Mr. Charles C. Constantine
Executive Secretary
Maryland Public Service Commission
301 West Preston Street
Baltimore, Maryland 21201

Dear Mr. Constantine:

This will acknowledge receipt of Case No. 6533 by the Maryland Public Service Commission granting a waiver to Washington Gas Light Company and the Baltimore Gas and Electric Company, from the requirements of Section 192.59 (a)(1), Section 192.457 (b), and Section 192. 465 (e) of Title 49 of the Cade of Federal Regulations.

The Office of Pipeline Safety does not object to the granting of these waivers if the following conditions are included:

1. The epoxy Epi-seal formulation is used as a pipeline liner consistent with the method contained in Patent No. 3,211,573, dated October 12, 1965, entitled "Plastic Lining of Pipe."

2. The waiver terminates after three years.

3. The Baltimore Gas and Electric Company and the Washington Gas Light Company will submit a report to the Maryland Public Service Commission 3 months before the waiver termination regarding the success or failure of this type of pipeline rehabilitation with a copy to the Office of Pipeline Safety.

We trust that these conditions to the granting of the waiver will meet with your approval. If you have any questions regarding this matter, please let us know.

Sincerely,
Original signed by:
Joseph C. Caldwell
Director
Office of Pipeline Safety

State of Maryland
Public Service Commission
301 West Preston street
Baltimore, Maryland 21201

May 3, 1972

In the matter of the application of Baltimore Gas and Electric Company	*	
For certain waivers to the minimum Federal Safety Standards for Gas Line.	*	Case No. 6533
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Mr. Joseph C. Caldwell
Acting Director
Office of Pipeline Safety
Department of Transportation Washington, D. C. 20590

Dear Mr. Caldwell:

For your information, I am enclosing copy of an Order this day passed by the Commission in the above entitled matter.

Very truly yours,
Charles C.C. Constantine
Executive Secretary

Public Service Commission of Maryland

ORDER NO. 59735

IN THE MATTER OF THE APPLICATION OF BALTIMORE GAS AND ELECTRIC COMPANY FOR CERTAIN WAIVERS TO THE MINIMUM FEDERAL SAFETY STANDARDS FOR GAS LINES.	* * *	BEFORE THE PUBLIC SERVICE COMMISION OF MARYLAND CASE NO. 6533

By letter dated December 23, 1971 the Baltimore Gas end Electric Company (Baltimore Gas) made application to the United States Department of Transportation, Office of Pipeline Safety (OPS) under the provisions of Part 193, Subpart B, Section 193.13 of the Rule-Making Procedures for Pipeline Regulations, requesting certain waivers to the Minimum Federal Safety Standards for Gas Lines. Specifically, Baltimore Gas requested that with respect to pipelines of 8" and smaller sizes, not exceeding 99 psig, the Epi-Seal Bond line method of internally lining existing bare steel pipeline be exempted from the provisions of:

Regulation

1. Subpart B – Materials Section 192.59 (a) (1) which requires new plastic pipe to be manufactured in accordance with a listed specification.
2. Subpart I – Requirements for Corrosion Control, Section 192.457 (b) which requires bare or coated mains to be cathodically protected by August 1, 1976 in areas in which active corrosion is found.
3. Section 192.465 (e) which requires an operator, at intervals not exceeding three years, to reevaluate its unprotected pipeline and cathodically protect them in areas in which active corrosion is found.

By letter dated January 26, 1972 the application of December 23, 1972 was referred to this Commission for action by OPS because Baltimore Gas and Electric Company is an intrastate gas facility subject to this Commission's safety jurisdiction. Accordingly, by appropriate Order entered on March 1, 1972 the matter was assigned for hearing on March 22, 1972 before the Commission.

On March 13, 1972 Washington Gas Light Company (Washington Gas) addressed a letter to the Commission requesting that it be considered an applicant and permitted to intervene and participate in the hearing which was scheduled for March 22, 1972. In its letter of March 13, 1972 Washington Gas stated that recent experiences and tests which it conducted have developed reasons for feeling that Bonded Products Epi-Seal process for rehabilitating existing bare steel pipe is a desirable process. In view of the foregoing, Washington Gas requests that it be granted the same waivers as Baltimore Gas. The request of Washington Gas Light Company to intervene and participate in the hearing of March 22, 1972 was granted by Order dated March 15, 1972.

At the hearing both Baltimore Gas and Washington Gas appeared by Counsel. No other appearances were entered. Publication of the Commission's Order assigning the matter for hearing was made in newspapers published in the service area of Baltimore Gas and also in two daily Washington, D. C. newspapers. Baltimore Gas presented the testimony of Daniel L. Drake, Manager of the Gas Distribution Department and Mr. Hanford Z. Hight, President of Bonded Products. Washington Gas presented the testimony of Robert H. Kidwell, Superintendent of the Transmission and Distribution Department.

Witness Drake described the present distribution of Baltimore Gas as being divided into two main subdivisions. The low and medium pressure systems which are those operating up to 10 pounds of pressure and which are essentially cast iron are located in the Baltimore City area. The higher pressure systems which operate at ten pounds and above, are essentially steel and go up to a maximum of 300 pounds, and are in the area surrounding Baltimore city.The subject of percent concern is the unprotected bare and the coated steel main installed between 1932 and 1957, and operating at a maximum pressure of 99 pounds per square inch gauge. This represents some 700 miles of pipe, mostly in the two to eight inch sizes, and generally located in the suburban area of Baltimore to the outer limits of the system at Havre de

Grace, Westminster, Laurel and Annapolis, Maryland. It was testified that recent examination and studies of these steel pipelines have disclosed that many areas are under attack by active corrosion. Witness Drake stated that due to the widespread area and their inadequacy in coated condition, the addition of cathodic protection in most cases in impractical. To replace this pipe would require an interruption to traffic in virtually all of the major arteries leading from Baltimore City. It was estimated that the cost would be approximately $35 million. Witness Drake testified that because of the expense and inconvenience to the public it became necessary to develop a rehabilitation program which would safely extend the life of the pipe without the need of an extensive excavation process.

The Epi-Seal Bondline process involves the extrusion of an epoxy material on the inner surface of pipe after it has been cleaned by inserting brushes through it. This coating in a semi-liquid state is applied to the inner surface of the pipe by passing an extruding head through the pipe with a stock of the material in front of it. As a result the material is spread through the inner surface of the pipe by the follower ring or smoothing portion of this head. It ages to become a hard thermo-set, smooth and non-conducting coating about 2/8 of an inch thick over the entire inner surface of the pipe.

Witness Drake testified that during the summer of 1972 Baltimore Gas selected four locations where corrosion pits were known to exist in bare steel pipe. Each was lined as a full scale field test. Approximately 6000 feet of either two or four inch bare steel pipe was coated. The installation procedures and all the results of their tests were satisfactory. At one of the four locations the entire main is under a highway. The estimated cost to replace this main was $76,000. The Epi-Seal Bondline treatment was done with the isolated hoes or excavations at a cost of $14,000. In the opinion of the witness the use of the Epi-Seal Bondline process as a replacement for or in substitution of cathodic pipe protection would benefit the public since longer sections of pipeline could be treated in shorter periods of time and at the same time the proposed procedure would be consistent with the objectives of the pipeline safety requirements. The witness added that experience indicates that the Epi-Seal Bondline is unaffected by time and operating conditions.

Hanford Z. Hight, President of Bonded Products, Inc., explained the composition of the Epi-Seal process and the quality control program of the company to assure uniform quality of Epi-Seal. Witness Hight stated that Consolidated Edison in New York has been using the Epi-Seal Bondline process since 1961. In 1969, Consolidated Edison inspected six service s that were known to be leaking before the lining was performed. Without exception, these services were judged to be completely satisfactory. The testimony indicates that several other gas distribution companies have employed the Epi-Seal Bondline process. The witness stated that based on actual experience it is a fact, that the Epi-Seal Bondline method is not a sealing operation to care for present conditions, but new pipe is formed for the future. In his opinion cathodic protection is unnecessary for epoxy pipe.

Robert H. Kidwell testified that the problem of Washington Gas with respect to conditions of bare steel gas mains installed in the system between the years 1927 and 1953 are similar to those of Baltimore Gas. Washington Gas is also engaged in extensive examination of existing gas mains for condition and makes leakage surveys that frequently result in replacement of bare steel pipe. This approach toward elimination of corroded and leaking mains is costly, time consuming, and causes inconvenience to the public. Mr. Kidwell then explained the results of several tests in which Epi-Seal material was used. In one particular instance Epi-Seal treatment after five years of service is still providing leakage-free service at high pressures. The treatment cost of this project amounted to $16,000 whereas replacement in a new trench using new pipe would have cost about $48,000. Witness Kidwell was in complete agreement with the opinion of Mr. Drake with respect to the use of the Epi-Seal Bondline process as a replacement for or in substitution of cathodic protection presently required by regulations of the Office of Pipeline Safety.

Mr. Walter S. Brown, The Commission's Safety Engineer, testified that in his opinion there is nothing that would be unsafe in the use of the Epi-Seal material. Also, that its use will provide economies. In view of the foregoing, Mr. Brown recommends its use.

The Commission having carefully considered the entire record herein and being fully advised in the premises is of the opinion and finds:

(1) That the use of Epi-Seal Bondline method of internally lining existing bare steel pipelines of 8" and smaller sizes and not exceeding 99 psig is beneficial to the public interest.

(2) That were the Epi-Seal Bondline process is employed, the following Office of Pipeline Safety requirements are not required:

(a) Subpart B Materials Section 192.59 (a)(1).

(b) Subpart I Section 192.457 (b).

(c) Section 192.465 (e).

(3) That the Commission may reasonably grant its consent and approval to the waivers requested in this proceeding by the Applicants.

IT IS, THEREFORE, this 3rd day of May, in the year Nineteen Hundred and Seventy-two, by the Public Service Commission of Maryland,

ORDERED: (1) That the request of The Baltimore Gas and Electric Company for a waiver from the requirements of Subpart B 192.59 (a)(1), Subpart I, section 192.457 (b) and Section 192.465 (e) of the Regulations of the Office of Pipeline Safety subject to the provisions of Section 193.17 (b) of the Rule-Making Procedures for Office of Pipeline Safety Regulations be, and the same herby is, granted.

(2)That the request of Washington Gas Light Company for a waiver from the requirements of Subpart B 192.59 (a)(1), Subpart I, Section 192.457 (b) and Section 192.465 (e) of the Regulations of the Office of Pipeline Safety subject to the provisions of Section 193.17 (b) of the Rule-Making Procedures for Office of Pipeline Safety Regulations be, and the same herby is, granted.

Robert L. Sullivan, Jr.
William S. Baldwin
Commissioners

Commissioner N. Reese Shoemaker, Jr. did not participate in the hearing of March 22, 1972.