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CHRIS H. DEXTER
VICE PRESIDENT
ENGINEERING AND CONSTRUCTION

DOCKET NUMBER PR-50 (30)
PROPOSED RULE (45 FR 36082)

June 30, 1980

Secretary of the Commission
Attention: Docketing and Service Branch
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555



Re: Calvert Cliffs Nuclear Power Plant
Units Nos. 1 and 2
Proposed Rulemaking - Fire Protection

Gentlemen:

The Baltimore Gas and Electric Company has been closely following the issues surrounding the above-captioned rulemaking. In that respect, we have been working with other utilities through the law firm of Debevoise and Liberman, the consulting firm of K.M.C., Inc., and the Edison Electric Institute. Each of the aforementioned organizations have filed extensive comments on the proposed rule in an effort to render the rule effective in meeting our common goal of improving the safety of our plants by improving the fire protection programs for them. We hereby endorse those comments and urge that you give them your utmost consideration prior to taking any further action on the proposed rule. In addition, Baltimore Gas and Electric Company has compiled the following comments which amplify and add to those already submitted by the previously mentioned organizations.

The implementation dates contained in the proposed rule are unreasonable and impracticable.

The proposed rule contains new requirements and specificity not previously promulgated as a requirement to be accomplished by November 1, 1980. For example, though fire penetration testing has been previously required in the form of guidance documents, it has now been specified, within the proposed rule, to include testing for differential pressure. In addition, the issuance of associated circuits is totally new and could represent a significant impact depending upon interpretation. In consideration of the work already accomplished to date, and the financial burden that would be imposed upon the customers of Baltimore Gas and Electric Company should the utility fail to meet the

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November 1, 1980 requirement, we would urge that the staff consider requiring a completion date of November 1, 1980, for all areas assessable during normal operations. All other modifications would be required to be completed at the next regularly scheduled refueling outage. Furthermore, until better definition of associated circuits is presented, it should be eliminated from the proposed rule.

The required implementation dates for alternate/dedicated shutdown are unrealistic. It was not until May 19, 1980, in fact, that Baltimore Gas and Electric Company received notification to provide such a system. The normal process utilized in the past would indicate that the requirement is not defined until the staff completes an on-site visit, a review of the Fire Hazards Analysis, and then notifies the utility of its findings. Prior to said notification, Baltimore Gas and Electric Company had received no written notice that the staff disagreed with the conclusions of our Fire Hazards Analysis of December 21, 1979, and that an alternate safe shutdown system would be required. The complexities of so providing under any timetable, not to mention the implementation schedule referred to, are enormous. Our Company is now performing preliminary engineering studies to determine the scope of the new requirement. Considering the lead time for major equipment acquisitions such as valves (36-78 weeks) and pumps (52-78 weeks), etc., it seems apparent that an April 1, 1981 date is likely to be impossible to meet. Such an undertaking should be carefully studied and executed in order to avoid a hasty solution to a complex problem that could result in the final analysis in a net reduction to plant safety rather than an improvement.

The imposition of a single, arbitrary date for all non-SEP nuclear plants fails to allow for differences in the reviewing periods, plant designs, and refueling schedules. In addition, these deadlines do not allow for combining such systems with other new systems also in planning, e.g., TMI related auxiliary feedwater changes. Lastly, relative to the alternate/dedicated safe shutdown issue, the NRC's own staff did not propose such implementation dates as they were cognizant of the enormous task, the differences in plant designs, the difference in reviewing periods, the workload already facing the industry as a result of the TMI requirements, the ever increasing Inspection and Enforcement Bulletin requirements, and most importantly the fact that most of the plants either have already, or are in the process of, adding fire protection modifications to enhance the safety of the plants.

The implementation schedule is the most important single aspect of the matter insofar as Baltimore Gas and Electric Company is concerned. It is our sincere belief that the Commission must reconsider the rules' stated implementation timetable and the drastic results that would flow from its use.

The requirements including their implementation schedule, impose a substantial financial burden upon our customers.

Even if Baltimore Gas and Electric Company could comply with the implementation schedule, the impact of the proposed rule would be severe to our customers in that:

- (a) Extensive additional outages would be required in an attempt to meet the specified dates. This will result in additional costs to our customers in the form of higher fuel rate adjustments due to the resulting requirement of purchasing higher cost power from our PJM Interconnection System. The loss of both units at Calvert Cliffs would result in additional costs of \$1,300,000/day - \$2,190,000/day, depending upon the time of the year that such outages occur. This, of course, assumes that such energy would be available within the PJM. However, due to the single implementation date, it is probable that many other nuclear plants within PJM would also be shutdown, rendering purchasable power extremely costly or perhaps even unattainable.
- (b) The reliability of electric service would be severely impacted, since the Calvert Cliffs Nuclear Power Plant provides capacity for more than half of the total electric load. With loss of both units at Calvert Cliffs, our Company would become a net purchaser of electricity and thereby be dependent upon other utilities for a large portion of its electric load.
- (c) Additional capital costs would be incurred by the Company that would ultimately be passed onto our customers in the form of higher rates. Although we cannot accurately estimate this increased cost, since preliminary engineering is incomplete, we do, however, believe the order of magnitude of such capital costs may approach \$50,000,000.

We have noted with interest that the impacts described above have not been considered in the value-impact study prepared for the issuance of the proposed rule (See SECY 80-88). Before issuance of such a rule, an adequate value-impact study should be performed to insure against unnecessary commitment of irretrievable resources to comply with the requirements of the agency, and that the value of the rule has a

reasonable relationship to its impacts.

The Rule subverts efforts by our Company to comply with earlier requests and recommendations of the NRC Staff.

All agreements with the NRC staff as to compliance with the objectives of the various prior regulatory guidance pertaining to this subject, that were performance in nature, are superseded with new requirements that are prescriptive and retroactive.

The Baltimore Gas and Electric Company first submitted a Fire Hazards Analysis of its Calvert Cliffs plant on March 15, 1977. The NRC staff completed its visit of the plant on December 1, 1978. Subsequently, on December 21, 1979, yet another Fire Hazards Analysis was submitted that responded to the new requirements imposed on September 15, 1979. The Company agreed at that time to provide by October of 1980, numerous modifications to the plant in order to improve its fire protection program. (See detailed chronology of licensing events attached as Table 1). Our analysis, performed by qualified fire protection engineers, show that these following improvements would provide reasonable means of insuring that a fire in any given area would not prevent safe shutdown of the plant. The major improvements include:

- (a) Providing automatic fire suppression in all areas of the Auxiliary Building that contain redundant divisions of safe shutdown equipment and/or cabling. This consists of providing automatic sprinklers in approximately 75,000 foot space, and gas suppression systems for the Cable Spreading Rooms.
- (b) Adding additional hose stations to insure adequate fixed suppression capability throughout the Auxiliary Building.
- (c) Adding a third emergency communication system that is totally separated from our existing sound powered phone and paging systems.
- (d) Adding fire detection in all areas of the plant containing equipment and/or cabling necessary for safe shutdown.
- (e) Adding an oil encapsulation system for the reactor coolant pumps.

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The capital costs associated with the commitments to provide these major items and numerous other minor items total \$8,000,000. Since our commitments of December 21, 1979, we have not been able to obtain staff notice as to their adequacy. On February 25, 1980, we reiterated to the staff our position concerning our commitments and the impact on schedule should they require additional modifications. Not until May 19, 1980, did we receive a response on several technical issues and the requirement for a commitment to an alternate or dedicated safe shutdown system. We responded on June 20, 1980, to the technical issues, but could not commit to a safe shutdown system in that the staff still had listed numerous related issues in the SER as "Incomplete pending staff review". By passage of the proposed rule, all these issues noted as "Incomplete" would become mandatory for the first time as of that date, with implementation required by November 1, 1980. Prior to that time, we acted in good faith in submitting good fire protection engineering solutions to all of the staff's concerns. The issues cited in Branch Technical Positions and Regulatory Guides were not considered requirements when proposed.

In summary, we have responded to all of the staff's requirements with either a commitment or an alternate solution. This orderly process was relied upon by Baltimore Gas and Electric Company as the reasonable method in which to determine and implement appropriate fire protection modification. The lack of timely response on the part of the NRC staff is not within our control. Our commitments were clearly defined with our December 21, 1979 submittal to the staff. These commitments had gone unchallenged until their response of May 19, 1980 which, for the first time required us to provide an alternate or dedicated safe shutdown system, while nonetheless, remaining silent on numerous other issues.

Our record of cooperation with your staff is clear. Baltimore Gas and Electric Company has always responded to staff requirements in good faith and with the recognition that the regulatory process is evolutionary and is best approached through interface between the regulators and the regulated industry. This proposed rule signifies a change which removes the credibility of future staff-licensee agreements.

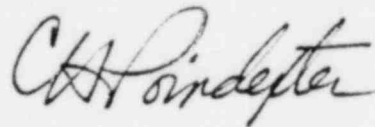
In addition, we are concerned with the aspects of proposed Appendix R which are discussed in detail in the Debevoise & Liberman letter, and support the request in that letter for adjudicatory hearings on those aspects.

In conclusion, we request that the Commission take the following action:

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- (1) That the implementation dates currently proposed be modified to permit compliance with proposed regulation on a realistic and reasonable schedule.
- (2) That an adequate value-impact study be performed by the agency, which should include a comparison of capital costs and replacement energy costs to incremental benefits to be attained by adoption of the rule.

Very truly yours,

A handwritten signature in cursive script, appearing to read "C. H. Pindexter". The signature is written in dark ink and is positioned below the typed text "Very truly yours,".

outages will be required to perform necessary modifications. The arbitrary completion dates do not recognize the differing refueling schedules already planned. In the case of our Company, we have scheduled a refueling outage during October 1980 for Unit No. 1 and January 1981 for Unit No. 2. In order to avoid an adverse impact upon our customers, outage related modifications would have to be installed at that time. However, inasmuch as we have just received notice to provide such a system, it is not possible to design the system and obtain the necessary materials before these scheduled outage dates. As the NRC is aware, with the completion of these refuelings, the Company will be changing from a 12-month refueling cycle to an 18-month refueling cycle. This will dictate an additional shutdown of both units on or before April 1, 1981. Considering, for example, the long lead time for major equipment such as valves and pumps, it seems unlikely that an April 1, 1981 date can be met. Furthermore, we believe that such an undertaking should be carefully studied and executed in order to avoid a hasty solution to a complex problem that could result in a reduction to the plant safety rather than an improvement.

The impact of the proposed rule would be severe to the customers of the Baltimore Gas and Electric Company in that extended outages would be required to attempt to meet the specified dates. This would result in additional costs to our customers in the form of higher fuel rate adjustments due to the resulting requirement to purchase higher cost power from our PJM interconnection system. The loss of both units at Calvert Cliffs would result in additional costs of \$1,300,000/day - \$2,190,000/day depending upon the time of the year that the outage occurs. This assumes that such energy would be available within the PJM. However, due to the single implementation date in the proposed rule, it is probable that many other nuclear plants within PJM would also be shutdown, rendering purchasable power extremely costly or perhaps even unattainable.

Additional capital costs would be incurred by the Company that would ultimately be passed on to our customers in the form of higher rates. We believe the order of magnitude capital costs could approach 50 million dollars.

The reliability of electric service would also be severely impacted. The Calvert Cliffs Nuclear Power Plant provides capacity for more than half of our total electrical load. With the loss of both units of Calvert Cliffs, the Baltimore Gas and Electric Company would become a net purchaser of electricity and thereby be dependent upon other utilities for a large portion of its electric load.

The Baltimore Gas and Electric Company sincerely believes that the imposition of these hardships upon the citizens of Central Maryland is unwarranted. Since the TVA Brown's Ferry fire of March 27, 1975, the Company has acted in good faith in responding to all of the NRC staff's requirements and concerns. The Company has exercised good fire protection engineering judgment in its efforts to comply with the objectives contained in General Design Criterion 3 - Fire Protection, of Appendix A to 10 CFR Part 50.

In response to the NRC staff's initial requirements, the Company submitted on March 15, 1977 a detailed Fire Hazards Analysis of its Calvert Cliffs Nuclear Power Plant. This was followed by a site visit by members of the NRC staff. The visit was completed on December 1, 1978. During the period between our submittal of the plant Fire Hazards Analysis and the issuance of a "Draft Safety Evaluation Report" on June 15, 1979, the NRC staff continually increased the number of outstanding "positions" from an initial eight contained in a letter of August 30, 1978 to twenty-two positions outlined at our site exit interview on December 1, 1978, and finally to forty-seven

positions transmitted informally in a draft SER on June 15, 1979. By August 29, 1979, the Company had responded to all forty-seven positions by supplying the necessary information and analyses, committing to plant modifications, or indicating a date by which a response could be made. These commitments were confirmed and formalized with the issuance on September 14, 1979 of the NRC final Safety Evaluation Report (SER). On December 21, 1979, the Company submitted a revised Fire Hazards Analysis as required by this SER. The Baltimore Gas and Electric Company agreed, at that time, to provide by October 1980 numerous improvements and modifications to the plant in order to improve its fire protection program. Our analysis, performed by qualified fire protection engineers, showed that these modifications and improvements would provide reasonable means of insuring that a fire in any given area would not prevent safe shutdown of the plant. These major improvements include providing automatic fire suppression in all areas of the Auxiliary Building that contain redundant divisions of safe shutdown equipment and/or cabling. This consists of providing automatic sprinklers in approximately 75,000 square feet of space, and gas suppression systems for the Cable Spreading Rooms. Additional hose stations are being added to insure adequate manual suppression capability throughout the Auxiliary Building. A third emergency communication system that is totally separated from our existing sound powered phone and paging systems is also being installed. Fire detection will be provided in all areas of the plant containing equipment and/or cabling necessary for safe shutdown. An oil encapsulation system will be provided for the reactor coolant pumps. The capital costs associated with these major commitments and numerous other minor commitments total \$8,000,000.

Following the submittal of our Fire Hazards Analysis on December 21, 1979, we were not able to obtain staff input as to its adequacy.

By letter dated February 25, 1980, the Company reiterated to the staff our position concerning our commitments and the schedule difficulties should additional modifications be required. We did not receive a response until May 19, 1980. It consisted of several additional questions and the requirement to provide an alternate or dedicated safe shutdown system. The staff response closed several outstanding items, but left open as "Incomplete pending staff review" other items related to our fire protection program and the Fire Hazards Analysis. In that these items were still unresolved, the Company could not commit to an alternate or dedicated safe shutdown system. However, we did commit by letter dated June 20, 1980 to initiate the necessary engineering studies required to scope this new requirement.

As can be seen from this brief summary of our review process, we have acted in good faith to respond to all of the NRC staff's requirements and concerns. Much progress has been made in reducing the unresolved issues between the Company and the staff.

In summary, the proposed rule arbitrarily adds new items with new requirements in some areas and new interpretations for old requirements in other areas. A single implementation date of November 1, 1980 is required for all aspects of the rules, except alternate or dedicated safe shutdown regardless of the licensee progress achieved to date. The compliance dates for safe shutdown are unrealistic. An adequate value-impact study has not been performed by the NRC. It is not prudent to impose such new requirements without regard for the hardships that could be produced. The Baltimore Gas and Electric Company believes that the fire protection safety of the Calvert Cliffs Nuclear Power Plant has been greatly improved. The work done to date is virtually unrecognized by the new requirements contained therein.

The Baltimore Gas and Electric Company urges that you consider the following alternative measures:

- 1) Remove from the rule the overspecificity contained therein and replace with more general objectives - see KMC Utility Working group letter dated June 30, 1980 for suggested changes related to technical matters.
- 2) Require modification in accordance with the revised more general objectives that can be installed during normal plant operation to be complete by November 1, 1980. All other modifications, except for safe shutdown systems, should be required to be completed during the next regularly scheduled refueling outage.
- 3) Remove from the rule in its entirety the Associated Circuits requirement, in that it is totally new and not germane to fire protection.
- 4) Remove from the rule any implementation date(d) for safe shutdown systems. Require licensees to submit a scope and implementation schedule for April 1, 1981. This will allow such systems to be combined with other systems now in planning in connection with Three Mile Island modifications.



C. H. Poindexter
Vice President

SUBSCRIBED AND SWORN TO before me this _____ day
of _____, 1980.

Notary Public

My Commission Expires: July 1982

TABLE 1

BALTIMORE GAS AND ELECTRIC COMPANY
 CALVERT CLIFFS NUCLEAR POWER PLANT
 UNITS NOS. 1 and 2
 FIRE PROTECTION PROGRAM EVALUATION
CHRONOLOGICAL TABULATION OF EVENTS

<u>Date</u>	<u>Event</u>
March 27, 1975	Browns Ferry Fire
May 1, 1976	NRC Issued BTP 9.5-1
May 11, 1976	NRC letter to BG&E enclosing BTP 9.5-1 for Category I plants - Guidance
June, 1976	NRC issued Reg. Guide 1.120 for public comments
August 23, 1976	NRC issued BTP 9.5-1, Appendix A
September 30, 1976	NRC letter to BG&E, enclosing BTP 9.5-1, Appendix A for Category I plants - Guidance
March 15, 1977	BG&E letter to NRC - Transmitting "Fire Protection Program Evaluation" (including Fire Hazards Analysis)
November, 1977	NRC re-issue Reg. Guide 1.120 for public comment
February 6, 1978	NRC letter to BG&E - Guidelines for Administrative Procedures and QA guidance - Request for conformance
July 11, 1978	BG&E letter to NRC - Response to Administrative Procedures and QA guidance
July 30, 1978	BG&E letter to NRC - BG&E agreed to resubmit its response regarding Administrative Procedures and QA by December 29, 1978
August 30, 1978	NRC letter request any additional information, drawings and date for site visit (59 questions and 8 positions)
October 4, 1978	NRC site visit of Unit 2 containment
October 19, 1978	BG&E letter to NRC responding to 59 questions dated August 30, 1978

November 14, 1978 BG&E letter to NRC - Asked for additional time to revise Administrative Procedures and QA response in view of pending site visit

November 27, 1978
December 1, 1978 NRC site visit of Calvert Cliffs Nuclear Power Plant

December 1, 1978 NRC furnished BG&E at the time of the site visit exit interview a draft of 14 new positions for a total of 22 positions

December 21, 1978 Meeting at Bethesda to present description and advantages of silicone rubber insulation with asbestos braid jacket cable

December 21, 1978 NRC interoffice memo given to BG&E unofficially by Monte Conner showing 22 positions and status (not in final form)

December 29, 1978 BG&E letter to NRC - Administrative Procedures and QA which asked for additional delay relative to March 1, 1979 changing criteria due to previous site visit and new criteria

March 19, 1979 NRC letter to BG&E - Formally presented the 22 positions

April 19, 1979 BG&E letter to NRC - Initial Response to 22 positions

June 15, 1979 NRC letter to BG&E - Furnished draft SER, now containing 47 positions, in informal transmittal with caution that it did not represent "final" NRC position

July 11, 24 & 31, 1979 NRC meetings at Bethesda to review draft SER (47 items)

August 6, 1979 BG&E letter to NRC - Responses to draft SER Section 3.3 containing 47 positions and implementation dates

August 17, 1979 BG&E letter to NRC - Responses to draft SER Section 3.3 - Supplemental information

August 29, 1979 BG&E letter to NRC - Response to draft SER Section 3.3 - Supplemental information to telephone request by NRC Staff

September 14, 1979 BG&E letter to NRC - "Fire Test Procedures" for Wall Penetrations

September 14, 1979	NRC letter to BG&E - Final SER and Amendments to the License
October 24, 1979	NRC letter to BG&E - Amendments to SER
November 5, 1979	NRC to BG&E - Telephone notification of staff concerns about ASTM E-119 Fire Penetration Tests
November 13, 1979	BG&E letter to NRC - Partial response to SER items
November 14, 1979	Meeting at Bethesda to discuss staff concerns over Fire Test Procedures
November 29, 1979	BG&E letter to NRC - Request for additional time to prepare Fire Hazards Analysis because of the impact of NRC concerns with Fire Test Procedures
November 29, 1979	NRC letter to BG&E - Containing concerns and comments relative to Fire Test Procedures
December 21, 1979	BG&E letter to NRC with partial response to SER (including Fire Hazards Analysis)
December 27, 1979	BG&E letter to NRC with partial response to SER (figures supporting the Fire Hazards Analysis)
December 31, 1979	BG&E letter to NRC with QA response to Guidelines
January 11, 1980	BG&E letter to NRC with partial response to SER (Containment)
January 29, 1980	BG&E letter to NRC which submitted revised Fire Test Procedures and schedule
January 30, 1980	BG&E to NRC - Telephone communication about timely review by NRC staff - Scheduled to be completed March 21, 1980 by Staff
February 12, 1980	NRC to BG&E - Telephone conference relative to staff concerns over Fire Test Procedures (confirmed by interoffice memo dated February 22, 1980, received March 5, 1980)
February 25, 1980	BG&E letter to NRC - Concerning timely review of BG&E responses to SER items and implementation schedule

February 26, 1980	BG&E letter to NRC - Fire Test scheduled for March 5, 1980 at Texas
March 6, 1980	NRC to BG&E - Request to follow latest Standard Technical Specification on Fire Protection when addressing new modifications
March 7, 1980	BG&E & NRC - Fire Test performed at Southwest Research Labs in Texas
May 20, 1980	BG&E letter to NRC - Transmittal of Fire Test Report and Results and update of commitments and schedule
May 19, 1980	NRC letter to BG&E - Results of partial review by staff requesting additional response to five SER items, including new requirements for alternate/dedicated safe shutdown
May 23, 1980	BG&E letter to NRC - With clarification of BG&E's position on NRC staff partial review requirements sent May 20, 1980
June 20, 1980	BG&E letter to NRC in response to NRC partial review of five SER items