

Docket No. 50-317

April 12, 1988

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Mr. J. A. Tiernan
Vice President-Nuclear Energy
Baltimore Gas and Electric Company
P.O. Box 1475
Baltimore, Maryland 21203

Dear Mr. Tiernan:

Enclosed is a copy of a "Notice of Proposed No Significant Hazards Consideration Determination and Opportunity for Hearing" for your information. This notice relates to your February 12, 1988 application, as modified on March 21, 1988 and twice on March 25, 1988, which was provided to support Unit 1 Cycle 10 operation. This notice was published as an "Individual Notice" rather than a "Bi-weekly Notice" to support your operating cycle and ensure a full 30-day notice period before issuance of any amendments.

Sincerely,

Scott Alexander McNeil, Project Manager
Project Directorate I-1
Division of Reactor Projects, I/II

Enclosure
As stated

cc: See next page

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Mr. J. A. Tiernan
Baltimore Gas & Electric Company

Calvert Cliffs Nuclear Power Plant

cc:

Mr. John M. Gott, President
Calvert County Board of
Commissioners
Prince Frederick, Maryland 20768

Regional Administrator, Region I
U.S. Nuclear Regulatory Commission
475 Allendale Road
King of Prussia, Pennsylvania 19406

D. A. Brune, Esq.
General Counsel
Baltimore Gas and Electric Company
P. O. Box 1475
Baltimore, Maryland 21203

Jay E. Silberg, Esq.
Shaw, Pittman, Potts and Trowbridge
1800 M Street, NW
Washington, DC 20036

Mr. M. E. Bowman, General Supervisor
Technical Services Engineering
Calvert Cliffs Nuclear Power Plant
MD Rts 2 & 4, P. O. Box 1535
Lusby, Maryland 20657-0073

Resident Inspector
c/o U.S. Nuclear Regulatory Commission
P. O. Box 437
Lusby, Maryland 20657-0073

Bechtel Power Corporation
ATTN: Mr. D. E. Stewart
Calvert Cliffs Project Engineer
15740 Shady Grove Road
Gaithersburg, Maryland 20760

Combustion Engineering, Inc.
ATTN: Mr. W. R. Horlacher, III
Project Manager
P. O. Box 500
1000 Prospect Hill Road
Windsor, Connecticut 06095-0500

Department of Natural Resources
Energy Administration, Power Plant
Siting Program
ATTN: Mr. T. Magette
Tawes State Office Building
Annapolis, Maryland 21204

UNITED STATES NUCLEAR REGULATORY COMMISSIONBALTIMORE GAS AND ELECTRIC COMPANYDOCKET NO. 50-317NOTICE OF CONSIDERATION OF ISSUANCE OF AMENDMENT TO
FACILITY OPERATING LICENSE AND PROPOSED NO SIGNIFICANT HAZARDS
CONSIDERATION DETERMINATION AND OPPORTUNITY FOR HEARING

The U.S. Nuclear Regulatory Commission (the Commission) is considering issuance of an amendment to Facility Operating License No. DPR-53, issued to the Baltimore Gas and Electric Company (the licensee), for operation of the Calvert Cliffs Nuclear Power Plant, Unit No. 1 located in Calvert County, Maryland.

The amendment would make the following changes in accordance with the licensee's application for amendment dated February 12, 1988, as supplemented on March 21, 1988 and twice on March 25, 1988:

1. Modify Technical Specification (TS) Limiting Condition for Operation (LCO) 3.1.1.4 by adding a figure that provides the upper limits for moderator temperature coefficient (MTC) and increases this MTC limit for thermal power levels above 70% rated thermal power (RTP) from less positive than $0.2 \text{ E-4 } \Delta \text{ k/k/}^\circ\text{F}$ to the linear equation where the MTC limit is less positive than $+[(.9 + 4 (1-P))/3] \text{ E-4 } \Delta \text{ k/k/}^\circ\text{F}$ where P is the fraction of RTP. Thus, at 70% RTP, MTC must be less positive than $+0.7 \text{ E-4 } \Delta \text{ k/k/}^\circ\text{F}$ and at 100% RTP MTC must be less positive than $+0.3 \text{ E-4 } \Delta \text{ k/k/}^\circ\text{F}$.

2. Increase the minimum required shutdown margin of TS LCO 3.1.1.1 above the currently required +3.5 delta k/k in accordance with the linear progression where the shutdown margin limit shall be greater than or equal to $+ [3.5 + 1.5(P)]$ delta k/k where P is the fraction of RTP. Thus, at 0% RTP the shutdown margin limit is +3.5 delta k/k but at 100% RTP the limits is +5.0 delta k/k.
3. Change the TS Figure 3.1-2, "CEA Group Insertion Limits vs. Fraction of Allowable Thermal Power for Existing RCP Combination," Bank 5 Transient Insertion Limit from the linear progression with values of 25% insertion at 90% RTP and 35% insertion at 100% RTP to a constant insertion limit of 35% between 90% and 100% RTP.
4. Reduce unnecessary Axial Shape Index ($\bar{A}SI$) trips below 70% RTP and provide additional operating flexibility by:
 - a. modifying TS Figure 2.2-1, "Peripheal Axial Shape Index vs. Fraction of Rated Thermal Power," by increasing the acceptable operation region below 70% RTP to the area bounded by the linear equations for the ASI limits, where
 - (1) $ASI \text{ limit} = \pm [0.6 + 2/3 (.4-P)]$ (P is the fraction of RTP) between 40% and 100% RTP, and
 - (2) $ASI \text{ limit} = \pm 0.6$ at powers below 40% RTP.

The current ASI limits are ± 0.4 at powers below 70% RTP;
 - b. expanding the acceptable operation region of TS Figure 3.2-2, "Linear Heat Rate Axial Flux Offset Control Limits," and TS Figure 3.2-4, "DNB Axial Flux Offset Control Limits," by increasing the negative ASI limit below 50% RTP from the current value of -0.3 to

(1) the linear equation limit, between 15% and 50% RTP, of the negative ASI limit = $-[0.3 + 3/7 (.5-P)]$, where P is the fraction of RTP;

(2) below 15% RTP, the negative ASI limit = -0.45.

5. Reflect the lowering of the departure from nucleate boiling ratio (DNBR) limit to 1.16 due to the incorporation of an extended statistical combination of uncertainties methodology through modifying Figures 2.2-2, "Thermal Margin/Low Pressure Trip Setpoint Part 1 (ASI v. A_1)," and 2.2-3, "Thermal Margin/Low Pressure Trip Setpoint Part 2 (Fraction of Rated Thermal Power v. QR_1)," by

a. changing the equation for the pressure variable trip from

$$P (\text{TRIP VAR}) = 2061 (Q_{\text{DNB}}) + 15.85 (T_{\text{IN}}) - 8915$$

$$\text{to } P (\text{TRIP VAR}) = 2892 Q_{\text{DNB}} + 17.16 (T_{\text{IN}}) - 10682;$$

b. changing Q_{DNB} , which equals $QR_1 \times A_1$, by increasing QR_1 from the values of

$$QR_1 = .235 + (628/781) P \text{ between } 0\% \text{ and } 78.1\% \text{ RTP}$$

$$QR_1 = .863 + (109/191) \times (P - .781) \text{ between } 78.1\% \text{ and } 97.2\% \text{ RTP}$$

$$QR_1 = P \text{ above } 97.2\% \text{ RTP}$$

to

$$QR_1 = .3 + (11/12) P \text{ between } 0\% \text{ and } 60\% \text{ RTP}$$

$$QR_1 = .85 + (3/8) \times (P - .6) \text{ between } 60\% \text{ and } 100\% \text{ RTP}$$

$$QR_1 = P \text{ above } 100\% \text{ RTP}$$

where P is the fraction of RTP.

Before issuance of the proposed license amendment, the Commission will have made findings required by the Atomic Energy Act of 1954, as amended (the Act) and the Commission's regulations.

The Commission has made a proposed determination that the amendment request involves no significant hazards considerations. Under the Commission's regulations in 10 CFR 50.92, this means that operation of the facility in accordance with the proposed amendment would not (1) involve a significant increase in the probability or consequences of an accident previously evaluated; or (2) create the possibility of a new or different kind of accident from any accident previously evaluated; or (3) involve a significant reduction in a margin of safety.

The licensee evaluated the proposed changes against the standards in 10 CFR 50.92 and has determined that the amendment would not:

- (i) involve a significant increase in the probability or consequences of an accident previously evaluated ...

To support the Unit 1 Cycle 10 reload core design and the associated TS changes, eighteen design basis events were reviewed and one of these events was reanalyzed (the Steam Line Rupture event). All eighteen design basis events, including the Steam Line Rupture event, were bounded by the results of the previously accepted reference cycle (Unit 2 Cycle 8).

An emergency core cooling system (ECCS) performance analysis was performed for Unit 1 Cycle 10 to demonstrate compliance with 10 CFR 50.46, "Acceptance Criteria for Emergency Core Cooling Systems for Light-Water Nuclear Power Reactors." This analysis justified an allowable Peak Linear Heat Generation Rate of 15.5 kw/ft, the current limit for both Units 1 and 2.

The Small Break Loss of Coolant Accident (SBLOCA) analyses confirm that the results previously reported for Unit 1 Cycle 8 (SBLOCA reference cycle for Unit 1 Cycle 10) also bound the SBLOCA results for the Unit 1 Cycle 10 reload core design.

Thus, as provided in the previously described analyses, the probability or consequences of any accidents previously evaluated would not increase significantly as a result of the proposed Unit 1 Cycle 10 reload TS changes.

(ii) create the possibility of a new or different type of accident from any accident previously evaluated...

The design of Unit 1 Cycle 10 closely follows that of the reference cycle, Unit 2 Cycle 8. The four ANF demonstration lead assemblies, included in the Unit 1 Cycle 10 core, do not impact the core design in any adverse manner. All nuclear, mechanical, thermal-hydraulic, transient and LOCA safety analyses performed for Cycle 10 core design, envelope the four ANF assemblies. The analyzed performance of those assemblies is determined to be very similar to that of the balance of the core.

The impact that the proposed TS changes would have on the operation and safety of the plant was evaluated to determine if a new or different type of accident would be created. The reductions in safety margins to the Specific Acceptable Fuel Design Limits were evaluated to determine if it were possible for a new accident type to be created, different from what was already analyzed. It was determined that no changes in plant hardware or manner of operation result from these proposed changes. All results and conclusions of the LOCA and non-LOCA transient safety analyses were evaluated to determine whether the possibility of a new type accident was created, since

some of those analyses results are different from results previously presented for NRC review. Thus, this proposed change in operation will not create the possibility of any new or different types of accidents from any previously evaluated.

(iii) involve a significant reduction in a margin of safety ...

All LOCA and non-LOCA transient safety analyses were evaluated/reanalyzed, and the reduction in the margin or safety between each proposed TS change and the affected SAFDL was determined. Although this margin to safety is reduced in some instances (i.e., the changes proposed the Axial Power Distribution Trip Limiting Safety System Settings, the Linear Heat Rate Axial Flux Offset Control Limits, the DNB Axial Flux Offset Control Limits, the Shutdown Margin, and the Power Dependent Insertion Limit proposed changes), these reductions were not significant reductions as sufficient margin remains between the proposed limits and the current safety limits.

Based upon the above, the NRC staff proposes to determine that the TS changes proposed for the Unit 1 Cycle 10 reload involve no significant hazards considerations.

The Commission is seeking public comments on this proposed determination. Any comments received within 30 days after the date of publication of this notice will be considered in making any final determination. The Commission will not normally make a final determination unless it receives a request for a hearing.

Comments should be addressed to the Secretary of the Commission, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, Attn: Docketing and Service Branch.

By May 11, 1988, the licensee may file a request for a hearing with respect to issuance of the amendment to the subject facility operating license and any person whose interest may be affected by this proceeding and who wishes to participate as a party in the proceeding must file a written petition for leave to intervene. Requests for a hearing and petitions for leave to intervene shall be filed in accordance with the Commission's "Rules of Practice for Domestic Licensing Proceedings" in 10 CFR Part 2. If a request for a hearing or petition for leave to intervene is filed by the above date, the Commission or an Atomic Safety and Licensing Board, designated by the Commission or by the Chairman of the Atomic Safety and Licensing Board Panel, will rule on the request and/or petition and the Secretary or the designated Atomic Safety and Licensing Board will issue a notice of hearing or an appropriate order.

As required by 10 CFR 2.714, a petition for leave to intervene shall set forth with particularity the interest of the petitioner in the proceeding, and how that interest may be affected by the results of the proceeding. The petition should specifically explain the reasons why intervention should be permitted with particular reference to the following factors: (1) the nature of the petitioner's right under the Act to be made a party to the proceeding; (2) the nature and extent of the petitioner's property, financial, or other interest in the proceeding; and (3) the possible effect of any order which may be entered in the proceeding on the petitioner's interest. The petition should also identify the specific aspect(s) of the subject matter of the proceeding as to which petitioner wishes to intervene. Any person who has filed a petition for leave to intervene or who has been admitted as a party

may amend the petition without requesting leave of the Board up to fifteen (15) days prior to the first prehearing conference scheduled in the proceeding, but such an amended petition must satisfy the specificity requirements described above.

Not later than fifteen (15) days prior to the first prehearing conference scheduled in the proceeding, a petitioner shall file a supplement to the petition to intervene, which must include a list of the contentions that are sought to be litigated in the matter, and the bases for each contention set forth with reasonable specificity. Contentions shall be limited to matters within the scope of the amendment under consideration. A petitioner who fails to file such a supplement which satisfies these requirements with respect to at least one contention will not be permitted to participate as a party.

Those permitted to intervene become parties to the proceeding, subject to any limitations in the order granting leave to intervene, and have the opportunity to participate fully in the conduct of the hearing, including the opportunity to present evidence and cross-examine witnesses.

If a hearing is requested, the Commission will make a final determination on the issue of no significant hazards consideration. The final determination will serve to decide when the hearing is held.

If the final determination is that the amendment request involves no significant hazards considerations, the Commission may issue the amendment and make it effective, notwithstanding the request for a hearing. Any hearing held would take place after issuance of the amendment.

If the final determination is that the amendment request involves significant hazards considerations, any hearing held would take place before the issuance of any amendment.

Normally, the Commission will not issue the amendment until the expiration of the 30-day notice period. However, should circumstances change during the notice period, such that failure to act in a timely way would result, for example, in derating or shutdown of the facility, the Commission may issue the license amendment before the expiration of the 30-day notice period, provided that its final determination is that the amendment involves no significant hazards considerations. The final determination will consider all public and State comments received. Should the Commission take this action, it will publish a notice of issuance and provide for opportunity for a hearing after issuance. The Commission expects that the need to take this action will occur very infrequently.

A request for a hearing or a petition for leave to intervene must be filed with the Secretary of the Commission, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, Attention: Docketing and Service Branch, or may be delivered to the Commission's Public Document Room, 1717 H Street, N.W. Washington, D.C., by the above date. Where petitions are filed during the last ten (10) days of the notice period, it is requested that the petitioner promptly so inform the Commission by a toll-free telephone call to Western Union at (800) 325-6000 (in Missouri (800) 342-6700). The Western Union operator should be given Datagram Identification Number 3737 and the following message addressed to Robert A. Capra: petitioner's name and telephone number; date petition was mailed; plant name; and publication date and page number of this FEDERAL REGISTER notice. A copy of the petition should also be sent to the Office of the General Counsel, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, and to D. A. Brune, Jr., General Counsel, Baltimore Gas & Electric Company, P. O. Box 1475, Baltimore, Maryland 21203, attorney for the licensee.

Nontimely filings of petitions for leave to intervene, amended petitions, supplemental petitions and/or requests for hearing will not be entertained absent a determination by the Commission, the presiding officer or the Atomic Safety and Licensing Board designated to rule on the petition and/or request, that the petitioner has made a substantial showing of good cause for the granting of a late petition and/or request. That determination will be based upon a balancing of the factors specified in 10 CFR 2.714(a)(1)(i)-(v) and 2.714(d).

For further details with respect to this action, see the application for amendment which is available for public inspection at the Commission's Public Document Room, 1717 H Street, N.W., Washington, D. C. 20555, and at the Local Public Document Room, Calvert County Library, Prince Frederick, Maryland.

Dated at Rockville, Maryland, this 12th day of April, 1988.

FOR THE NUCLEAR REGULATORY COMMISSION



Scott Alexander McNeil, Project Manager
Project Directorate I-1
Division of Reactor Projects I/II
Office of Nuclear Reactor Regulation