may grant exemptions from the requirements of the regulations which, pursuant to 10 CFR 50.12(a), are: (1) authorized by law, will not present an undue risk to the public health and safety, and are consistent with the common defense and security; and (2) present special circumstances. Section 50.12(a)(2)(iii) of 10 CFR Part 50 indicates that special circumstances exist when compliance would result in undue hardship or other costs that are significantly in excess of those contemplated when the regulations were adopted, or significantly in excess of those incurred by others similarly situated.

IV.

The proposed exemption will not change plant equipment, operation or procedures, and does not adversely affect either the probability or the consequences of any accident at this facility. The requirement to perform Type B and C LLRT on containment penetrations and isolation valves during reactor shutdown, but in no case at intervals greater than 2 years, presumed that the time interval was adequate to accommodate the 12-month fuel cycles which were common in operating plants when Appendix J was published in 1973. However, Calvert Cliffs, Units 1 and 2, are utilizing core designs which allow the

units to operate on a 24-month fuel cycle. The NRC staff has recognized that the current 12-year surveillance interval for Type B and C LLRT would likely require plant shutdowns to perform Appendix J leak testing before the completion of a 24-month fuel cycle. Consequently, in Generic Letter (GL) 91-04 the NRC staff provided guidance to licensees on the information needed to support an exemption from the requirements of 10 CFR Part 50, Appendix J, to accommodate a 24-month fuel cycle. Enclosure 3 to Generic Letter 91-04 indicated that two issues should be addressed to justify such a request: (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 exemption request dated November 27, 1991.

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 the 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 technical specifications (TS). The acceptance criterion for Appendix J Type B and C LLRT is a combined leakage rate that shall be less than $0.60 L_a$. This constitutes a margin of $0.40 L_a$ (40 percent of L_a). Enclosure 3 to GL 91-04 indicates that in order to justify an exemption to Appendix J requirements and extend the Type B and C LLRT interval up to 30 months, licensees should either (1) use LLRT data to demonstrate that the margin of $0.40 L_a$ will not be reduced as a result of the test interval

increase or (2) propose an acceptance criterion limit of less than $0.6 L_a$ as a TS change. The licensee is proposing an acceptance criterion limit of $0.5 L_a$ for Calvert Cliffs, Units 1 and 2, which represents a 25 percent increase in margin (40 percent to 50 percent). The staff has reviewed the proposed reduction in combined leakage rate limit to $0.50 L_a$ and finds it is consistent with the recommendations 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 licensee has provided data for the 20 LLRTs 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. These 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 $0.60 L_a$ limit. 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 a 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 to 30 months.

Strict compliance with the schedule required by the current regulations would require mid-cycle outages which result in undue hardship or other costs that are significantly in excess of those contemplated when the regulations were adopted. Thus, there are special circumstances present which satisfy the requirements of 10 CFR 50.12 (a)(2)(iii).

V.

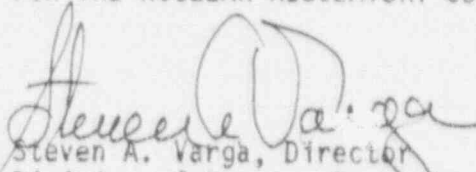
Accordingly, the Commission has determined, pursuant to 10 CFR 50.12(a), that (1) an exemption as described in Section III is authorized by law, will not present an undue risk to the public health and safety, and is consistent with the common defense and security and (2) in this case, special circumstances are present as described in Section IV. Therefore, the Commission hereby grants the following exemption:

Accordingly, the Commission hereby grants an exemption, as described in Section III above from 10 CFR Part 50, Appendix J, Paragraphs III.D.2 and III.D.3. This exemption would extend the Type B and C test interval on containment penetrations and isolation valves beyond the 2-year limit specified in the regulations to a limit of 30 months.

Pursuant to 10 CFR 51.32, the Commission has determined that the granting of this exemption extension would have no significant effect on the quality of the human environment (57 FR 2791).

This Exemption is effective upon issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Steven A. Varga, Director
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Dated at Rockville, Maryland,
this 3rd day of February 1992

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Original Signed By:

Steven A. Varga, Director
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Dated at Rockville, Maryland,
this 3rd day of February 1992

*See previous concurrence

OFC	: LA: PDI-1*	: PE: PDI-1*	: PM: PDI-1*	: SPLB*	: OGC*
NAME	: CVogan	: DOWD <i>not 2/3</i>	: McDonald	: C McCracken	: EHoller
DATE	: 1/22/92 <i>1/23/92</i>	: 1/22/92	: 1/22/92	: 01/21/92	: 01/29/92
OFC	: D: PDI-1	: ADRI <i>RA L</i>	: D: DRPE	:	:
NAME	: RACapra <i>RA L</i>	: JCalvo <i>RA L</i>	: SVarga	:	:
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Docket Nos. 50-317
and 50-318

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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 AN EXEMPTION FROM THE REQUIREMENTS OF 10 CFR PART 50, APPENDIX J, PARAGRAPHS III.D.2 AND III.D.3, FOR THE CALVERT CLIFFS NUCLEAR POWER PLANT, UNIT NOS. 1 AND 2 (TAC NOS. M82212 AND M82213)

The Nuclear Regulatory Commission, pursuant to 10 CFR 50.12, has granted the enclosed exemption to 10 CFR Part 50, Appendix J, Paragraphs III.D.2 and III.D.3. This exemption extends the surveillance interval for Type B and C local leak rate tests for containment penetrations and isolation valves beyond the 2-year limit specified in the regulations and would allow the interval to be a maximum of 30 months.

We find that granting the exemption is authorized by law, will not present an undue risk to the public health and safety, is consistent with the common defense and security, and meets the special circumstances described in 10 CFR 50.12(a)(2)(iii) as detailed in the enclosed exemption. Therefore, your requested exemption is granted.

A copy of this Exemption is being filed with the Office of the Federal Register for publication.

Sincerely,

Daniel G. McDonald, Senior Project Manager
Project Directorate 1-1
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Enclosure:

Exemption

cc w/enclosure: *See previous concurrence

See next page

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Mr. G. C. Creel
Vice President - Nuclear Energy
Baltimore Gas and Electric Company
Calvert Cliffs Nuclear Power Plant
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Sincerely,

Daniel G. McDonald, Senior Project Manager
Project Directorate I-1
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

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cc w/enclosure:
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*See previous concurrence

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Appendix J

The Nuclear Regulatory Commission, pursuant to 10 CFR 50.12, has granted the enclosed exemption to 10 CFR Part 50, Paragraphs III.D.2 and III.D.3. This exemption extends the surveillance interval for Type B and C local leak rate tests for containment penetrations and isolation valves beyond the 2-year limit specified in the regulations and would allow the interval to be a maximum of 30 months.

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Enclosure:

Exemption

cc w/enclosure: *See previous concurrence

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Pursuant to 10 CFR 51.32, the Commission has determined that the granting of this exemption extension would have no significant effect on the quality of the human environment (FR).

This Exemption is effective upon issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

Steven A. Varga, Director
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Dated at Rockville, Maryland,
this day of

*See previous concurrence

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FOR THE NUCLEAR REGULATORY COMMISSION

Steven A. Varga, Director
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Dated at Rockville, Maryland,
this day of

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NAME	:CVogan	:Doubrot	:McDonald	:McCracken	:
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