(Decision No. 44306)

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

IN THE MATTER OF THE SECOND REVISION OF "RULES REGULATING THE SERVICE OF GAS AND ELECTRIC UTILITIES," UNDER THE JURISDICTION OF THE PUBLIC UTILITIES COMMISSION OF THE STATE OF COLORADO.

CASE NO. 5103

June 3, 1955

Appearances: Akolt, Turnquist, Shepherd and Dick, by James L. Nelson, Esq., Denver, Colorado, for Pikes Peak Natural Gas Company and Midwest Natural Gas, Inc.;

Lee, Bryans, Kelly and Stansfield, by Ralph Sargent, Jr., Esq., Denver, Colorado, for Public Service Company of Colorado;

A. S. Grenier, Esq., Dallas, Texas, for Southern Union Gas Company;

David A. Preston, Esq., and J. W. Preston, Esq., Pueblo, Colorado, for Southern Colorado Power Company;

A. L. Mueller, Esq., Denver, Colorado,

J. M. McNulty, Denver, Colorado, for the Commission.

# STATEMENT

## By the Commission:

The Commission last revised its rules regulating the service of gas and electric utilities in 1935. Since that time there have been many changes in the operations of gas and electric utilities because of new methods of supplying service in the light of present day practices. To be effective, rules and regulations should be mutually advantageous to both the consumer and the utility in the interest of supplying satisfactory and adequate service.

The Commission, on its own motion, decided to revise said rules and regulations, and therefore instituted the instant matter.

After due notice to interested parties, a hearing was held to consider what revisions should be made to the existing rules and regulations.

The hearing took place on June 1, 1955, in the Hearing Room of the Commission, 330 State Office Building, Denver, Colorado, and at the conclusion of said hearing, the Commission took the matter under advisement.

Prior to the hearing, all interested parties were advised of the proposed revision, and comments and suggestions were invited, all in the interest of obtaining information. The staff has held informal conferences with some of the utilities, and has also solicited suggestions by mail in an endeavor to obtain pertinent information which would be useful in revising said rules and regulations. At the hearing, various interested parties appeared, and not only cross-examined the staff, but also gave direct testimony in regard to certain proposed revisions.

The Commission is appreciative of suggestions received, and has duly considered the same. The rules and regulations to be issued as a result of the hearing in this matter are necessary, in our opinion, to facilitate the rendering of gas and electric service to the public.

# FINDINGS

### THE COMMISSION FINDS:

That it is fully advised in the matter.

That the "Rules Regulating the Service of Gas and Electric Utilities" under the jurisdiction of The Public Utilities Commission of the State of Colorado, attached, and by reference made a part of the Order following, should be adopted.

That the rules and regulations to be adopted should be designated as "Rules Regulating the Service of Gas and Electric Utilities, Second Revised Issue."

# ORDER

### THE COMMISSION ORDERS:

That the revised rules regulating the service of gas and electric utilities under the jurisdiction of this Commission in the State of Colorado, hereto attached and made a part hereof, be, and the same are hereby, approved and adopted to be hereafter designated as "Rules Regulating the Service of Gas and Electric Utilities, Second Revised Issue," and shall become effective October 1, 1955.

THE PUBLIC UTILITIES COMMISSION OF THE STATE OF COLORADO

Dated at Denver, Colorado, this 3rd day of June, 1955.

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THE PUBLIC UTILITIES COMMISSION
OF THE
STATE OF COLORADO

Case 5103

RULES REGULATING THE SERVICE OF GAS AND ELECTRIC UTILITIES

SECOND REVISED ISSUE EFFECTIVE OCTOBER 1, 1955

ISSUED BY

ORDER OF THE COMMISSION DENVER, COLORADO

### RULE 1.

Application of Rules:- (a) The following rules shall apply to any person, copartnership, firm, corporation, their lessees, trustees, or receivers appointed by any court, now or hereafter engaged in the business of a public utility furnishing gas or electricity to domestic, commercial or industrial consumers, operating under the jurisdiction of the Public Utilities Commission of the State of Colorado.

(b) 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 additional service, equipment, facility or standard, either upon complaint or upon its own motion, or upon the application of any utility. Furthermore, these rules shall not in any way relieve any utility from any of its duties under the laws of this State.

## RULE 2.

Definitions:- (a) The word "Utility" as used in these rules shall be construed to mean any person, copartnership, firm, corporation, whether privately owned or otherwise when subject to the jurisdiction of this Commission, their lessees, trustees or receivers appointed by any court whatsoever that may now or hereafter be engaged as a public utility in the business of furnishing gas, or electricity, to domestic, commercial, or industrial consumers in the State of Colorado.

- (b) The word "Commission" as used in these rules shall be construed to mean The Public Utilities Commission of the State of Colorado.
- (c) The word "Consumer" as used in these rules shall be construed to mean any person, group of persons, copartnership, firm, corporation, institution, any agency of the Federal, State or local governments, their lessees, trustees, or receivers appointed by any court, supplied by any utility with gas or electricity for consumptive domestic, commercial, or industrial use, or at wholesale.
- (d) The word "Gas" as used in these rules shall, unless otherwise specifically designated, be construed to mean manufactured gas, natural gas, other hydrocarbon gases, or any mixture of gases produced, transmitted, distributed or furnished by any gas utility.

### RULE 3.

Operating Schedules and Interruptions of Service: - (a) Each utility shall adopt an operating schedule, and shall report the same, or any

changes therein, to this Commission, indicating in any case where service is not rendered continuously, the time at which service is commenced, and the time at which it is discontinued. Any changes in such operating schedules shall be made only with the approval of this Commission. The operating schedules may be filed as a part of the utility rate schedules.

- (b) Each utility shall keep a record of all interruptions of service upon its entire system or major divisions thereof, including a statement of the time, duration and cause of any such interruption. Each utility shall, except for stations operated without attendants, also keep a record of the time of starting up or shutting down the central station or sub-station generating, transforming or compressing equipment, and the period of operation of all regulators used for the maintenance of constant gas pressure, or constant voltage of electricity supplied. This record shall include the readings taken periodically of station meters and switchboard instruments, which readings shall be taken with such frequency as the utility or the Commission may from time to time require.
- (c) The record of interruptions of service and a statement of the operating schedules of the utility shall be open at all times to the inspection of the duly authorized representatives of this Commission.
- (d) All records under this rule shall be retained by the utility for a period of six years.

### RULE 4.

Inspection of Plant and Equipment:- Each utility shall inspect its plant and distributing equipment and facilities in such manner and with such frequency as is in accord with good practice, in order that the same may be maintained in proper condition for use in rendering safe and adequate service.

### RULE 5.

Testing Facilities:-(a) Each utility shall provide such laboratory, meter testing shop and other equipment and facilities as may be necessary to make the tests required of it by these rules or other orders of this Commission. The apparatus and equipment so provided shall be of a form acceptable to this Commission, and it shall at all times be available for the inspection and use, on the premises of the utility, of the authorized representatives of this Commission; provided, however, that any natural gas utility rendering natural gas service to consumers located partially within and partially without the State of Colorado, and where over 50% of its consumers are outside the State of Colorado, the utility need maintain only meter testing equipment and facilities in Colorado, so long as the remainder of the apparatus, equipment and facilities herein provided for is maintained by it in a state contiguous to Colorado.

(b) Each utility shall make such tests as are prescribed under these rules with such frequency and in such manner and at such places as may be approved by this Commission.

## RULE 6.

Records of Tests and of Meters:-(a) A "meter history" record shall be maintained on each meter owned or used by the utility. Such record shall show the date of purchase, manufacturer's serial number, record of use by location, and date and results of each meter test, which record shall be retained for the life of the meter.

(b) Whenever a meter is tested either on request or upon complaint the test record shall include the information necessary for identifying the meter, the reason for making the test, the reading of the meter if removed from service, the result of the test, 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 calculations made. Such record

shall be retained for a period of two years.

#### RULE 7.

Accidents:- (a) Each utility shall as soon as possible report to this Commission each accident happening in connection with the operation of its property, facilities or service, wherein any person shall have been killed or seriously injured, or whereby any serious property damage shall have resulted; such first report shall later be supplemented by as full a statement as is possible of the cause and details of the accident, and the precautions, if any, which have been taken to prevent similar accidents. Each utility shall further give all reasonable assistance to the Commission in the investigation of the cause and suitable means for the prevention of any such accidents in the future.

(b) All accident reports submitted to the Commission by the Utility shall be treated by the Commission, its staff and employees as confidential and shall not be made available to the public.

### RULE 8.

Complaints: - Each utility shall make a full and prompt investigation of all complaints made to it by its consumers, either directly or through the Commission, and it shall keep a record of all written complaints received which shall show the name and address of the complainant, the date and character of the complaint, and the adjustment or disposal made thereof. This record shall be open at all times to the inspection of the duly authorized representatives of this Commission, and unless otherwise specified in these rules shall be retained by the utility for a period of two years.

## RULE 9.

Information for Consumers:- (a) Each utility shall at any time, on request, give its consumers such information and assistance as is reasonably possible in order that consumers may secure safe and efficient service and may secure lamps and appliances properly adapted to the service furnished. Each utility shall inform each consumer of any such change made or proposed to be made in any condition as to its service as would affect the efficiency of the service or the operation of the appliances or equipment which may be in use by said consumer.

(b) Each utility supplying metered service, on request, shall explain to its consumers the method of reading meters.

### RULE 10.

Meter Readings and Bill Forms:- (a) Each service meter shall indicate clearly the cubic feet, kilowatt hours or other units of service for which charge is made to the consumer. In cases where the dial reading of a meter (other than an orifice or other chart-type gas meter) must be multiplied by a factor, factors or a constant to obtain the units consumed, the proper factor, factors or constant to be applied shall be clearly marked on the face or dial of the meter if practical. The factor, factors or constant shall be clearly marked on the consumer's bill.

- (b) Each utility shall, upon written request of any consumer, cause the meter reader reading the meter installed upon the premises of such consumer, to leave upon such meter the first time such consumer's meter is read after receipt of such request a card or slip showing the date and time such reading was taken, and either the total reading expressed in cubic feet, kilowatt hours, or other unit of service recorded by the meter read, or showing the position of the hands upon the dial of such meter at the time the reading was taken.
- (c) All bills rendered periodically to consumers for metered service furnished shall show, in addition to the net amount due, the dates on which

the readings were taken, the meter readings at the beginning and end of the period for which the bill is rendered, and all other essential facts upon which the bill is based, including factors and/or constants mentioned in (a) above.

#### RULE 11.

Meter Rentals, and Consumer's Deposits:-(a) No meter rental, as distinguished from a minimum charge for service, shall be charged by any utility for any service meter installed by it for measurements upon which bills are randered.

- (b) Any utility may require at any time from any consumer or prospective consumer, a cash deposit intended to guarantee payment of current bills. Such required deposit shall not exceed the amount of an estimated ninety days! bill of such consumer, or in the case of a consumer whose bills are payable in advance, it shall not exceed an estimated sixty days' bill for such consumer, except that in the event an extension of lines and facilities is required to furnish such prospective consumer with service, the deposit may be the amount of the estimated bill for a longer period if so specified in the provisions of the extension policy of the utility. Simple interest shall be paid by the utility upon such deposits at the rate of five per cent per annum, payable upon the return of the deposit, or annually upon request of the consumer, for the time such deposit was held by the utility and the consumer was served by the utility, unless such period be less than six months; provided further, that the rate of interest on such cash deposits shall be only three per cent per annum if the utility keep such cash deposits in a separate and distinct trust fund and deposited as such in some bank or trust company and not used by the utility in the conduct of its business. Interest payments may, at the option of the utility, be made either in cash, or by a credit to the consumer's account. In computing interest no consideration need be given to fractional parts of months or dollars of principal.
- (c) Each utility having on hand such deposits from consumers, or hereafter receiving such deposits from consumers, shall keep records to show:
  (1) the name of each consumer making a deposit; (2) the premises occupied by the consumer when making the deposit and each successive premises occupied while the deposit is retained by the utility; (3) the amount and date of making the deposit; and (4) a record of each transaction, such as the payment of interest, interest credited, etc., concerning such deposit.
- (d) Each utility shall issue to every consumer from whom such deposit is received a certificate of deposit.
- (e) Each utility shall provide ways and means whereby a depositor who makes application for the return of his deposit or any balance to which he is entitled, but is unable to procure the original certificate of deposit, may not upon reasonable proof be deprived of his deposit or balance.

# RULE 12.

Filing of Rate Schedules, Rules and Regulations:-(a) Copies of all schedules of rates for service, forms of contracts, charges for service connections and extensions of lines and of all rules and regulations covering the relations of consumer and utility shall be filed by each utility in the office of this Commission.

- (b) Schedules of rates, forms of contracts and rules and regulations as filed with the Commission and available in the territory concerned shall also be on file in the local office of the utility and shall be open to inspection by the public.
- (c) If the reasonableness of any charge, rule, regulation or practice of any utility with reference to service connections or extensions, or of any rule covering the relations between consumer and utility, is challenged, the Commission will, upon complaint and investigation, prescribe the proper charge, rule, regulation or practice which shall thereafter be followed.

### RULE 13.

Discontinuance of Service:- No utility shall discontinue the service of any consumer for violation of any rule of such utility except upon written notice of at least forty-eight hours, advising the consumer in what particular such rule has been violated for which service will be discontinued. This rule may be waived where a by-pass is discovered on a consumer's service meter, or in the event of the discovery of dangerous leakage or short circuit on a consumer's premises, or in the case of a consumer utilizing the service in such a manner as to make it dangerous for occupants of the premises, thus making an immediate discontinuance of service to the premises imperative.

# RULE 14.

Meters and Service Connections:-(a) All meters used in connection with gas and electric metered service shall be furnished, installed and maintained at the expense of the utility.

- (b) Any equipment, devices, or facilities furnished at the expense of the utility or on which the utility bears the expense of maintenance and renewal shall remain the property of the utility and may be removed by it at any time after discontinuance of service.
- (c) Service connections to the consumer's premises in the case of electric utilities, and to the consumer's property line in the case of gas, shall be installed and maintained at the expense of the utility. This rule shall not apply when unusual conditions are encountered, or to very long service connections. When such special cases arise, the Commission will, if necessary, prescribe the proper charge.

### RULE 15.

Practice Under These Rules to Be Filed: Each utility shall file with this Commission within four months after receipt of this order, a statement, typewritten, properly identified and dated, on 82xll sheets, describing its practice under these rules as follows:

- (1) Description of test methods employed and frequency of tests or observations for determining quality, voltage, and pressure of gas or electric service furnished.
- (2) Description of meter testing equipment, including methods employed to ascertain and maintain accuracy of all testing equipment.
- (3) Rules covering testing and adjustment of service meters when installed and periodic tests after installation.

Revisions in any portion of this statement after filing will necessitate the filing of an entire new statement, properly identified and dated, cancelling the one on file.

### RULE 16.

Reports to Commission: Each utility shall make special reports at such time and in such form as the Commission may from time to time require.

# RULE 17.

Microfilming of Records:- Nothing in these rules shall prevent any utility from microfilming any records it desires, provided that the microfilm shall be retained by the utility for the same period of time as specified for the original records.

### SPECIAL RULES

### GAS

# MANUFACTURED, NATURAL, HYDROCARBON and/or MIXED

#### RULE 18.

Definition of a Cubic Foot of Gas:-(a) For the purpose of testing gas under these rules, a cubic foot of gas means that amount of gas which when saturated with water vapor at a temperature of sixty degrees (60°) Fahrenheit and subjected to an absolute pressure equal to thirty inches (30") of mercury, at thirty-two degrees (32°) Fahrenheit, (14.73 pounds per square inch) occupies a volume of one (1) cubic foot.

- (b) Sales, Low Pressure Distribution-For the purpose of measurements of gas to a customer taking gas at standard distribution pressure, a cubic foot of gas means the amount of gas which occupies a volume of one (1) cubic foot at the time metered and under the conditions existing at the customer's meter.
- (c) Sales, High or Intermediate Pressure Distribution-In cases where gas is supplied to customers through orifice or other type meters at other than standard distribution pressure a cubic foot of gas shall be taken to be that amount of gas which occupies a volume of one cubic foot at the billing temperature and pressure of the utility as filed with the Commission.

### RULE 19.

Heating Value of Gas:-(a) Each utility supplying gas for domestic, commercial or industrial purposes shall establish and maintain either a standard or a minimum heating value for its product. The standard shall be the monthly average total heating value determined by tests of the gas taken from such point or points on the distribution system and at such test frequencies as are reasonably necessary for a proper determination. The minimum shall be the lowest monthly average total heating value of gas supplied by the utility in any given service area. The utility shall declare such standard or such minimum, expressed in Btu per cubic foot, as a part of its schedule of rates on file with this Commission.

- (b) This standard heating value shall be that value which is on file with the Commission as a part of the utility's schedule of rates on the effective date of this Revised Rule 19 or that value which shall be declared by the utility, provided, however, that any change in value shall be made in accordance with the conditions hereinafter stated.
- (c) If the utility finds it more practical, economical and efficient to render service with gas of another heating value than the standard heating value on file with the Commission, the utility may file a new heating value standard and a new rate schedule; and if the conditions hereinafter stated shall have been complied with and the Commission shall not have suspended the new rate schedule as provided in Colorado Revised Statutes 1953, Chapter 115, Article 6-11 of the Public Utilities Act or ruled against the change, such new heating value standard and rate schedule shall become effective thirty days from the date on which they are filed with the Commission. The conditions which must be met by a utility thus voluntarily changing its heating value standard are as follows:

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The rate schedule for gas shall be so changed that every part or kind of change in the rate shall be reduced and may be increased in direct proportion to the reduction or increase of the Btu content, except that the

minimum charge, service charge, or customer charge shall remain unchanged.

Readjustment of customer's appliances and devices to render unimpaired service under the new standard shall be promptly made by the utility without charge to the customers.

The utility shall be prepared to justify the standard it adopts before the Commission by such pertinent facts as may be required.

- (d) The utility shall maintain the heating value of the gas with as little deviation as is practicable and such deviation is limited to the range of 5% above to 5% below the standard adopted.
- (e) In the event a utility elects to file a minimum heating value for its gas, no deviation below said minimum shall be permitted. If the heating value of the gas delivered is increased to such an extent that it becomes necessary to adjust the consumer's appliances, said adjustment shall be made at the expense of the utility.
- (f) To obtain the monthly average heating value of gas, the results of all tests of heating value made on any day shall be averaged, giving total heating value for that day. The monthly average total heating value shall be the average of all such daily averages taken during the calendar month. It is understood that all records and statements are based on tests made under standard conditions, i. e., at 60 degrees Fahrenheit and under a pressure of 30 inches of mercury.

### RULE 20.

Calorimeter Equipment:-(a) Each utility whose gas output exceeds twenty million cubic feet per annum, shall equip itself with a complete standard calorimeter outfit and all necessary accessories acceptable to this Commission, by which it shall determine the heating value of gas at least once each week. A complete record of these tests shall be kept for a period of not less than two years from the date of such tests.

(b) The foregoing rule need not apply where the utility is purchasing gas on a heat value basis, or where the wholesaler makes available to the utility a record of the heating value of the gas delivered to the utility, and the tests by the wholesaler are made with at least such frequency as specified in part (a) above.

# RULE 21.

Purity of Gas:-(a) All gas distributed in this state shall not contain more than a trace of hydrogen sulphide. The gas shall be considered as containing not more than a trace of hydrogen sulphide when a strip of white filter paper moistened with a solution containing five per cent by weight of lead acetate is not distinctly darker than a second filter 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 the rate of approximately five cubic feet per hour, the gas not impinging directly from a jet upon the test paper.

- (b) All gas distributed in this state shall contain in each one hundred cubic feet not more than thirty grains of total sulphur and not more than five grains of ammonia.
- (c) Each utility supplying manufactured or mixed gas for domestic, commercial or industrial purposes shall daily test the gas leaving its holders for the presence of hydrogen sulphide in the manner above specified. Each utility selling more than 75,000,000 cubic feet of manufactured or mixed gas per year shall provide and maintain such apparatus and facilities

as are necessary for the determination of total sulphur and ammonia in gas, and each such utility shall regularly determine the amount of total sulphur and ammonia in the gas distributed by it; provided that any such utility supplying only water gas or oil gas or a mixture of these, shall not be required to provide apparatus or make determination of the amount of ammonia in gas.

### RULE 22.

Pressure of Gas:-(a) Subject to the approval of this Commission each gas utility may divide its distributing system into as many districts as it shall consider desirable, and it shall fix for each such district or for its distributing system as a whole, the normal pressure of gas which it proposes to maintain.

- (b) For normal service, the gas shall be delivered by the utility at a pressure of 6 inches water column, plus or minus 2 inches water column, measured at the meter outlet.
- (c) Where operating conditions are such that the utility deems a higher pressure necessary, gas pressures at the meter outlet may exceed the limits prescribed in (a) preceding; provided, however, where higher pressures exist (high pressure mains) and domestic service is supplied, the utility will require consumer to install an adequate pressure regulator outside of the dwelling so that the pressure as measured at the outlet of said regulator will be 6 inches water column, plus or minus 2 inches water column.
- (d) In distribution systems serving 100 or less consumers, the utility shall semi-annually check distribution pressures by indicating gauges at the district regulator station or other appropriate point in the distribution system.

In distribution systems serving more than 100 and less than 500 consumers, the utility shall maintain a graphic recording pressure gauge at its plant, office, district regulator station, or at some other appropriate point in the distribution system.

In distribution systems serving 500 or more consumers, the utility shall maintain one or more additional recording pressure gauges and shall make frequent 24-hour records of the gas pressure prevailing at appropriate points in the system.

All such pressure records shall be appropriately annotated and kept on file available for inspection for a period of at least two years.

### RULE 23.

Odorization of Gas:- Every gas utility distributing other than manufactured gas such as coal or water gas shall, unless the gas contains adequate natural odorant, odorize the gas at one or more points to the extent necessary to produce a detectable and recognizable odor.

# RULE 24.

Gas Meter Accuracy and Testing:-(a) Every gas service meter whether new, repaired, or removed from service for any cause shall be in good order and shall be adjusted to be correct to within one per cent when passing gas at twenty per cent of its rated capacity at one-half inch water column differential before being installed for the use of a consumer.

(b) No gas service meter in sizes having rated capacity of 800 cubic feet or less per hour at one-half inch water column differential shall be allowed to remain in service more than six years from the time when last tested without being retested and, if necessary, readjusted to be correct within one per cent.

- (c) No gas service meter in sizes having a rated capacity of more than 800 cubic feet per hour at one-half inch water column differential shall be allowed to remain in service more than five years without being retested and, if necessary, readjusted to be correct within one per cent.
  - (d) Orifice metering shall be tested not less than once each year.

### RULE 25.

Meter Testing on Request:-Each gas utility furnishing metered gas service shall at any time when requested by a consumer make a test of the accuracy of any gas service meter free of charge; provided, first, that such meter has not been tested within the twelve months' period prior to such request, and second, that the consumer will agree to accept the result of such test made by the utility as the basis for settling the difference claimed. No charge shall be made to the consumer for any such test except as may be allowed by the Commission in special cases. A written report giving the result of every such test shall be made to the consumer who requested it, the original record being kept on file at the office of the utility for a period of at least two years.

### RULE 26.

Tests by Commission:-(a) Any gas service meter will be tested by an employee of the Commission upon written application by the consumer. The application for such test shall be accompanied by a remittance of the amount fixed below as the fee for such test. If the meter is found to be fast beyond the limits prescribed in Rule 27, this fee shall be paid to the consumer by the utility; otherwise, these expenses shall be borne by the consumer requesting the test. The Commission's fees for gas meter tests are:

Capacity of 800 cubic feet or less per hour \$2.00 Capacity of over 800 cubic feet per hour \$4.00 Orifice meters \$8.00

(b) Upon written application to the Commission by any gas utility the Commission will make a test on any of the utility's service meters upon payment of the scheduled fee.

# RULE 27.

Adjustment of Bills for Meter Error:-(a) If on test of any gas service meter, on request of the consumer, either by the utility or the Commission, it be found more than two per cent fast, the utility shall refund to the consumer such percentage of the amount of the bills of the consumer for the period of six months just previous to the removal of such meter from service, or for the time the meter was in service, not exceeding six months, as the meter shall have been shown to be in error by such test.

- (b) If on test of any gas service meter, on request of a consumer, either by the utility or the Commission, it be found to be more than two per cent slow, the utility may collect from the consumer the amount estimated to be due for gas not charged for in bills rendered for not to exceed the six months' period prior to such test.
- (c) If a gas service meter is found not to register for any period the utility shall estimate a charge for the gas used but not metered by averaging the amounts used over similar periods preceding or subsequent thereto, or over corresponding periods in previous years.

# RULE 28.

Meter Testing Facilities:- Each utility having more than 200 gas meters in service shall maintain one or more suitable gas meter provers of standard design, and shall keep the same in proper adjustment so as to register the condition of meters tested within one-half of one per cent. Each meter prover

must be accompanied by a certificate of calibration indicating that it has been tested with a standard which has been certified by the National Bureau of Standards or some testing laboratory of recognized standing. Meter provers must be located in a large, comfortable working space, free from excessive temperature variations, equipped with all necessary facilities and accessories, and at all reasonable hours accessible for inspection and use by the duly authorized representatives of this Commission.

### RULE 29.

Main Extensions:- Each gas utility shall file with the Commission its definite rules and regulations providing for the making of gas main extensions, and no utility shall make or refuse to make any extension except as permitted by these rules and regulations, regularly filed and approved by the Commission and open to public inspection at each office of the utility where applications for services are received.

### SPECIAL RULES

### ELECTRICITY

### RULE 30.

Accepted Good Practice:- The generating and distributing system including generating equipment, transmission lines, substations, overhead system, poles, lines, transformers, underground system, manholes, conduits, etc., street lighting systems, service wires and attachments, meters and instruments, shall be constructed, installed and maintained in accordance with accepted good practice.

# RULE 31.

Pole Identification:-(a) In the case of two or more utilities jointly owning or using a pole or pole line structure, each of these utilities shall mark each such pole or structure with the initials of its name, abbreviation of its name, corporate symbol, or other distinguishing mark by which the ownership of such structure may be readily and definitely determined.

- (b) Each utility shall in the future mark each such pole, post or other structure used for supporting electrical conductors with "dating nails" or other approved devices which will indicate the year in which such structures were installed. It is suggested that a different type of dating nail be used for new poles or structures and for poles re-used. All poles or structures known to have been installed or replaced during the preceding year shall likewise be so marked.
- (c) The requirements herein shall apply to all existing and future erected structures and to all changes in ownership.

### RULE 32.

Pole Inspection: - Each pole, post, tower or other structure used for the support or attachment of electrical conductors, guys or lamps, must be inspected by the utility owning or using it with sufficient frequency to determine the necessity for replacement or repair.

# RULE 33.

Grounding of Low-Potential Circuits:-The rules currently in force contained in the National Electric Safety Code regarding grounding of low-potential circuits shall be followed for all new construction.

### RULE 34.

Standard Voltage, Frequency and Permissible Variations:-(a) Each utility shall adopt and file with this Commission a standard average voltage, or voltages, and frequency, or frequencies, as may be required by its distribution system, for its entire system, or for each of the several districts into which the system may be divided.

(b) Every reasonable effort shall be made by the use of proper equipment and operation to maintain such voltage practically constant at all times. The suitability and adequacy of these service voltages may be determined at any time by this Commission. The voltage maintained at the utility's main service terminals\* as installed for individual consumers or groups of consumers shall be reasonably constant as follows:

\*The term "service terminal" refers to the point at which the utility's service connections terminate, at which point connection is made with the consumers wiring, and beyond which the utility has no responsibility.

(1) For service rendered under a lighting contract or primarily for lighting purposes the voltage between 6:00 o'clock p. m. and ll:00 o'clock p. m., shall be within five per cent plus or minus of the standard adopted.

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- (2) For service rendered under a power contract or primarily for power purposes the voltage variation shall not exceed ten per cent above or ten per cent below the standard average voltage at any time when the service is furnished.
- (3) A greater variation of voltage than that specified above may be allowed when service is furnished directly from a transmission line or in a limited or extended area where consumers are widely scattered and the business done does not justify close voltage regulation. In such cases the best voltage regulation should be provided that is practicable under the circumstances. This clause refers particularly to individual consumers or small groups of consumers whose service from a transmission line is incidental, and does not refer to the voltage regulation in communities, cities or towns for which the transmission line was primarily built.
- (c) Variations in voltage in excess of those specified caused by the operation of power apparatus on the consumer's premises, which necessarily requires large starting currents, by the action of the elements, by infrequent and unavoidable fluctuations of short duration due to necessary station or line operations, shall not be considered a violation of this rule.
- (d) Utilities supplying power to one or more other electric utilities may make application to the Commission for a specific ruling applicable to each particular case.
- (e) Under normal operating conditions the utility shall maintain at all times the standard average frequency or frequencies to within plus or minus 5% of the standard adopted.

# RULE 35.

Voltage Surveys and Records:- Each utility shall provide itself with one or more portable indicating volt-meters and each utility serving more than 200 consumers shall have one or more recording volt-meters of the curve drawing type suitable for the service voltages furnished. Each utility shall make a sufficient number of voltage surveys to indicate the character of service furnished from each center of distribution and to satisfy this Commission, upon request, of its compliance with the above voltage requirements. Utilities having curve drawing volt-meters shall keep at least one of these instruments in continuous service at the plant, office or some consumer's premises. All volt-meter records shall be available for inspection by the authorized representatives of this Commission for a period of at least two years from the date of such records.

## RULE 36.

Location of Meters:-(a) Meters shall be located in accordance with the pertinent rules of the utility as filed with the Commission and in accordance with accepted safe practice.

- (b) Meters shall not be installed where they will interfere with traffic in halls or passageways, if indoors, or sidewalks or driveways, if outdoors, or where they will obstruct the opening of doors or windows; or in any location considered hazardous; or where reading, testing or servicing of the meter may become impracticable; or where damage may be caused to any part of consumer's premises. Meters shall not be installed in coal or wood bins or on partitions forming such bins or on any unstable partitions or supports. Meters shall not be located where visits of meter reader or serviceman will cause unreasonable annoyance or inconvenience to consumer.
- (c) Meter locations shall be such that the meters are easily accessible for reading, testing and servicing. Where two or more meters are to be installed for multiple occupancy, they should be grouped at a point nearest the loop attachment or, if indoors, in a common room or common hallway or other

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suitable space. Meter housings shall be placed as close together as the fittings will permit, but not less than 2 inches. The housing will be plainly and permanently marked by consumer to show the circuit metered. Meters shall be not less than 5 feet nor more than 7 feet above the floor or suitable platform.

### RULE 37.

Meter Testing Facilities and Equipment: - (a) Each utility furnishing metered electric service shall, unless specifically excused by the Commission, provide such meter laboratory, standard meters, instruments, and other equipment and facilities as may be necessary to make the tests required by these rules. Such equipment and facilities shall be acceptable to the Commission and shall be available at all reasonable times for the inspection of its authorized representatives.

- (b) Each utility furnishing metered electric service shall provide such portable indicating electrical testing instruments or watt-hour meters of suitable range and type for testing service watt-hour meters, switchboard instruments, recording volt-meters, and other electrical instruments in use, as may be deemed necessary and satisfactory by the Commission.
- (c) For testing the accuracy of portable watt-hour meters, commonly called "rotating standards," and other portable instruments used for testing service meters, each utility not specifically excused by the Commission, as provided for in Section (a) of this rule, shall provide as reference or check standards suitable indicating electrical instruments, watt-hour meters, or any or all of them hereafter called "reference standards." Such reference standards may be of the service type of watt-hour meters, but if so, such watt-hour meters shall be permanently mounted in the meter laboratory of the utility and be used for no other purpose than for checking rotating standards.
- (d) Reference standards shall be submitted at least once each year to a laboratory of recognized standing, for the purpose of test and adjustment. Utilities maintaining standardizing laboratories will be permitted to make their own tests and certifications of reference standards, provided the instruments and methods in use are acceptable to the Commission.
- (e) All working rotating standards (portable watt-hour meters) shall be compared with the reference standards at least once a week for commutator types, and once in two weeks for induction types, during the time such working standards are being regularly used. If working rotating standards (portable watt-hour meters) are in error of not more than one per cent, plus or minus, at any load at which the standard shall be used, the standard may be adjusted by comparison with the Utility's reference standards. However, if working rotating standards test in error of more than one per cent, plus or minus, such standards shall be tested, adjusted, and certified in a standardizing aboratory of recognized standing. Where a utility does not have a reference standard of its own but has an exemption as provided in Part (a) herein, it shall have its working rotating standards (portable watt-hour meters) tested by a standardizing laboratory of recognized standing at least once a year. Each rotating standard (portable watt-hour meters) shall at all times be accompanied by a certificate or calibrating card signed by the standardizing laboratory, giving the date when it was last certified and adjusted. Records of certifications and calibrations shall be kept on file in the office of the utility, for the life of the instruments.
- (f) All portable indicating electrical testing instruments, such as voltmeters, ammeters and wattmeters, when in regular use for testing purposes, shall be checked against suitable reference standards at least once a week when continually in use, and if found appreciably in error at zero, or more than one per cent of full scale value at commonly used scale deflection shall, unless accompanied by a calibration card, be adjusted and certified in some laboratory of recognized standing.

# RULE 38.

Accuracy Requirements for Service Watt-Hour Meters: - (a) No service watt-hour meter that has an incorrect register constant, test constant, gear ratio or dial train, or that registers upon no load ("creeps"), shall be placed in service or allowed to remain in service without proper adjustment and correction.

- (b) No service watt-hour meter that has an error in registration of more than plus two or minus three per cent at light load, or plus or minus two per cent at heavy load, shall be placed in service. Demand meters may have an allowable error of not more than 2% of full scale deflection except that the allowable error for thermal type meters may be 4%. Whenever on installation, periodic or any other tests a meter is found to exceed these limits, it must be adjusted. A meter creeps when, with all load wires disconnected, the moving element makes one complete revolution in ten minutes or less.
- (c) Light load shall be construed to mean approximately five to ten per cent of the name plate rated capacity of the meter. Heavy load shall be construed to mean not less than sixty per cent nor more than one hundred per cent of the name plate rated capacity of the meter.
- (d) Meters used with instrument transformers or shunts shall be adjusted so that the overall accuracy of the metering installation will meet the requirements of this rule.

# RULE 39.

Installation Tests: All service watt-hour meters shall be tested and adjusted to register accurately to within the limits specified in Rule 38 and to otherwise conform with the requirements of that rule, either before installation or within sixty days after installation.

### RULE 40.

Periodic Tests:- (a) All types of watt-hour meters installed upon consumers' premises shall be periodically tested according to the following schedule:

# SCHEDULE FOR PERIODIC TESTING OF WATT-HOUR METERS

### Alternating Current Meters

# Direct Current Meters

Note: The kva rating of an alternating current, single-element meter or the kw rating of a direct current meter is the product of the rated voltage and the rated current. In the case of a polyphase or a multi-element meter the rating is the sum of such products for each element. The rating of a 2 element meter when of the split-coil type or when associated with 3 current transformers and used to measure energy in a 3 phase, 4-wire Y circuit is 3 times the rating of one element. Then a meter is connected to instrument transformers or shunts, the nominal rating of the transformers or shunts shall be used in the determination of the kva rating of the meter.

# RULE 41.

Request Tests:-Each utility furnishing metered electric service shall make a test of the accuracy of any electric service meter free of charge upon request of a consumer; provided that the meter has not been tested within the twelve months period prior to such request and provided that the consumer will accept the results of such test as a basis for the settlement of the difference claimed. A written report giving the result of such test shall be made to the consumer requesting same, the original record being kept on file at the office of the utility for a period of at least two years.

### RULE 42.

Tests by Commission:-(a) Any service watt-hour meter will be tested by an employee of the Commission upon written application by the consumer. For such test a fee shall be forwarded to the Commission by the party making application for the test, which fee shall be refunded to the consumer by the utility if the meter be found fast beyond the limits prescribed in Rule 43. The schedule of fees for Commission tests of watt-hour meters is as follows:

- (b) Upon written application to the Commission by any electric utility, the Commission will make a test on any of the utility's service meters upon payment of the scheduled fee.

# RULE 43.

Adjustment of Bills for Meter Errors: - (a) If on test of any service watt-hour meter, made upon the request of the consumer, by either the utility or the Commission, it is found to be more than three per cent fast at any load, additional tests shall be made to determine the average error of the meter.

- (b) Average Error: The average error of a meter in tests made by the Commission or the utility at the request of the consumer shall be defined as one-half the algebraic sum of (1) the error at light load, and (2) the error at heavy load.
- (c) When a meter is found to have a positive average error; that is, is fast in excess of three per cent in tests made at the request of the consumer by either the Commission or the utility, the utility shall refund to the consumer an amount equal to the excess charged for the kilowatt-hours incorrectly metered for a period equal to one-half of the time elapsed since the last previous test, but not to exceed six months.

- (d) When a meter is found to have a negative average error--that is, is slow-in excess of three per cent in tests made at the request of the consumer by either the Commission or the utility, the utility may make a charge to the consumer for the kilowatt hours incorrectly metered for a period equal to one-half of the time elapsed since the last previous test, but not to exceed six months.
- (e) If a meter is found not to register for any period the utility shall estimate a charge for the kilowatt-hours used by averaging the amounts registered over similar periods preceding or subsequent thereto, or over corresponding periods in previous years.

### RULE 44.

Adoption of National Electrical Safety Code: The Public Utilities Commission hereby adopts as a part of these rules the National Electrical Safety Code as prescribed by the statutes of the State of Colorado, or as the same may be amended.

### RULE 45.

Station Instruments and Watt-Hour Meters; - Each utility shall install such wattmeters, indicating instruments or watt-hour meters as may be necessary to obtain a daily record of the load, and a monthly record of the output of its plants. Each utility purchasing electrical energy shall install such instruments or watt-hour meters as may be necessary to furnish full information as to the monthly purchases.

### RULE 46.

# EXTENSION OF SERVICE, LINES AND FACILITIES

### SECTION I - GENERAL

Applicable to all service.

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(a) The term "distribution system" shall be interpreted to mean the utility's electric lines located on public highways, private ways, or rights-of-way owned or leased by the utility, used for the purpose of general distribution of electrical energy to its consumers. Lines for transmitting electric energy from generating plants, purchase points, and other sources of supply to substations for transformation or distribution may be designated by the utility as transmission lines and not subject to the provisions of this rule.

The term "service connection" shall be interpreted to mean only the consumer's "service loop" defined as the overhead span between the last pole of the utility's general distribution system and the point of attachment to the consumer's installation.

When the branch of the distribution system necessary to supply service to an individual consumer requires the construction of more than a service loop, although for his sole use, such construction shall be included as part of the utility's general distribution system if located on public highways or rights-of-way acceptable to the utility, unless said distribution line is owned, operated and maintained by consumer.

- (b) Electric service for purposes of the extension of lines and facilities of the utility shall be classified as:
  - (1) "Permanent Service" construed to mean service to domestic, small commercial and farm consumers when the use of service, both as to amount and permanency, can be reasonably assured.

(2) "Indeterminate Service" construed to mean service to mining, industrial, manufacturing and large commercial consumers; also, to domestic, small commercial and farm consumers when the use of service cannot be reasonably assured as to its amount and permanency.

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- (3) "Temporary Service" construed to mean the use of service for a period of not to exceed eighteen months, unless otherwise specified herein. (See III, B, (e))
- (c) Every electric public utility operating in territory under jurisdiction of this Commission shall file with the Commission its electric distribution line Extension Policies, setting forth the conditions under which the utility shall, for the respective service as heretofore classified in paragraph (b), make extensions to premises not connected to its general distribution system, or make added investment in facilities for service already connected.

Such policies shall conform to the provisions hereinafter set forth under Revenue Guarantee Plan" and "Construction Deposit Plan" in Section II and III hereof. The utility shall, upon proper notification by the Commission, submit the information necessary to justify these policies. Any utility, however, upon proper showing that special conditions warrant, may be permitted to file extension policies, for a portion on all territory served by said utility, not in conformity with said provisions.

- (d) Each utility may write into its extension policy such qualifying clauses, limitations or explanations as it may find necessary to protect it against making unwarranted or uneconomical investments which might react adversely through rates or service upon existing consumers. Each utility may establish separate policies for various territories and classes of service.
- (e) Extension policies filed with this Commission shall be subject to the rights and practices of the Commission to refuse or to require alterations, amendments or modifications. Standards of Construction shall be filed with the Commission within thirty days after the filing of any extension policy and thereafter shall be revised in the same general manner as rate schedules.
- (f) Lines owned privately, by cooperative corporations, or by other utilities taking energy from a public utility shall be subject to the utility's rules and regulations relating to consumers' installations. Such lines shall henceforth be completely owned, operated and maintained by the private owners who will take service metered at the point where their privately-owned line connects with the utility's line or system. When it is not feasible to meter the service supplied over a privately owned extension at the above defined point the metering records shall be adjusted to take reasonable account of the line and other losses between the meter or meters and said point.
- (g) Whenever, in considering a proposed extension, a utility finds that a fixed charge per month per consumer, in addition to the general rate applicable to service on said proposed extension, is necessary for an indefinite period, nothing in this rule shall prohibit the utility from providing a special rate in its schedule applicable to said extension or territory properly designated in the rate. Said rate shall include this special charge in addition to those in the general rate applicable and the whole rate is then subject to all the provisions and procedure in effect before this Commission. Such rate may be established for said service preliminary to the building of an extension or prior to the expiration of the development period.
- (h) Nothing in this rule shall be construed to prevent the Commission from considering upon its own merits and acting upon any demand for an extension not economically sound and feasible under this rule but otherwise lawful. Such action will be taken without waiver of this rule as to other prospective extensions, in order to meet special situations likely to arise, especially in

industrial and mining service. Such special extension agreements must be filed and accepted by the Commission in the manner prescribed for extension policies prior to commencing construction. Nothing in this rule shall be construed to preclude the Commission from relieving any electric utility from the obligation imposed by its extension policy in accordance with this rule should the special circumstances of the case warrant such relief nor to preclude the Commission from altering, modifying or amending this rule from time to time as the Commission may deem necessary or advisable. Nothing in this rule shall be construed to prevent a utility from making extensions wholly or in part at its own expense where such extensions are deemed necessary or desirable for the development or protection of its territory.

### SECTION II - REVENUE GUARANTEE PLAN

Applicable to "Permanent Service" as defined in Section I.

- (a) Every electric public utility, operating under the jurisdiction of this Commission, shall own, build, operate and maintain every extension of its distribution system for "Permanent Service." The utility shall not require any consumer or prospective consumer, requesting electric service classified as "Permanent" where reasonable assurance can be furnished that the amount and permanency of service warrants the construction and continued operation and maintenance of the facilities required, to advance all, or any part, of the cost thereof, except as authorized by this Commission for certain territories and conditions and as fully set forth in the extension policies filed by the utility with this Commission.
- (b) Extensions of a utility's distribution system upon public highways or rights-of-way acceptable to the utility, shall be built within a reasonable period after request for service by bona fide applicant or applicants whenever the assured (See General Rule II which provides for collection of a consumer's deposit to guarantee payment of bills according to the terms of the utility's extension policy) monthly or annual revenue under the rates applicable to service from said extension shall be of sufficient amount and permanency to justify the existence of such extension, and shall be made strictly in accordance with the terms of its extension policy as set forth in the Rules and Regulations of its rate schedule legally in effect and on file with this Commission.
- (c) Each such extension policy shall specifically set forth the relation that the investment the utility is justified in making for an extension bears to the said assured monthly or annual revenue. This relation shall be expressed as the extension percentage of said revenue to said investment, or as the extension ratio of said investment to said revenue; in urban territory this relation may be limited by a fixed minimum amount of construction to be provided by the utility. A utility may adopt separate ratios of investment to revenue for different territories and conditions of service.
- (d) Said investment shall include all costs necessary for the extension such as primary and secondary distribution, rights-of-way and tree trimming, meters, service loops, transformers completely installed including special housing, special supports, lightning arresters and other protective equipment; except that in urban territory as defined in utilities extension policy the cost of meters, service loops and transformers shall not be included in said investment. The cost of meters, service loops and/or transformers installed shall not be covered in the manner stated above in the event the rate applicable specifically provides a method which takes care of such costs.
- (e) Said investment shall be the actual necessary cost of the particular extension; it shall not include or be determined with reference to provision for additional capacity, size or strength in excess of that actually necessary to meet the requirements of the consumer or consumers to be then served and the requirements of the National Electrical Safety Code. Actual necessary cost may be determined in agreement with the Utility's standard unit construction costs, if same are filed as a supplementary part of its extension policy or when such unit costs are not so established, an estimated cost may be used in advance of construction subject to adjustment to the actual cost thereof within a reasonable time after construction is completed.

- (f) Nothing in paragraphs (d) and (e) shall be interpreted as a prohibition against the construction of an extension having more than sufficient capacity, size or strength to meet the requirements of the consumers to be then served, provided all the additional capacity, size or strength is constructed by the utility without obligation to consumers.
- (g) In the event said assured monthly or annual revenue is less than is necessary to justify the proposed extension (as indicated by the extension percentage or extension ratio) service to such consumer or consumers, if still desired but subject to the provisions of paragraphs (d) and (h) of Section 1, shall be classified as "Indeterminate Service" and connected under the "Construction Deposit Plan" as set forth in Section III.
- (h) When more than one consumer is to be served from a prospective extension, the utility's extension policy shall provide a method for apportioning the amount necessary to justify the extension among the individual consumers of the group; provided any consumer may assume, subject to acceptance by the utility, more than his apportionment of said amount.
- (i) A utility may require payment of the required monthly or annual revenue continuously or may establish a development period dependent upon the character of load and territory served.
- (j) A utility shall connect additional consumers desiring Permanent Service and complying with the provisions of Sections I and II. When the connection of additional consumers to an existing extension is proposed the total investment cost (e) shall be ascertained and the corresponding necessary revenue shall be re-calculated to include the revenue of the then existing and the proposed new consumers. If the resulting revenue to be assured by existing consumers is greater than that originally determined the proposed additional consumers shall not be accepted as members of the original group on the existing extension but said proposed new extension shall then be considered independently as a separate extension. However, if the resulting revenue to be assured is less than that originally determined then the resultant revenue shall be assured by existing and new consumers alike from date of said adjustments, but no refunds shall be made for the period prior to said date.

### SECTION III - CONSTRUCTION DEPOSIT PLAN

### A. INDETERMINATE SERVICE

- (a) "Indeterminate Service" as hereinbefore defined includes mines, quarries, oil wells, industrial and commercial enterprises of speculative character, real estate subdivisions, development of property for sale, enterprises where the applicant will not be the user of service, where there is little or no immediate demand for service, and to other service (except that of a temporary character as hereinafter set forth) where the amount and permanency of service cannot be reasonably assured.
- (b) For service of indeterminate character the utility may require the prospective consumer to advance all or a portion of the total cost including service loops, meters and transformers. Such advance shall not draw interest. Each utility making extensions under this plan shall file with the Commission its extension policies applicable to said indeterminate service setting forth its method of refund, if any. Where the estimated revenue is not sufficient to warrant operation and maintenance of the extension the utility may require a fixed charge in addition to the general rate applicable to the service or may require the prospective consumer to advance an amount sufficient to warrant such operation and maintenance.

### B. TEMPORARY SERVICE

- (a) "Temporary Service," as herein defined, refers to circuses, bazaars, fairs, concessions and similar enterprises, to construction works, etc. of a temporary nature and to ventures of such uncertain, speculative character that their permanency is questionable, such as coal and metal mining or oil and gas production operations during the preliminary or development period.
- (b) Any utility may, if in its opinion the furnishing of such service will not work an undue hardship upon it or its then existing consumers, furnish said temporary service in accordance with the terms of its extension policy for temporary service. In promulgating such extension policies the utilities should make them conform as closely as feasible to those written for permanent service except that the utility may require the consumer or prospective consumers to advance all, or any part of the cost thereof including the cost of dismantling less salvage. Also the utility may provide that additional consumer or consumers will not be connected to temporary extensions, or otherwise restrict such additional service to fairly meet the essential conditions.
- (c) Extension policies for temporary service shall be filed with the Commission and shall be subject to its rights and practices to refuse or to require alterations, amendments or modifications.
- (d) In no event shall temporary service be supplied except in accordance with the utility's extension policy then on file and in effect.
- (e) Temporary service normally shall not be continued for a period longer than eighteen months, except where heavy construction, such as dams or tunnels etc., are involved, and where the period of service in these instances is of known duration but longer than eighteen months, in the instances cited herein, the utility may continue to render temporary service under its Agreements, but in any other instances if the period exceeds eighteen months and the consumer or consumers still desire and request service, it shall then be provided in accordance with all the terms of the extension policy of the utility applicable to "Permanent" or "Indeterminate Service" without further consideration of the obligations provided in the Temporary Service Agreement.