

66399

ORIGINAL

Decision No. \_\_\_\_\_

## BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

In the Matter of the Application of )  
 CALIFORNIA-PACIFIC UTILITIES COMPANY, )  
 PACIFIC GAS and ELECTRIC COMPANY, )  
 PACIFIC LIGHTING GAS SUPPLY COMPANY, )  
 SAN DIEGO GAS and ELECTRIC COMPANY, )  
 SOUTHERN CALIFORNIA GAS COMPANY, )  
 SOUTHERN COUNTIES GAS COMPANY OF )  
 CALIFORNIA and SOUTHWEST GAS )  
 CORPORATION, public utility gas )  
 corporations, for an order issuing )  
 General Order No. 112-A setting )  
 forth rules governing design, )  
 construction, testing, maintenance )  
 and operation of utility gas trans- )  
 mission and distribution systems and )  
 superseding General Order No. 112. )

Application No. 45567  
 (Filed June 28, 1963)

John Ormasa, Milford Springer and William L. Cole  
 by William L. Cole, for Southern California Gas  
 Company and Southern Counties Gas Company of  
 California; O. C. Sattinger, J. P. Egan and  
 R. D. Twomey, Jr., by R. D. Twomey, Jr., for  
 Pacific Lighting Gas Supply Company; F. T. Searls,  
 John C. Morrissey and Philip A. Crane, Jr., for  
 Pacific Gas and Electric Company; Chickering &  
 Gregory by Sherman Chickering and C. Hayden Ames,  
 for San Diego Gas & Electric Company; Stanley  
Jewell, for San Diego Gas & Electric Company;  
James L. Sanders and C. H. McCrea, for Southwest  
 Gas Corporation; and Lloyd E. Cooper, for  
 California-Pacific Utilities Company; applicants.  
Charles B. Runnels, for Gulf-Pacific Pipeline  
 Company; William L. Knecht, for California Farm  
 Bureau Federation; and Harold H. Heidrick, for  
 Wilsey, Ham & Blair; interested parties.  
Arch Main, for the Commission staff.

O P I N I O N

After due notice, public hearing was held before Examiner  
 Dunlop in San Francisco on October 21, 1963. Applicants presented  
 exhibits and testimony through three witnesses. A witness for the  
 Commission staff testified and presented certain recommendations

differing from certain proposals of the applicants. No other parties to the proceeding offered testimony or statements in opposition to the granting of the application. The matter now is ready for decision.

Applicants filed this joint application pursuant to the authority granted in Section 402.1 of the Commission's General Order No. 112.<sup>1/</sup> They request an order from the Commission issuing General Order No. 112-A setting forth rules governing the design, construction, testing, maintenance and operation of utility gas transmission and distribution piping systems as proposed by applicants in Exhibit 1.<sup>2/</sup> The proposed General Order No. 112-A contains various deletions, additions and revisions to General Order No. 112 and would supersede the latter General Order.

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<sup>1/</sup> Section 402.1 of General Order No. 112 provides:  
"402.1 For the purpose of keeping the provisions, rules, standards, and specifications of this general order up to date, the gas utilities subject to these rules, either individually or collectively, shall file annually on or before June 30 a report setting forth such recommended changes in rules, standards, or specifications as they deem necessary to keep this general order up to date in keeping with the purpose, scope, and intent thereof, or stating that no changes are deemed to be necessary. Gas utilities recommending changes shall, either collectively or otherwise, file appropriate formal applications seeking Commission approval for such changes. However, nothing herein shall preclude other interested parties from initiating appropriate formal proceedings to have the Commission consider any changes they deem appropriate, or the Commission from acting upon its own motion."

<sup>2/</sup> Proposed General Order No. 112-A set forth in Exhibit 1 differs in some respects from proposed General Order No. 112-A attached to the application as Exhibit A.

On December 28, 1960, the Commission, in its Decision No. 61269 (58CPUC413) issued General Order No. 112 covering the design, construction, testing, maintenance and operation of both gas transmission and distribution pipeline systems. This General Order became effective on July 1, 1961. The General Order adopted by reference, with certain modifications, the 1958 edition of Section 8 of American Standard Code for Pressure Piping designed ASA B 31.8-1958 and published by The American Society of Mechanical Engineers. General Order No. 112-A proposed by applicants adopts the same format used in General Order No. 112. The revisions to the General Order recommended by applicants fall generally into four categories:

1. Changes brought about by the 1963 edition of the American Standards Association Code.
2. Amendments to Sections 203.1, 401.2 and 401.3 relating to Cover Requirements.
3. Amendments to Section 208, Odorization Requirements.
4. Editorial Changes.

1963 Edition of American Standards Association Code

The American Standards Association has made revisions to the 1958 edition of the Code. These revisions have been incorporated into a new 1963 edition which is referred to as ASA B 31.8-1963. This revision of the Code became effective on February 12, 1963. Applicants request that these revisions be incorporated in the Commission's General Order by changing the reference therein from the 1958 edition of the Code to the 1963 edition.

The record contains considerable evidence on the history and development of this ASA Code, including the 1963 edition thereof.

Changes incorporated in the 1963 edition represent in general the result of additional experience and technological developments in metallurgy and manufacturing techniques in the field of standards for pressure pipes accumulated during the past five years. While the revisions are not major in scope, they do involve changes of significance. A detailed and specific analysis of the revisions incorporated in the 1963 Code is set forth in Exhibit B of the application while explanations of and reasons for the revisions are contained in Exhibit 3.

The record reveals that plastic pipe has not been approved for use under the Code ASA B 31.8-1963 but that paragraph 811.24 of said code would apply to the use of such pipe.<sup>3/</sup> Some gas utilities in California have limited quantities of plastic pipe in their systems. Witnesses for the applicants and the staff testified that in their opinion there was no need for placing additional restrictions, other than paragraph 811.24 of the Code, on the use of plastic pipe at this time. No other party to the proceeding suggested additional restrictions on the use of plastic pipe.

There were no objections raised at the hearing to changing the reference in the General Order from the 1958 edition to the 1963 edition of the Code, although the staff did suggest, for the Commission's consideration, changing the format of the General Order

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3/ Paragraph 811.24 of ASA B 31.8-1963 states:

"Items of a type of which no standards or specifications are listed in this Code (811.1/d/) may be qualified by the user by investigation and tests (if needed) that demonstrate that the item of material or equipment is suitable and safe for the proposed service, and provided further that the item is recommended for that service from the standpoint of safety, by the manufacturer. ..."

to include in one printed document a consolidation of the present form of General Order and the ASA Code. The staff, however, did not offer a specific document to implement its suggestion in this regard. The format of General Order No. 112 was gone into at considerable length and was a major issue in the proceeding (Case No. 6352) in 1960 resulting in the adoption by the Commission of said General Order No. 112 in its present format. There was no testimony offered by the staff or other parties indicating that experience with the use of the General Order since its adoption warranted a change in its format at this time. In any event, should the need for a change in format of the General Order appear in the future, such change appropriately would be made pursuant to the procedure for keeping the General Order up to date as set forth in Section 402.1 thereof.

Amendments to Sections 203.1, 401.2 and 401.3  
Relating to Cover Requirements

Section 203.1 of the existing General Order requires that in Class 3 and Class 4 locations, <sup>4/</sup> buried pipelines and mains operating or intended to be operated at hoop stresses of 20 percent or more of the specified yield strength shall be installed with a minimum cover of 30 inches. The amendment recommended by applicants provides that where it is impractical to comply with this provision

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4/ Class 3 locations include areas subdivided for residential or commercial purposes where, at the time of construction of the pipeline or piping system, 10 percent or more of the lots abutting on the street or right-of-way in which the pipe is to be located are built upon, and a Class 4 classification is not called for. This permits classifying as Class 3, areas completely occupied by commercial or residential buildings with the prevalent height of three stories or less.

Class 4 locations include areas where multistory (4 or more floors above ground including the ground floor) buildings are prevalent, and where traffic is heavy or dense and where there may be numerous other utilities underground.

and it is necessary to prevent damage from external loads, the pipe shall be cased or bridged instead. Applicants assert that it has been their experience since the existing General Order was issued, that situations are encountered where, due to large submerged obstructions or for other reasons, the minimum cover of 30 inches cannot be obtained. Under the amendment proposed by applicants, when such situations exist and it is necessary to prevent damage from external loads, the alternative protective measures of either casing or bridging the pipe will be required. Revisions to Sections 401.2 and 401.3 have been proposed by applicants to advise the Commission of the reasons for the use of casing or bridging protection where the cover will be less than 30 inches in Class 3 and 4 locations.

No party to the proceeding objected to the amendments proposed by applicants relating to cover requirements.

Amendment to Section 208, Odorization Requirements

Section 208 of General Order No. 112 requires that all combustible gas transported by utility pipeline shall be odorized to a specific minimum intensity relative to detecting the presence of gas. The present specific requirements are as follows:

"Sec. 208 ODORIZATION

208.1 All combustible gases transported by utility pipeline shall have a distinctive odor of sufficient intensity so that the presence of the gas may be detected down to the concentration in air of not over one-fifth the lower limit of combustibility. Whenever necessary to maintain this level of intensity, a suitable odorant shall be added in accordance with the following specifications:

208.2 Odorants in the concentrations used shall be:  
Harmless to humans  
Nontoxic  
Noncorrosive to steel, iron, brass, copper  
and leather  
Nonsoluble in water to an extent greater than  
2.5 parts by weight of odorant to 100 parts  
by weight of water

208.3 Odorizing equipment shall be:

Designed to maintain reasonably uniform level of odor in the gas.

208.4 Each utility shall make periodic checks to determine that a proper level of odorization is maintained throughout the pipeline system."

Generally, applicants request modification to exempt from the above odorization requirement combustible gas transported in utility field gathering lines and pipelines in the vicinity of gas producing areas. The amendment to Section 208 recommended by applicants is set out fully in Exhibit 1 as follows:

"Sec. 208 ODORIZATION

208.1 Except for combustible gases transported between points of receipt near wellheads and points of delivery into the transmission and/or distribution systems of utilities, all such gases transported by utilities and/or delivered to customers shall have a distinctive odor of sufficient intensity so that the presence of the gas may be detected down to the concentration in air of not over 1/5 the lower limit of combustibility. Whenever necessary to maintain this level of intensity, a suitable odorant shall be added in accordance with the following specifications:

208.2 Odorants in the concentration used shall be:

Harmless to humans  
Nontoxic  
Noncorrosive to steel, iron, brass, copper and leather  
Nonsoluble in water to an extent greater than 2.5 parts by weight of odorant to 100 parts by weight of water.

208.3 Odorizing equipment shall be:

- (a) Designed to maintain reasonably uniform level of odor in the gas.
- (b) Installed as close as practicable to gas producing areas.

208.4 Each utility shall make periodic checks to determine that a proper level of odorization is maintained.

208.5 At least once a year leakage surveys complying with the requirements of Section 852.21 of ASA B31.8 - 1963 shall be made of all pipelines carrying gas which does not have a distinctive odor as required by Section 208.1."

A Commission staff witness recommended that all combustible gases transported by utility pipeline be odorized except for combustible gases transported between points of receipt near well-heads and points of delivery into transmission and/or distribution systems of utilities in Class 1 and Class 2 locations.<sup>5/</sup> It was the intent of the staff recommendation that the requirement to odorize combustible gases in pipelines would also include those portions of utility pipelines of the type indicated above traversing areas the density of which either at the time of original installation or subsequent thereto qualified as Class 3 or Class 4 locations.

The existing odorization requirements of General Order No. 112 present no particular problems to gas utilities in California with the exception of Pacific Gas and Electric Company (PG&E) and Pacific Lighting Gas Supply Company (PLGS). PG&E delivers odorized gas to all of its customers, except to one customer near the community of Ambros to whom PG&E delivers unodorized gas and has done so since 1932. The other gas utilities in California deliver odorized gas to all of their customers. Approximately 97 percent of the pipeline mileage comprising the PG&E system and 93 percent of the pipeline mileage of PLGS carry odorized gas. Pipelines of PG&E and of PLGS carrying unodorized gas consist of field gathering lines

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<sup>5/</sup> Class 1 and Class 2 locations are defined in Section 841.011 and 841.012 of the ASA B 31.8-1963 Code and are less dense than Class 3 and Class 4 locations.



and pipelines in or near producing areas. PG&E and PLGS pipelines carrying unodorized gas are primarily located in Class 1 and Class 2 locations with some in Class 3 locations and none in Class 4 locations. Class 3 locations with utility pipelines carrying unodorized gas include Grimes, Rio Vista, Walnut Grove, Isleton and Galt in Northern California and the Signal Hill and Santa Fe Springs areas in Southern California. There are also field gathering lines in California carrying unodorized gas which are not owned by a gas corporation. The extent of such lines is not a matter of record in this proceeding.

Full compliance with the present odorization requirements of General Order No. 112 would require PG&E to install an odorizer at each of more than 874 wells connected to the PG&E system and require PLGS to relocate 11 odorizers and install 23 new ones.

The estimated cost of full compliance with the present odorization requirements of General Order No. 112 compared with the staff's recommended odorization requirements follow:

	<u>Presently Effective GO112 Odorization Requirements</u>		<u>Staff Recommended Odorization Requirements</u>	
	<u>Capital Costs</u>	<u>Total Annual Costs</u>	<u>Capital Costs</u>	<u>Total Annual Costs</u>
PG&E	\$3,000,000	\$550,000	\$222,700	\$42,128
PLGS	85,000	45,575	3,650	1,960
So. Cal. Gas Co.	NA	NA	12,000	3,600

NA - Not Available

The above PG&E cost estimates are based upon a type of odorizer which requires only a small portion of the total gas flow

to be dehydrated. Should dehydration of the total gas flow be required to maintain a proper odorant level, an additional \$10,000,000 or more over the \$3,000,000 capital costs to comply fully with General Order No. 112 is estimated to be required with a more than proportionate increase in annual costs.

The necessity for supplying odorized natural gas for fuel to customers was initially governed by a desire on the part of utilities to duplicate the familiar odor so long associated with manufactured gas, which served a utilitarian purpose in acting as a warning agent for detecting gas escaping from leaks in meters, house piping, and appliances. It is the present practice of gas utilities in California to locate odorizers at suitable points on the transmission pipelines or near the beginning of distribution mains, and on individual services.

Leakage surveys of underground gas transmission and distribution facilities are performed on a routine basis by the utilities. Combustible gas indicators and infra-red methane gas detectors generally are used for this purpose in built up areas. In the more rural areas, vegetation surveys and foot patrols are widely used along with the above-indicated equipment.

Applicants assert that very little reliance can be placed upon the sense of smell for the detection of leaks in underground piping systems containing odorized natural gas; that usually the gas is so dispersed by the time it reaches the surface of the soil, or by the atmosphere immediately above, that it is unrecognizable; and that the number of leaks detected by odor is small compared to those discovered by other means.

ASA Code B 31.8-1963 requires only that gas distributed to customers through gas mains or gas services, or used for domestic purposes in compressor plants, be odorized.

Applicants were of the view that their proposed odorization requirements, which would continue into effect their present practices in this regard, were entirely adequate from the standpoint of safety to the general public, their customers and employees, insofar as odorant contributes to the detection of gas leaks. The representative of the California Farm Bureau Federation supported the position of the applicants on odorization requirements. The Commission staff, however, was of the view that while it was appropriate to eliminate the present odorization requirements with respect to certain utility pipelines in Class 1 and Class 2 locations, the present requirements should be continued in effect for all utility pipelines in the more dense Class 3 and Class 4 locations.

#### Editorial Changes

Applicants proposed several editorial changes to clarify the provisions of the General Order. These include revisions to Sections 212.1, 213.1, 214.1 and 401.3. No party to the proceeding raised any objection to these proposed editorial changes.

#### Findings

Upon consideration of the evidence the Commission finds that:

1. It is in the best interests of the consuming public and the public utility corporations that General Order No. 112 covering the design, construction, testing, maintenance and operation of both gas distribution and transmission pipeline systems be revised

to reflect additional experience and technological developments since the adoption of said General Order No. 112 in 1960.

2. It is reasonable and in the public interest that reference in the General Order to ASA B 31.8-1958 be revised to reflect the 1963 edition of said American Standard Code to the extent set forth in Appendix A hereof.

3. Applicants' proposed amendments to Sections 203.1, 401.2 and 401.3 relating to cover requirements are reasonable and should be incorporated in the revised General Order.

4. The editorial changes recommended by applicants as set forth in Exhibit 1 are reasonable and should be adopted in the revised General Order.

5. The modifications to the odorization requirements, Section 208, recommended by the Commission staff are reasonable and should be adopted in the revised General Order. A reasonable time should be accorded gas corporations to fully comply with these odorization requirements.

6. It is recognized that no code of safety rules, no matter how carefully and well prepared, can be relied upon to guarantee complete freedom from accidents. Moreover, the adoption of precautionary safety rules does not remove or minimize the primary obligation and responsibility of gas corporations to provide safe service and facilities in their gas operations. Officers and employees of the gas corporations must continue to be ever conscious of the importance of safe operating practices and facilities and of their obligation to the public in that respect.

7. The rules governing the design, construction, testing, maintenance, and operation of gas transmission and distribution

pipng systems set forth in the attached General Order No. 112-A, Appendix A, are reasonable and necessary to and will promote public safety in the construction and operation of gas piping systems and also will promote the furnishing of gas service to the public in California. Said General Order No. 112-A, Appendix A, should be adopted and should supersede General Order No. 112.

The Commission having found as hereinabove set forth makes its order as follows.

O R D E R

IT IS ORDERED that:

1. General Order No. 112-A is hereby adopted, established and promulgated to read as shown in Appendix A, attached to this order and by reference is made a part hereof, to be effective on and after January 1, 1964 superseding General Order No. 112.

2. A copy of this decision shall be mailed to each gas corporation under the jurisdiction of this Commission.

3. All gas corporations under the jurisdiction of this Commission shall comply with the terms and provisions of General Order No. 112-A on and after its effective date, except that full compliance with the odorization requirements (Section 208) shall be by no later than July 1, 1964.

The effective date of this order shall be twenty days after the date hereof.

Dated at San Francisco, California, this 3rd day of December, 1963.

William L. Brundage  
President

George J. Brewer

Fredrick B. Hallock  
Commissioners

APPENDIX A

GENERAL ORDER NO. 112-A

PUBLIC UTILITIES COMMISSION OF THE  
STATE OF CALIFORNIA

RULES GOVERNING DESIGN, CONSTRUCTION,  
TESTING, MAINTENANCE AND OPERATION OF UTILITY  
GAS TRANSMISSION AND DISTRIBUTION  
PIPING SYSTEMS

Adopted December 3, 1963;

Effective January 1, 1964

Decision No. 66399;

Application No. 45567

GENERAL ORDER NO. 112-A

RULES GOVERNING DESIGN, CONSTRUCTION, TESTING,  
MAINTENANCE AND OPERATION OF UTILITY GAS  
TRANSMISSION AND DISTRIBUTION PIPING SYSTEMS

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## CHAPTER I

### GENERAL PROVISIONS

#### Section 101 TITLE

101.1 This General Order shall be known as the "Rules Governing Design, Construction, Testing, Maintenance and Operation of Utility Gas Transmission and Distribution Piping Systems", and will be referred to herein as "these rules".

#### Sec. 102 PURPOSE

102.1 The purpose of these rules is to establish minimum requirements for the design, construction, quality of materials, location, testing, operation and maintenance of facilities used in the transmission and distribution of gas, to safeguard life or limb, health, property and public welfare and to provide that adequate service will be maintained by gas utilities operating under the jurisdiction of the Commission.

102.2 These rules are concerned with safety of the general public and employees' safety to the extent they are affected by basic design, quality of the materials and workmanship, and requirements for testing and maintenance of gas transmission and distribution facilities.

#### Sec. 103 SCOPE

103.1 These rules shall apply to the design, construction, installation, inspection, testing, and the safety aspects of operation and maintenance of gas transmission and distribution systems, including gas pipelines, gas compressor stations, gas metering and regulating stations, gas mains, and gas services up to the outlet of the customer's meter set assembly.

#### Sec. 104 INTENT

104.1 The requirements of these rules are adequate for safety under conditions normally encountered in the gas industry. Requirements for abnormal or unusual conditions are not specifically provided for, nor are all details of engineering and construction prescribed. It is intended that all work performed within the scope of these rules shall meet or exceed the safety standards expressed or implied herein.

104.2 Existing industrial safety regulations pertaining to work areas, safety devices, and safe work practices are not intended to be supplanted by these rules.

104.3 It is not intended that these rules be applied retroactively to existing installations insofar as design, fabrication, installation, established operating pressure and testing are concerned. It is intended, however, that the provisions of these rules shall be applicable to the operation, maintenance, and uprating of existing installations.

104.4 Compliance with these rules is not intended to relieve a utility from any statutory requirements.



104.5 The establishment of these rules shall not impose upon utilities, and they shall not be subject to, any civil liability for damages, which liability would not exist at law if these rules had not been adopted.

Sec. 105 PRECEDENCE

105.1 These rules shall take precedence over all orders, general or special, heretofore made by the Commission, insofar as said orders may be inconsistent with these rules.

105.2 These rules shall take precedence over all rules filed or to be filed by gas utilities insofar as inconsistent therewith. Rules of utilities now on file and inconsistent with the rules herein established shall be properly revised and refiled within sixty days from the effective date of this order.

Sec. 106 MODIFICATION

106.1 If hardship results from application of any rule herein prescribed because of special facts, application may be made to the Commission to deviate from the General Order. Each request for deviation shall be accompanied by a full and complete justification for such requested deviation, together with a proposed alternate rule which will be applicable to the conditions requiring the deviation.

Sec. 107 COMPLIANCE WITH ASA CODE

107.1 Gas transmission and distribution facilities shall be constructed and operated in compliance with the provisions of Section 8 of the American Standard Code for Pressure Piping, known as the American Standard Code for Gas Transmission and Distribution Piping Systems, ASA B 31.8 - 1963, and in compliance with the further requirements of the additional rules herein prescribed.

107.2 Where there is any conflict between the provisions of ASA B 31.8 - 1963 and any rule specifically set forth herein, the latter shall govern, and ASA B 31.8 - 1963 shall be deemed to have been modified, amended, or revised to comply with the provisions of Chapter II of this Order.

107.3 For the purpose of complying with the rules herein adopted and prescribed, gas companies shall be governed by the provisions of ASA B 31.8 - 1963 and any other codes, standards or specifications contained therein, insofar as any such codes are herein made applicable, which were in effect on February 12, 1963, and shall not be governed by any deletions, additions, revisions, or amendments thereof, made after said date, unless and until said deletions, additions, revisions and amendments have been authorized by the Commission.

107.4 Anything contained in ASA B 31.8 - 1963 to the contrary notwithstanding, there shall be no deviation from this General Order except after authorization by the Commission.

CHAPTER II

ADDITIONS AND AMENDMENTS TO THE AMERICAN  
STANDARD CODE FOR GAS TRANSMISSION AND  
DISTRIBUTION PIPING SYSTEMS  
(ASA B 31.8 - 1963)

Sec. 201            DEFINITIONS

201.1            COMMISSION shall mean the Public Utilities Commission of the State of California.

201.2            UTILITY shall mean any person, firm or corporation engaged as a public utility in transmitting natural gas, hydrocarbon gas, or any mixture of gases for domestic, commercial, industrial or other purposes.

Sec. 202            GENERAL PROVISIONS

202.1            The following provisions of ASA B 31.8 - 1963 shall be amended as follows:

821.3, line 1, change "These standards are based on the principle that a welding procedure has been established and qualified" to "Each utility shall establish and qualify a welding procedure";

826.1, line 5, delete "may" and change "be advisable" to "is required";

827.1, lines 5 and 6, delete "may" and change "be advisable" to "is required";

828.1, line 4, change "should" to "shall";

829.9(d), line 1, change "recommended" to "required";

841.21, line 4, delete "preferably";

841.21, line 6, change "should" to "shall";

841.222, line 4, change "should" to "shall";

841.23, line 2, change "may" to "shall";

841.241(a), line 6, change "recommended" to "required";

841.241(c), line 1, change "should" to "shall";

841.271, line 2, change "should" to "shall";

841.273(a), line 1, change "should" to "shall";

841.273(b), line 2, change "should" to "shall";

841.283, line 1, change "should" to "shall";

841.284, line 6, change "suggested" to "required";

841.285(a), line 5, change "should" to "shall";

- 841.285(b), line 5, change "should" to "shall";
- 850.4, line 2, change "should" to "shall";
- 851.1, lines 2 and 10, change "should" to "shall";
- 851.2, lines 2 and 6, change "should" to "shall";
- 851.3, lines 4 and 8, change "should" to "shall";
- 851.4, lines 1 and 6, change "should" to "shall";
- 851.5, lines 1, 3, and 6, change "should" to "shall".

Sec. 203            COVER REQUIREMENTS

203.1            Buried pipelines and mains operating or intended to be operated at hoop stresses of 20 percent or more of the specified minimum yield strength shall be installed with a minimum cover of 30 inches in Class 3 and Class 4 locations. Where it is impractical to comply with this provision and it is necessary to prevent damage from external loads, the pipe shall be cased or bridged instead.

Sec. 204            MITER JOINTS AND WRINKLE BENDS

204.1            Mitered joints at an angle greater than 3 degrees, and wrinkle bends, shall not be permitted on pipelines or mains operating or intended to be operated at hoop stresses of 20 percent or more of the specified minimum yield strength.

Sec. 205            PIPE BENDS

205.1            Pipe bends shall not be made within one and one-half pipe diameters of a circumferential weld on piping systems that operate or are intended to be operated at hoop stresses of 20 percent or more of the specified minimum yield strength.

Sect. 206           WELD INSPECTION

206.1            On pipelines or mains operating or intended to be operated at hoop stresses of 20 percent or more of the specified minimum yield strength, the quality of welding shall be checked by non-destructive testing including visual inspection or by destructive testing to determine that the welds conform to the standards of acceptability of this order.

The extent of weld inspection shall be sufficient to establish that the performance of each welder is sampled. The following minimum inspections shall be made:

- 100% of welds at tie-ins.
- 100% of welds at river, highway and railroad crossings.
- 100% of welds at taps to pipelines.
- 100% of welds which contain repaired areas.
- 30% of welds in Class 3 and Class 4 locations.
- 20% of welds in Class 1 and Class 2 locations.

A record shall be made of the results of the tests and the method employed.

Sec. 207

WELDER QUALIFICATION

207.1 No welder shall be used on pipelines or mains that operate or are intended to be operated at hoop stresses of 20 percent or more of the specified minimum yield strength, unless qualified within the preceding year.

Sec. 208

ODORIZATIION

208.1 Except for combustible gases transported between points of receipt near wellheads and points of delivery into the transmission and/or distribution systems of utilities in Class 1 and Class 2 locations, all such gases transported by utilities and/or delivered to customers shall have a distinctive odor of sufficient intensity so that the presence of the gas may be detected down to the concentration in air of not over 1/5 the lower limit of combustibility. Whenever necessary to maintain this level of intensity, a suitable odorant shall be added in accordance with the following specifications:

208.2

Odorants in the concentrations used shall be:

Harmless to humans

Nontoxic

Noncorrosive to steel, iron, brass, copper and leather

Nonsoluble in water to an extent greater than 2.5 parts by weight of odorant to 100 parts by weight of water.

208.3

Odorizing equipment shall be:

(a) Designed to maintain reasonably uniform level of odor in the gas.

(b) Installed as close as practicable to gas producing areas.

208.4

Each utility shall make periodic checks to determine that a proper level of odorization is maintained.

208.5

At least once a year leakage surveys complying with the requirements of Section 852.21 of ASA B 31.8 - 1963 shall be made of all pipelines carrying gas which does not have a distinctive odor as required by Section 208.1.

Sec. 209

STRENGTH TESTING

209.1

The requirements set forth in this section shall apply only to pipelines and mains operating or intended to be operated at hoop stresses of 20 percent or more of the specified minimum yield strength.

209.11

Minimum test pressure in Class 1 and Class 2 locations shall be 1.25 times maximum operating pressure or 90 percent of the mill test pressure, whichever is the lesser.

209.12

Minimum test pressure in Class 3 and Class 4 locations shall be 1.50 times maximum operating pressure or 90 percent of the mill test pressure, whichever is the lesser.

209.13 Where water is utilized as the test fluid, adequate provisions shall be made for disposal of the water and steps shall be taken to guard against contamination of local water supply.

209.14 Test pressure shall be maintained until the pressure has stabilized in all portions of the test sections. In no event shall the test at maximum pressure be less than one hour.

209.15 At tie-in connections where it is impractical to test for strength, all welds shall be inspected for quality at least equal to that of the strength tested portions of the pipeline.

Sec. 210 CLASSIFICATION OF LOCATIONS

210.1 The provisions of ASA B 31.8 - 1963 specifying standards of construction for pipelines in Class 3 and Class 4 locations shall be applicable to construction inside the incorporated areas of municipalities regardless of any provisions of said ASA B 31.8 - 1963 permitting lower standards for pipelines within incorporated areas depending upon the concentration of development therein.

Sec. 211 PIPE-TYPE AND BOTTLE-TYPE HOLDERS

211.1 Section 844 of the American Standard Code for Gas Transmission and Distribution Piping Systems (ASA B 31.8 - 1963) is herewith amended in its entirety to conform to General Order No. 94-A of the Commission.

Sec. 212 MAXIMUM ALLOWABLE OPERATING PRESSURE FOR LOW PRESSURE DISTRIBUTION SYSTEMS

212.1 Section 845.43 of the American Standard Code for Gas Transmission and Distribution Piping Systems (ASA B 31.8 - 1963) is herewith amended in its entirety to conform to General Order No. 58-A, Rules 17, 18, and 19 of the Commission.

Sec. 213 LOCATION OF SERVICE SHUT-OFFS

213.1 Section 849.13 of the American Standard Code for Gas Transmission and Distribution Piping Systems (ASA B 31.8 - 1963) is herewith amended in its entirety to conform to General Order No. 58-A, Rule 33 of the Commission.

Sec. 214 ABANDONING OF DISTRIBUTION FACILITIES

214.1 Section 852.3 of the American Standard Code for Gas Transmission and Distribution Piping Systems (ASA B 31.8 - 1963) is herewith amended in its entirety to conform to General Order No. 58-A, Rule 6 of the Commission.

Sec. 215 PROCEDURES FOR MAINTAINING PIPE-TYPE HOLDERS IN SAFE OPERATING CONDITION

215.1 Section 854 of the American Standard Code for Gas Transmission and Distribution Piping Systems (ASA B 31.8 - 1963) is herewith amended in its entirety to conform to General Order No. 94-A of the Commission.

## CHAPTER III

### RECORDS

#### Sec. 301 GENERAL

301.1 The responsibility for the maintenance of necessary records to establish that compliance with these rules has been accomplished rests with the utility. Such records shall be available for inspection at all times by the Commission or the Commission staff.

#### Sec. 302 SPECIFICATIONS

302.1 Specifications for material and equipment, installation, testing and fabrication shall be maintained by the utility.

#### Sec. 303 OPERATING AND MAINTENANCE PROCEDURES

303.1 Plans covering operating and maintenance procedures, including maximum actual operating pressure to which the line is intended to be subjected, shall be maintained by the utility.

303.2 No pipeline shall be operated in excess of the maximum actual operating pressure recorded by the company in accordance with this section.

## CHAPTER IV

### REPORTS

#### Sec. 401            GENERAL

401.1            In order that the Commission may be informed concerning the operation and the status of the more important facilities of the utilities, the following information shall be filed with the Commission.

401.2            Proposed Installations. At least 30 days prior to the construction of a pipeline intended to be operated at hoop stresses of 20 percent or more of the specified minimum yield strength of the pipe used, a report shall be filed with the Commission setting forth the proposed route and general specifications for such pipeline. The specifications shall include but not be limited to the following items:

- a. Description and purpose of the proposed pipeline.
- b. Specifications covering the pipe selected for installation and, when applicable, reasons for use of casing or bridging where the cover will be less than 30 inches in Class 3 or 4 locations.
- c. Maximum allowable operating pressure for which the line is being constructed.
- d. Fluid and pressure to be used during prove strength testing.

401.3            Reconstruction. At least 30 days prior to major reconstruction of a pipeline operating or intended to be operated at hoop stresses of 20 percent or more of the specified minimum yield strength of the pipe used, a report shall be filed with the Commission setting forth the general specifications, and reasons therefor, covering such reconstruction. The specifications shall include but not be limited to the following items:

- a. Description and reason for the proposed reconstruction.
- b. Specifications covering the pipe selected for installation and, when applicable, reasons for use of casing or bridging where the cover will be less than 30 inches in Class 3 or 4 locations.
- c. Maximum allowable operating pressure for which the line is being constructed.
- d. Fluid and pressure to be used during prove strength testing.

401.4            Change in Maximum Allowable Operating Pressure. Not later than 30 days subsequent to an increase or decrease in the maximum allowable operating pressure of a pipeline a report shall be filed with the Commission giving the new maximum allowable operating pressure, the reasons for such change, and, if increased, the steps taken to determine the capability of the pipeline to withstand such an increase.

402.1 For the purpose of keeping the provisions, rules, standards, and specifications of this General Order up to date, the gas utilities subject to these rules, either individually or collectively, shall file annually on or before June 30 a report setting forth such recommended changes in rules, standards, or specifications as they deem necessary to keep this General Order up to date in keeping with the purpose, scope, and intent thereof, or stating that no changes are deemed to be necessary. Gas utilities recommending changes shall, either collectively or otherwise, file appropriate formal applications seeking Commission approval for such changes. However, nothing herein shall preclude other interested parties from initiating appropriate formal proceedings to have the Commission consider any changes they deem appropriate, or the Commission from acting upon its own motion.