

Decision No. 24827.**ORIGINAL**

BEFORE THE RAILROAD COMMISSION OF THE STATE OF CALIFORNIA

In the Matter of the Investigation on the Commission's own motion into the reasonableness of certain proposed rules for gas service in the State of California, in revision of General Order No. 58 of this Commission.

Case No. 3181.

Fred C. Hutchinson, City Attorney, for the City of Berkeley;
 Homer W. Buckley, Assistant City Attorney, for the City of Oakland;
 John Golden, for the City and County of San Francisco;
 George J. LaCoste, City Attorney, and Ralph S. Hawley, City Engineer, for the Town of Emeryville;
 Harold P. Huls, City Attorney, and Leonard A. Diether, Deputy City Attorney, for the City of Pasadena;
 Erwin P. Werner, City Attorney, by Milton Bryan, Executive City Attorney, for the City of Los Angeles;
 H. B. Daniels, Assistant City Attorney, and Lester S. Ready, Consulting Engineer, for the City of San Diego;
 Fred H. Ball, for the Board of Public Utilities and Transportation of the City of Los Angeles;
 Sanborn & Roehl, by Frank B. Austin, for Northern California Fireman's Association;
 H. E. Albro, in propria persona;
 C. P. Cutten and R. W. Duval, by R. W. Duval, for Pacific Gas and Electric Company;
 Pillsbury, Madison & Sutro, by Hugh Fullerton, for Coast Counties Gas and Electric Company, West Side Natural Gas Company and Natural Gas Corporation of California;
 L. T. Rice and Lee Holtz, for Southern California Gas Company;
 Arthur F. Bridge, for Southern Counties Gas Company;
 L. M. Klauber, D. H. Perkins, O. Goldkamp, and H. Barnes, for San Diego Consolidated Gas and Electric Company;
 H. L. Messer, for Los Angeles Gas and Electric Corporation.

STEVENOT, COMMISSIONER:

O P I N I O N

This is an investigation on the Commission's own motion into the reasonableness of certain proposed rules for gas service

in the State of California, in revision of General Order No. 58 of this Commission.

On August 1, 1919, the original General Order No. 58 was approved, effective September 1, 1919, and a revision of same was approved March 1, 1923, effective April 1, 1923, since which date the order, in its present form, has been and now is in effect. Both the original order and the revision of March 1, 1923, set forth rules and regulations covering principally the service of manufactured and mixed gas, as those types of service were most generally rendered throughout the State at the time of the adoption and revision of the order.

During the last few years the service of straight natural gas has largely displaced the service of manufactured and mixed gas in California, and there have been some installations of plants rendering hydro-carbon gas. For this reason it is now necessary to further revise General Order No. 58 to conform to present conditions.

In addition to this, certain representative cities have requested a revision of paragraph (c), Section 33 "Service Pipes" of the order dealing with the installation of service cocks or valves located at the curb line of consumers' premises. Said paragraph at present reads as follows:

"(c) Each gas utility shall, upon application of any consumer or prospective consumer, furnish and install at its own expense a suitable service cock or valve properly housed or encased so as to be accessible at all times for the purpose of shutting off the flow of gas at the curb line."

Public hearings on this matter were held at San Francisco, California, on March 1, 1932, and on March 22, 1932, at Los Angeles,

California, on March 8, 1932, and the matter submitted on briefs.

At these hearings testimony and evidence were introduced regarding the proposed changes in the Order, including suggested revisions of paragraph (c), Section 38, mentioned above.

After careful consideration of the record in this case, it is my opinion that General Order No. 58 of this Commission should be modified and revised as set forth below and, therefore, I recommend the following form of Order:

O R D E R

The Commission having prepared a revision of its General Order No. 58, specifying standards for gas service in the State of California, hearings having been held, the matter being submitted and now ready for decision,

The Railroad Commission of the State of California hereby finds as a fact that the rules specifying standards for gas service set forth in its General Order No. 58, approved March 1, 1923, should be modified as set forth in its General Order No. 58, Revised, which is attached to and made a part of this Order, which revised standards are found to be just and reasonable. Basing its order on the above finding of fact;

IT IS HEREBY ORDERED that:

1. On and after July 1, 1932, the rules specifying standards for gas service as set forth in the Commission's General Order No. 58, as approved March 1, 1923, are rescinded.
2. General Order No. 58, Revised, is hereby

approved and made effective July 1, 1932.

The foregoing Opinion and Order is hereby approved and ordered filed as the Opinion and Order of the Railroad Commission of the State of California.

Dated at San Francisco, California, this 31st day of May, 1932.

P. L. Seavey
Leon Whidney
M. J. Carr
M. B. Harris
Fred G. Stewart
Commissioners.

GENERAL ORDER NO. 58

REVISED

RAILROAD COMMISSION OF THE STATE OF CALIFORNIA
STANDARDS FOR GAS SERVICE IN THE STATE OF CALIFORNIA

(Original Order Approved August 1, 1919. Effective September 1, 1919)

(Revised Order Approved March 1, 1923. Effective April 1, 1923)

(Revised Order Approved May 31, 1932. Effective July 1, 1932)

1. Application of Rules.

The following rules shall apply to any person, firm or corporation now or hereafter engaged as a public utility in the business of furnishing manufactured gas, natural gas, hydrocarbon gas, or any mixture of gases for domestic, commercial, industrial or other purposes within the State of California where gas service is subject to the jurisdiction of the Railroad Commission of the State of California. In no case shall any public utility deviate from these rules except with specific written authorization from the Commission.

2. Definitions.

(a) The word "utility" and the term "gas utility" as used in these rules shall be construed to mean any person, firm or corporation engaged as a public utility in producing, transmitting, distributing or furnishing manufactured gas, natural gas, hydrocarbon gas, or any mixture of gases for domestic, commercial, industrial or other purposes.

(b) The word "Commission" as used in these rules shall be construed to mean the Railroad Commission of the State of California.

(c) The word "customer" as used in these rules shall be

construed to mean any person, group of persons, firm, corporation, institution, municipality, or other civic body supplied with gas by any gas utility, or which may be entitled or permitted to use for compensation any of the facilities of any gas utility.

(d) The word "gas" as used in these rules shall, unless otherwise specifically designated, be construed to mean manufactured gas, natural gas, hydrocarbon gas, or any mixture of gases produced, transmitted, distributed or furnished by any gas utility.

(e) The term "manufactured gas" as used in these rules shall be construed to mean any gas produced by any generating or processing equipment, exclusive of "hydrocarbon gas."

(f) The term "natural gas" as used in these rules shall be construed to mean any gases existing in their natural state as they come from the well or from oil separating or gasoline extraction apparatus.

(g) The term "hydrocarbon gas" as used in these rules shall be construed to mean any gas consisting essentially of normal and/or iso-butane and propane and pentane, or any mixture thereof.

(h) The term "mixed gas" as used in these rules shall be construed to mean any mixture of two or more gases, of materially different physical character or chemical composition mixed inside or outside of any generating or processing equipment or any well, separating or extracting plant.

(i) The term "cubic foot" of gas as used in these rules shall have the following meaning:

- (1) In cases where gas is supplied to customers at the standard delivery pressure (cf. Rule 19), a cubic foot of gas shall be construed to be that volume of gas which, at the temperature and pressure existing in the meter, occupies one cubic foot.

- (2) In cases where gas is supplied to customers through orifice meters at other than standard delivery pressure, a cubic foot of gas shall be construed to be that volume of gas which, at a temperature of 60 degrees F. and an absolute pressure of 14.73 pounds per square inch, occupies one cubic foot.
- (3) In cases where gas is supplied to customers through positive displacement meters at other than standard delivery pressure (cf. Rule 19), a cubic foot of gas shall be construed to be that volume of gas which, at the temperature existing in the meter, and an absolute pressure of 14.73 pounds per square inch, occupies one cubic foot.
- (4) The standard cubic foot of gas for all other purposes of these rules shall be that volume of gas which, when saturated with water vapor and at the temperature of 60 degrees F. and under a pressure of 30 inches of mercury (density 13.5951 grams per C.C. and acceleration of gravity 980.665 cm/sec.²) occupies one cubic foot.

3. System Maps and Records.

(a) Each gas utility shall keep on file with the Commission up-to-date maps of the general territory which it holds itself in readiness to serve, outlining rate or operating districts and showing major transmission lines.

(b) A suitable map or maps shall be kept on file in the principal office of each division or district, which maps shall at all times show the size, character and location of each street main, district regulator, street valve and drip, and when practicable, each service connection in the corresponding territory served. In lieu of showing service locations on maps, a card record or other suitable means may be used.

(c) In each division or district office there shall be available such information relative to the distribution system as will enable the local representatives, at all times, to furnish necessary information regarding the rendering of service to existing and prospective customers.

(d) Each gas manufacturing or mixing plant and each compressor and holder station shall be provided with an accurate

(d) (Continued)

ground plan drawn to a suitable scale, showing the entire layout of the plant or station, the location, size and character of plant equipment, major pipe lines, connections, valves and other facilities used for the production and delivery of gas, all properly identified.

4. Record of Interruptions.

(a) Any gas utility contemplating an interruption to service on its entire system or in any major district thereof shall first submit its plans to the Commission for approval.

(b) Each gas utility shall keep a record of all interruptions to service on its entire system, or in major divisions or operating districts thereof, including a statement of the time, duration and cause, if known, of the interruption. Any such interruption of over two (2) hours' duration shall be reported to the Commission as soon as possible after its occurrence.

5. Station Records.

(a) Each gas utility shall keep and preserve, for a period of at least two (2) years, an accurate record of the pressures maintained on each main leading from each manufacturing plant and from each compressing, receiving and/or dispatching station on its system. Such record may be kept in the form of pressure gauge charts.

(b) Each gas utility shall keep and preserve, for a period of at least three (3) years, an accurate record of the operation of each isolated compressor station, as follows:

- (1) The amount of fuel used each day under steam boilers and in compressors.
- (2) The amount of electricity or other energy used each month for compression purposes.

(c) Each gas utility serving manufactured or mixed gas shall keep and preserve, for a period of at least three (3) years, an accurate record of the operation of each manufacturing or mixing plant, as follows:

- (1) The volume of gas manufactured or mixed each day, recorded in standard cubic feet.
- (2) The volume of gas sent out each day recorded in standard cubic feet.
- (3) The amount of make oil, liquid hydrocarbons, and/or other raw material used each day in manufacturing and/or mixing gas.
- (4) The amount of heat oil and/or other fuel used each day in gas generators or producers.
- (5) The amount of fuel used each day under steam boilers or elsewhere, together with the amount of lampblack and tar utilized for steam purposes (estimated if necessary).
- (6) The amount of electricity or other energy used each month.
- (7) The character of, and an estimate of, the quantity of the by-products or residuals produced, utilized, sold or remaining on hand each month.

(d) Each gas utility serving hydrocarbon gas shall keep and preserve, for a period of at least three (3) years, an accurate record of the operation of each vaporizing plant, as follows:

- (1) The quantity of gas vaporized each month, recorded in cubic feet.
- (2) The quantity of gas sent out each month, recorded in cubic feet.
- (3) The amount of liquid hydrocarbons used each month, recorded in gallons.
- (4) The amount of fuel used each month for plant operations, in cubic feet.
- (5) The amount of electricity used each month.
- (6) The calorific value per gallon of each new supply of liquid hydrocarbons received.

(e) Each gas utility serving natural gas shall keep and preserve, for a period of at least three (3) years, an accurate record of the volume of natural gas handled, recorded in standard cubic feet, as follows:

(1) System:

(a) Receipts (Daily):

- Total volume of natural gas received and/or purchased.
- (1) From producers.
 - (2) From transporting companies or utilities.
 - (3) From owned supplies or sources.
 - (4) From underground storage.
 - (5) Holder variation.

(b) Disbursements (Daily):

- Total volume of natural gas sent out.
- (1) To wholesale sales.
 - (2) To underground storage.

(c) Disbursements (Monthly):

- (1) To domestic commercial use.
- (2) To industrial use.
- (3) To company use.
- (4) To transportation for others.
- (5) To wastage and losses.

(2) Each Division or Major Operating District:

(a) Receipts (Daily):

Total volume of natural gas received.

(b) Disbursements (Monthly):

Total volume of natural gas sent out.

- (1) To domestic, commercial sales.
- (2) To industrial sales.
- (3) To wholesale sales.
- (4) To transportation for others.
- (5) To company use.
- (6) To underground storage.
- (7) To holder storage.
- (8) To wastage and losses.

(3) Each Major Transmission Line - 50 Miles or More in Length (Daily):

Total volume of natural gas transported.

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(4) Each Field or Compressor Station (Daily):

Total volume of natural gas compressed.

6. Unsafe Equipment.

(a) Whenever any equipment or facilities, the failure of which would involve life or property hazard, are removed from service for any reason, they must be thoroughly inspected and tested before being again placed in service. No equipment or facilities shall be placed in service or continued in service which have for any reason become detrimental to service, dangerous or liable to cause injury to persons or damage to property.

On and after the effective date of this order, whenever any structure being served with gas is destroyed, removed or demolished, the gas utility serving said structure shall, within one-hundred and twenty (120) days thereafter, cut and cap the gas service line at or outside the property line; provided, however, that if the erection of a new structure is commenced upon the same premises within the one-hundred and twenty day period, said gas service line may be permitted to remain uncut if it is to be used as a gas supply line to serve the new structure immediately upon the completion thereof.

(b) Each gas utility shall inspect its gas properties in such manner and with such frequency as may be necessary in order that the plant, equipment and facilities may at all times be maintained in proper condition for use in rendering safe, proper and adequate service. A record shall be kept by each gas utility of conditions found upon inspection, or otherwise reported or ascertained, involving life or property hazard or interference with service, which record shall describe the location and circumstances of each apparently hazardous condition or possible service interference condition found or reported, and a statement showing

the date and general character of its correction.

7. Testing Equipment and Facilities.

(a) Each gas utility shall, unless otherwise specifically required by these rules, provide such laboratory equipment, meter testing equipment, and other testing facilities for each gas manufacturing or mixing plant, meter repair shop or testing station, as may be necessary to make the tests required of it by these rules or other orders of the Commission. The apparatus and equipment so provided shall be of a type and form approved by the Commission, and it shall be available at all times for the inspection or use of any authorized representative of the Commission.

(b) Each gas utility shall make such tests as are prescribed under these rules with such frequency and in such manner, and at such places as herein provided, or as may be approved or ordered by the Commission.

(c) Each gas utility shall file with the Commission a detailed statement showing the location of each laboratory, meter testing shop and testing station owned, controlled or operated by the utility, together with a full and complete description of each major testing or standardizing instrument or apparatus maintained therein. Any major change or addition to testing instruments and apparatus, or abandonment of testing instruments or apparatus shall be reported to the Commission within ten days after the change has become effective.

8. Heating Value Standard for Manufactured and Mixed Gas.

(a) Each gas utility supplying manufactured or mixed gas for domestic, commercial or industrial purposes, either directly or through a second utility, shall establish and maintain, with the approval of the Commission, a standard heating value for its product. The monthly average heating value of the gas measured

in the manner and place as hereinafter provided shall meet the requirements of the standard established.

(b) Each gas utility supplying manufactured or mixed gas shall file with the Commission as a part of its schedule of rates, rules and regulations, a statement of the standard heating value of the gas supplied by it:

- (1) At the outlet of its plant at low pressure delivery.
- (2) To its customers in each district as may be ruled a separate distribution system by the Commission.

A similar statement shall be inserted in its schedule of rates, rules and regulations, kept open to public inspection at each office or location where applications for service are received.

(c) No standard of heating value established by any gas utility as herein provided shall be changed in any way by such utility except with written authorization from the Commission.

9. Minimum Monthly Average Heating Value of Manufactured and Mixed Gas.

(a) Unless specifically permitted in writing by the Commission, no gas utility supplying manufactured or mixed gas for domestic, commercial or industrial purposes shall deliver from its manufacturing or mixing plant to its distribution or transmission system a gas which shall have a monthly average total heating value of less than five hundred fifty (550) British thermal units per standard cubic foot.

(b) The minimum monthly average total heating value of manufactured or mixed gas delivered by any gas utility to its customers in any district as may be ruled a separate distribution system by the Commission shall be such as to meet the approval of the Commission; provided that, in the case of low pressure and intermediate high pressure distribution systems, supplied directly

from a manufacturing or mixing plant, the minimum monthly average total heating value, as measured at or near the center of distribution, shall not be less than five hundred forty (540) British thermal units per standard cubic foot unless specifically permitted in writing by the Commission.

10. Daily Variation in Heating Value of Manufactured and Mixed Gas.

The maximum variation of the heating value of manufactured or mixed gas leaving the plant shall not exceed twenty-five (25) British thermal units per cubic foot above or below the standard heating value. In the case of hydrocarbon-air mixtures, said maximum variation shall not exceed twenty-five (25) British thermal units per cubic foot above or below the standard heating value.

11. Heating Value of Natural Gas and Hydrocarbon Gas.

Each gas utility supplying natural gas or hydrocarbon gas for domestic, commercial or industrial purposes shall file with the Commission as a part of its schedule of rates, rules and regulations, the average total heating value of the natural gas or hydrocarbon gas, together with the maximum fluctuation above and below the average total heating value which may be expected of the gas supplied by it in each district division or community served.

12. Monthly Average Heating Value.

(a) The monthly average total heating value of manufactured or mixed gas at any given test station shall be an average of the daily determination as provided for in Rule No. 13, Sec.

(a), Paragraph No. 1.

(b) The monthly average total heating value of natural gas or hydrocarbon gas at any given test station shall be an average of all total heating value tests made during each month in fulfillment of the requirements of Rule No. 13, Sec. (c).

13. Heating Value Tests.

(a) Manufactured or Mixed Gas:

- (1) Each utility supplying manufactured or mixed gas and maintaining a testing station at the manufacturing or mixing plant shall determine daily the heating value of the gas leaving the plant. This determination shall be as near a weighted average quality of gas sent out each day as practical limitations will permit, obtained either by averaging a series of tests taken at intervals in a manner approved by the Commission or by a test made upon a continuous sample taken and held by a device approved by the Commission.
- (2) Each utility supplying manufactured or mixed gas and maintaining a testing station near the center of distribution shall determine the heating value of the gas being delivered on at least six days per week in the manner prescribed above.
- (3) Each gas utility supplying manufactured or mixed gas and maintaining a testing station shall determine the heating value of the gas in the mains at the outlet of each manufacturing or mixing plant at least three times each day, at intervals of not less than three and one-half (3-1/2) hours, unless in the opinion of the Commission more frequent determinations shall be made, in which event determinations shall be made in the manner and at such times as may be approved by the Commission.

(b) Manufactured or Mixed Gas Affected by Compression or Other Processes.

Each utility supplying manufactured or mixed gas, the operations of which involve compression or other processes affecting the heat content of all or any portion of its gas after the gas has been delivered from the manufacturing or mixing plant, shall maintain such equipment and make such tests as may be prescribed by the Commission.

(c) Natural Gas and Hydrocarbon Gas:

Each gas utility supplying natural gas or hydrocarbon gas for domestic, commercial or industrial purposes shall make tests of the gas delivered to its customers at such locations and with such frequency as may be prescribed by the Commission and shall keep a permanent chronological record of all tests of total heating value of natural gas received or delivered to it; provided, that if heating value determinations of the same gas are satisfactorily made by another utility these determinations may be used for the purpose of the above record upon written approval of the Commission. In cases where unmixed hydrocarbon gas is served, the heating value may be calculated upon the basis of analysis of the shipment as received by the utility from the producer or manufacturer.

14. Heating Value Test Records.

Each gas utility making heating value determinations as herein provided shall adopt, subject to the approval of the Commission, a standard form for recording the date and results of each such test. Each determination of heating value shall be recorded upon the form adopted for that purpose and such forms shall be retained as a chronological record at the station where made for a period of not less than two years.

15. Calorimeter Equipment.

(a) Each gas utility supplying manufactured or mixed gas shall provide and maintain testing stations equipped with a calorimeter complete with all necessary accessories thereto, and of a type approved by the Commission, as follows:

- (1) One testing station at each gas manufacturing or mixing plant supplying each district, division or community where the annual domestic and commercial sales exceed fifteen million (15,000,000) cubic feet, provided that such testing station may be installed at a point near the center of distribution, subject to the approval of the Commission.

- (2) An additional testing station at a point near the center of distribution in each district, division or community in which the manufacturing or mixing plant is located and where the annual sales exceed five-hundred million (500,000,000) cubic feet.
- (3) One testing station, or take samples, at a point near the center of distribution in each district, division or community served through a transmission line where the annual sales exceed one-hundred million (100,000,000) cubic feet.
- (4) A gas utility distributing in any district, division or community manufactured or mixed gas purchased from a second utility shall be considered a manufactured or mixed gas utility and shall install testing stations in accordance with these rules.

(b) A gas utility supplying any district, division or community with natural gas or hydrocarbon gas, in which the annual sales exceed one-hundred million (100,000,000) cubic feet, shall establish a testing station, or take samples, near the center of distribution of each such district, division or community, and shall make at least one determination per week of the total heating value of the gas delivered to customers, except where a number of such communities are so interconnected as to be certain of receiving gas from the same source, in which case, upon permission from the Commission, there may be established a testing station at a location where the gas received will be representative of that served in all such communities.

16. Purity of Gas.

(a) Hydrogen Sulphide.

No gas supplied by any gas utility for domestic or commercial purposes in this state shall contain more than a trace of hydrogen sulphide. The gas shall be considered not to contain more than a trace of hydrogen sulphide if a strip of white

filter paper moistened with a solution containing 5 per cent by weight of lead acetate is not distinctly darker than a second paper freshly moistened with the same solution after the first paper has been exposed to the gas for one minute in an apparatus of approved form through which the gas is flowing at a rate of approximately five cubic feet per hour, the gas not impinging directly from a jet upon the test paper.

(b) Total Sulphur and Ammonia:

No gas supplied by any gas utility for domestic or commercial purposes shall contain more than thirty (30) grains of total sulphur, and more than five (5) grains of ammonia in each one-hundred (100) cubic feet.

(c) Test of Gas Purity:

Each gas utility supplying manufactured gas for domestic, commercial or industrial purposes shall make daily tests of the gas leaving its manufacturing or purifying plants for the presence of hydrogen sulphide in the manner above specified. Each gas manufacturing or purifying plant having an annual output in excess of one-hundred million (100,000,000) cubic feet of gas shall be equipped with, and shall maintain, such apparatus and facilities as are necessary for the determination of total sulphur and ammonia in gas, and each utility operating such a plant shall make tests weekly or as much oftener as may be found necessary, and keep a continuous chronological record of the amount of total sulphur and ammonia in the gas distributed by it. The records herein provided shall be kept at the station where made, provided, however, that any such utility supplying only water gas or oil gas shall not be required to provide apparatus for or make determinations of the amount of ammonia in gas.

(d) In the case of those utilities supplying a mixed gas these standards of gas purity shall apply to the manufactured

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gas prior to mixture, excepting in emergencies or in special cases, by approval of the Commission.

17. Standard Gas Delivery Pressure.

(a) Each gas utility supplying gas for domestic or commercial purposes shall, subject to the approval of the Commission, adopt and maintain a standard pressure of gas as measured at the outlet of any customer's meter. In adopting such a standard pressure, each utility may divide its distributing system into districts and establish a separate standard pressure for each district, or the utility may establish a single standard pressure for its distributing system as a whole.

(b) The standard pressure adopted as herein provided shall be filed with the Commission as a part of each gas utility's schedule of rates, rules and regulations, and shall be clearly set forth in the schedules of rates, rules and regulations of the utility kept open to public inspection at each office or location where applications for service are received.

(c) No change shall be made by any gas utility in the standard pressure adopted by it for any district or system without the approval of the Commission.

18. Minimum and Maximum Gas Pressure.

The standard pressure of gas supplied by any gas utility to domestic or commercial customers, as measured at the outlet of any such customer's meter, shall not be less than two inches nor more than twelve inches of water pressure. In the case of customers who require higher pressure than the standard established for domestic and commercial service, the gas utility may supply gas at the desired pressure and the volume of such gas shall be computed at standard conditions, as described in Rule No. 2, Section (1), part (2).

19. Variations in Gas Pressure.

The pressure of gas supplied at low pressure to domestic and commercial customers shall not vary more than fifty per cent (50%) above or below the standard pressure which the utility has adopted for a district or system, as herein provided, and no such variation in pressure shall be more than that equivalent to four inches of water column above or below the standard. No variation in pressure from the standard pressure of two inches or more of water column shall occur in a shorter time than fifteen (15) minutes, excepting momentary fluctuations on individual services caused by the operations of customer's appliances or fluctuations caused by reasonable regulator buildups.

20. Pressure Testing Equipment and Tests.

(a) Each gas utility shall own and maintain at least one recording pressure gauge on each principal distribution main leaving each gas manufacturing plant, compressor, or holder station and no utility shall maintain less than two such gauges unless specifically relieved in writing by the Commission. Pressure charts taken from such gauges shall be preserved as a continuous record for a period of at least two years.

(b) Each gas utility shall own and maintain at least one low pressure, portable recording pressure gauge for each one-hundred (100) miles or fraction thereof of low pressure main in any district as may be ruled a separate distributing system by the Commission.

(c) On low pressure distribution systems each gas utility shall during the six months of the peak season of the year make at least one twenty-four hour record of pressure each week at the outlet of customer's meters for each one-hundred (100) miles or less of distribution main in each district or separate

distributing system. Such record shall bear the address of the customer where the pressure is taken, and the dates, together with such other information as the Commission may from time to time direct and shall be filed and retained as a continuous record for a period of at least two calendar years in the principal office of each district or division. In lieu of fifty per cent (50%) of the above required number of records from portable pressure gauges at customers' premises there may be substituted an equal number of twenty-four (24) hour records from recording pressure gauges permanently located at critical points on the distribution system.

(d) On high pressure distribution systems, gas utilities shall maintain permanently located pressure gauges at critical points and shall preserve in the district or division offices the charts from these gauges as a continuous record for a period of at least two (2) years.

Pressure conditions on the customer's premises on high-pressure distribution systems shall be determined by water column tests made during service calls in answer to complaints. A report on such tests shall be made on the complaint order, which report shall state the pressure observed when appliances were on and when all appliances (excepting pilot lights) were off, and it shall state whether the test was made at the outlet of the meter or at the customer's appliance. The number of such tests made shall not be less than one-hundred per cent (100%) of the number of all pressure complaints received.

21. Meters and Regulators.

(a) In the service of gas to domestic, commercial and industrial customers, each gas utility shall provide and install

at its own expense and shall continue to own, maintain and operate all equipment for the regulation and measurement of gas to the outlet of the meter, excepting that provision need not be made for temperature correction where the average monthly use of gas is less than one million (1,000,000) cubic feet.

(b) All service meters hereafter installed on customer's premises shall normally be located either at a point near where the service pipe enters the building, or at a point adjacent to the front or rear property line and so placed as to be at all times accessible for inspecting, reading and testing. Prepayment meters shall be so located as to be easily accessible to the customer. If the customer's building or consuming equipment is located at a considerable distance from the street or road, or if the service traverses cultivated land and is hence subject to injurious action by the soil, or if the customer is supplied with gas from a high pressure transmission line, the meter may be located at or near the property line, as close as possible to the main and in line with the point of service as closely as good construction will permit.

22. Service and Meter Installations.

Each utility shall install service lines and meters of adequate capacity to provide satisfactory service and to assure accurate meter registration under the load conditions imposed.

23. Gas Service Meter Accuracy.

(a) All tests to determine the accuracy of registration of any gas service meter shall be made with a suitable meter prover.

(b) Every gas service meter, when installed for the use of any customer, shall be in good order and shall have been adjusted to register within one (1) per cent over or two (2) per cent under the prover registration when passing gas at a rate which will cause

a pressure drop in the meter of not to exceed one-half (1/2) inch of water column. The meter shall be adjusted so that the open flow test agrees with the check flow test within two per cent (2%), provided, however, that no meter shall be put in service which on any test proves in excess of one per cent (1%) over the prover registration. Any meter, the readings or records of which are based on the differential pressure in such meter, or upon the measurement of any portion of the total gas delivered to a customer, shall be tested for accuracy before installation in a manner satisfactory to the Commission.

24. Periodic and Other Required Tests of Service Meters.

(a) No gas meter hereafter installed shall be allowed to remain in service more than seven (7) years from the time when last tested without being retested in the manner herein provided, and if found inaccurate, each such meter shall, at the time of each test, be readjusted to be correct within the prescribed limits before again being installed.

(b) If, during an inspection or the servicing of appliances or equipment on a customer's premises, a meter is observed to be in such a condition or so operating as to cause doubt of its accuracy or establish as a certainty that it is not recording within the limits of accuracy prescribed by these rules, it should be removed immediately, transported to a meter testing station without alteration of its condition, and tested, provided that in cases where removal is not feasible, same should be tested in place.

25. Meter Testing on Request of Customer.

(a) Each gas utility shall at any time when requested by a customer, upon not less than five (5) days' notice, test the accuracy of any meter in use by him.

No deposit or payment shall be required from the customer for such meter test except when a customer, whose average monthly bill for gas service is less than fifty (50) dollars requests a meter test within six months after date of the installation of said meter, or six months after the last previous test, in which case he may be required by the utility to deposit with it, to cover the reasonable cost of such test, an amount not to exceed the following, unless specifically authorized by the Commission:

1. For meters of rated capacities not exceeding 250 cubic feet per hour..... \$1.00 per meter.
2. For meters of rated capacities exceeding 250 cubic feet per hour but not exceeding 400 cubic feet per hour..... \$2.00 per meter.
3. For meters of rated capacities exceeding 400 cubic feet per hour but not exceeding 4000 cubic feet per hour..... \$4.00 per meter.

Fees for tests of meters of greater rated capacity than 4000 cubic feet per hour or for testing meters under extraordinary conditions will be furnished upon application to the Commission.

The amount deposited with the utility shall be refunded to the customer if the meter is found to register more than two (2) per cent over or under the proper registration when operating at the check test rate.

(b) A customer shall have the right to require the utility to conduct the test on his meter in his presence, or if he so desires, in the presence of an expert or other representative appointed by him.

(c) A report giving the name of the customer requesting the test, the date of the request, the location of the premises where the meter was installed, the meter statement at time of removal, the date tested, and the result of the test, the type,

make, size and number of the meter, the date of removal and deductions drawn therefrom shall be supplied to such customer within a reasonable time after completion of the test and a duplicate of such report shall be filed with the Commission.

26. Referee Tests by Commission.

Upon written application to the Commission by any customer, a test may be made of such customer's service meter, as soon as practicable, by a representative of the Commission. The application for such test shall be accompanied by a remittance of the amount fixed below as the fee for such test. If upon test the meter is found to be more than two (2) per cent over or under, the proven registration, this fee shall be repaid to the customer by the utility supplying gas through such meter. The fees for referee meter tests are:

1. For meters of rated capacities not exceeding 250 cubic feet per hour..... \$2.00 per meter.
2. For meters of rated capacities exceeding 250 cubic feet per hour but not exceeding 400 cubic feet per hour..... \$4.00 per meter.
3. For meters of rated capacities exceeding 400 cubic feet per hour but not exceeding 4000 cubic feet per hour..... \$8.00 per meter.

Fees for referee tests of meters of greater capacity or for testing meters under extraordinary conditions will be furnished upon application to the Commission.

This rule shall not interfere with the practice of any gas utility with reference to its tests of gas service meters, except that in the event of an application by a customer to the Commission for a referee test, as herein provided, the utility, after having been notified of such application, shall not remove, interfere with, or adjust the meter to be tested without the written consent of the customer, approved by the Commission.

27. Standard Methods of Testing Service Meters.

Each gas utility shall adopt and maintain standard methods of testing gas service meters, which methods and the facilities used in connection therewith shall be reported to the Commission for approval.

28. Meter Testing Equipment.

(a) Each gas utility shall own at least one meter prover of a type approved by the Commission and shall maintain such equipment in proper adjustment and so calibrated that the error of indication shall not exceed one-half (1/2) per cent. No meter prover shall be so placed as to be subject to excessive temperature variation and each meter prover shall be equipped with suitable thermometers and other necessary accessories.

(b) Additional district meter proving stations shall be installed when and where found necessary by the Commission.

(c) Each utility using orifice meters, high pressure meters, proportional meters, or other large capacity meters, shall own and maintain testing apparatus of a type approved by the Commission.

(d) The accuracy of all provers and methods of operation will be established from time to time by a representative of the Commission. Any alterations, accidents, or repairs which might affect the accuracy of any meter prover, or the method of operating same, shall be promptly reported in writing to the Commission.

29. Records of Meters and Meter Tests.

(a) A complete record of the tests made under these rules shall be kept by each gas utility. The record so kept shall contain complete information concerning each test, including the date when, and the place where the test was made, the name

of the inspector conducting the test, the result of the test, and such other information as may be required by these rules, or as the Commission may from time to time direct, and such additional information as the utility making the test may deem desirable.

(b) Whenever any service meter is tested, the original test record shall be preserved, including the information necessary for identifying the meter, the reason for making the test, the reading of the meter upon removal from service, together with all data taken at the time of the test in sufficiently complete form to permit the convenient checking of the methods employed and the results obtained. These records shall be preserved for a period of not less than two (2) calendar years.

(c) A record shall be kept, numerically arranged by meter numbers, indicating for each meter owned or used by a gas utility, its type, size and date purchased, together with the dates and locations of each installation, the date and result of each test, and date and character of all repairs made. These records shall be preserved for a period of one year after the meter is sold, dismantled or destroyed.

30. Meter Readings and Bill Forms.

(a) Each meter shall indicate clearly the cubic feet, or other unit, of gas registered by such meter. In cases where the dial readings of a meter must be multiplied by a constant to obtain the cubic feet or other unit consumed, the proper constant to be applied shall be clearly marked on the consumer's bill. Where gas is metered under high pressure or where the quantity is determined by calculations from recording devices, the company shall, upon application from the customer, supply the customer with such information as will cover the conditions under which the quantity is determined.

(b) Bills rendered to customers shall show the reading of the meters at the beginning and end of a period for which the bill is rendered, the number of cubic feet, or other units, of gas supplied and the date of the meter readings. Each bill shall bear upon its face the date when the bill was mailed to or left upon the premises of the customer. On all bills which are computed on any other basis than a definite charge per unit of service, the other factors used in computing the bill shall be clearly stated thereon or submitted to the customer upon request so that the amount of the bill may be readily recomputed.

(c) Copies of all forms of bills, bill stubs and notices appertaining to the payment of bills shall be filed with the Commission as a part of the schedule of rates, rules and regulations then in force. No change shall be made in any such bill, bill stub or notice, without the approval of the Commission.

51. Information for Customers.

(a) Each gas utility shall, upon request, give its customers such information and assistance as is reasonable in order that customers may secure safe and efficient service at the most economical rate and upon request shall render every reasonable assistance in securing appliances that are properly adapted and adjusted to the gas service furnished.

(b) Each gas utility shall inform its customers of any change made, or proposed to be made, in the character of the service supplied as would affect the efficiency or safety of operation of the appliances or equipment which may be in use by said customer.

(c) Each gas utility shall adopt some means of informing its customers as to the methods of reading meters, either by printing on its bills a description of the method of reading

meters, or by a notice to the effect that the method will be explained upon application at any office where applications for service are received.

32. Customers' Deposits.

Each utility receiving deposits from customers for the establishment of credit shall keep a record showing the name of the customer making the deposit, the premises occupied by the customer, the date deposit was made, the amount of the deposit and the interest accrued, paid or credited.

33. Service Cocks.

On and after the effective date of this order each and every gas service line installed or reconstructed shall include a suitable shut-off valve, or cock, properly housed or encased so as to be accessible at all times, located outside of the structure served and between said structure and the gas main from which said service is supplied.

34. Maintenance and Operation of Facilities.

(a) Each gas utility, unless specifically relieved in any case by the Commission from such obligation, shall operate and maintain in safe, efficient and proper condition all of the facilities and instrumentalities used in connection with the furnishing, regulation, measurement and delivery of gas to any customer up to and including the point of delivery, which point, for the purpose of these rules, shall be deemed to be the outlet fitting of the meter installed by the utility.

(b) Each gas utility, unless specifically relieved in any case by the Commission from such obligation, upon request of any customer and without extra charge, shall make an inspection of appliances in use by that customer, in accordance with the rules and regulations of such utility filed with the Commission.

35. Complaints.

(a) Each gas utility shall make a full and prompt investigation of all complaints made to it by its customers, either directly or through the Commission.

(b) Each gas utility shall keep a chronological record of all complaints received which shall show in each case the name and address of the complainant, the date of receiving a complaint, the date and method of disposal, and name of service man responsible. The record shall be kept for a period of at least two (2) calendar years after the complaint has been adjusted.

36. Reports to the Commission.

Each gas utility shall at such time and in such form as the Commission shall prescribe, report to the Commission the result of all tests required to be made or the information contained in any record required to be kept by the utility.

37. Rate Schedules, Rules and Regulations.

Complete schedules, contract forms, rules and regulations, etc., applicable to the districts served, as approved by the Commission, shall be on file in each business office of the utility and shall be open to the inspection of the public.

38. General Provisions.

(a) The adoption of these rules shall in no way preclude the Commission from altering or amending the same in whole or in part, or from requiring any other or additional service, equipment, facilities, standard or practice, either upon complaint or upon its own motion, or upon the application of any utility or customer.

(b) In any case where any gas utility is supplying gas to customers under conditions more favorable or advantageous to such customers than are provided in these rules, either as to

quality or character of service, no change shall be made in such service conditions without the further approval of the Commission.

39. Modification of Rules.

Any gas utility may of its own accord establish uniform non-discriminatory rules more favorable to its customers than the rules herein established. The rules herein established shall take precedence over all orders, general or special heretofore made by the Commission, in so far as said orders may be inconsistent with these rules.

The rules herein established shall take precedence over all rules filed or to be filed by gas utilities in so far as inconsistent therewith. Rules now on file and inconsistent with the rules herein established shall be properly revised and refiled within thirty (30) days from the effective date of this order.

If hardship results from the application of any rule herein prescribed because of special facts, application may be made to the Commission for a modification of such rule provided that no utility shall submit any rule or regulation for the approval of the Commission which is contrary to any section of this order without submitting therewith a full and complete justification of such rule.

This order shall become effective on July 1, 1932.

RAILROAD COMMISSION OF THE STATE OF CALIFORNIA,

H. G. Mathewson, Secretary.