BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the Matter of the Establishment of a Working Case For the Review and Consideration of Amending The Commission's Rule on Electric, Gas, and Water Utilities Standards of Quality	))))	**File No. AW-2021-XXXX**

STAFF MOTION TO ESTABLISH WORKING CASE

COMES NOW the Staff of the Missouri Public Service Commission ("Staff"), by and through Staff Counsel's Office, and moves the Commission to establish a working case for a review and consideration of amending the Commission's Rule on Electric, Gas, and Water Utilities Standards of Quality, found at 20 CSR 4240-10.030. In support of its motion Staff states as follows:[1]

Raw Biogas Production in Missouri

1. On April 12, 2016, in Case No. GA-2016-0271, Roeslein Alternative Energy Services, LLC (RAES) filed a motion with this Commission for an order declaring the Commission lacked jurisdiction over the company's biomethane (raw biogas that has been processed) gathering facilities and pipeline in north Missouri, or in the alternative, a Certificate of Convenience and Necessity. In its August 3, 2016, order in the matter the Commission ordered that jurisdiction over RAES's gas plants did exist, but that a certificate to operate the plants was neither required or authorized since RAES did not currently or intend to sell to the public.

[1] Staff would like to acknowledge Joel Smith, Legal Intern, for his research assistance in this matter.

2. In August 2019, RAES announced completion of a pipeline connecting a gas plant to the City of Milan pipeline.[2] An article on the release described RAES's activities:

> *A northern Missouri project that converts hog manure into natural gas is now operational and tapped into a pipeline system for distribution. The "manure-to-energy" project is the result of a partnership between Smithfield Foods — which describes itself as the "world's largest pork processor and hog producer" — and the St. Louis-based company Roeslein Alternative Energy. Smithfield announced Monday that construction is complete on a natural gas transmission line connecting one of its hog farms to the gas distribution system in Milan, Missouri.*[3]

Additionally, a representative of the hog farm partnering with RAES said the company intended to develop more pipelines for transporting biogas to Missouri communities.[4] The activity by RAES is indicative of the presence of biogas facilities in Missouri.[5]

Jurisdiction

3. The Missouri Public Service Commission has explicit supervision and authority over "gas … plants, and to persons or corporations owning, leasing, operating or controlling the same,"[6] as well as "the manufacture, sale [and] distribution of gas, natural and artificial,"[7] extending to "the adoption of rules as are supported by evidence as to reasonableness and which prescribe the conditions of rendering public utility service"[8] and that "promote and safeguard the health and safety of [..] employees,

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[2] Bryce Gray, *Northern Missouri 'Manure-To-Energy' Project Starts Distributing Natural Gas Captured From Pig Farm,* St. Louis Post Dispatch (August 7, 2019).
[3] *Id*.
[4] Eli Chen*, Access to Pig Manure-Powered Energy Grows in Northern Missouri*, St. Louis Public Radio KWMU (August 6, 2019), https://news.stlpublicradio.org/post/access-pig-manure-powered-energy-grows-northern-missouri.

[5] There are also landfill gas systems in Missouri; one example is Ameresco. The gas produced in the landfills is from anaerobic decomposition of organic material.
[6] Section 386.250(1), RSMo.
[7] Section 386.250(1), RSMo.
[8] Section 386.250(6), RSMo.

customers, and the public."[9] In addition, the Commission's authority explicitly extends to the "general supervision of all gas corporations,"[10] and the Commission may "[i]nvestigate and ascertain, from time to time, the quality of gas … supplied, … examine or investigate the methods employed by such persons and corporations in manufacturing, distributing and supplying gas … for light, heat or power and in transmitting the same, … and have power to order such reasonable improvements as will best promote the public interest, preserve the public health and protect those using such gas … and those employed in the manufacture and distribution thereof[.]"[11] With respect to the purity of gas, the Commission is expressly authorized "by order, to fix from time to time standards for the measurement of the purity or illuminating power of gas to be manufactured, distributed or sold by persons or corporations for lighting, heating or power purposes, … and by order to require gas so manufactured, distributed or sold to equal the standards so fixed by it, and to prescribe from time to time the reasonable minimum and maximum pressure at which gas shall be delivered by said persons or corporations."[12] The statute further authorizes the Commission to make such investigations and examinations as may be necessary to ensure that its standards are met.[13]

4. The Commission is statutorily authorized to set and enforce purity standards for natural and manufactured gas.[14] Although Section 393.140, RSMo, provides that the Commission shall do so "by order," the modern mechanism of standard setting is by rule.[15]

[9] Section 386.310.1., RSMo.
[10] Section 393.140(1), RSMo.
[11] Section 393.140(2), RSMo.
[12] Section 393.140(3), RSMo.
[13] *Id.*
[14] Renewable natural gas or biogas is either natural gas or manufactured gas.
[15] Prior to the passage of the *Missouri Administrative Procedures Act* at Chapter 536, RSMo, the Commission made rules by General Orders. Chapter 536, RSMo., requires that all agency policies of

Staff Request for Working Case and Comments

5. The biogas industry is growing. Reporters following the growth have stated that federal government incentives, energy prices, and other factors could lead to biogas industry growth in the Midwest.[16] Whether due to RAES's specific activities or the general prospect for other biogas corporations to begin or grow operations, it is inevitable, and possibly immediately necessary, for the Commission to have the necessary rules in place to assure public safety and quality standards associated with biogas activities.

6. Biogas is produced from different sources and in its untreated form has different constituents than traditional natural gas. The Commission currently has no rules unique to the quality standards of biogas.[17] To properly regulate existing and future biogas gas facilities, Staff suggests it may be necessary for the Commission to promulgate rules establishing appropriate standards unique to biogas. Staff suggests the Commission could accomplish this by amending its existing Rule on Electric, Gas, and Water Utilities Standards of Quality found at 20 CSR 4240-10.030. In the attached, Staff has proposed certain amendments that remove outdated language and purport to add certain standards to address the unique characteristics of biogas. Staff further suggests it would be helpful to have stakeholders provide input on Staff's rule amendment proposal.

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general applicability, affecting individual rights, must be embodied in a rule made via the notice-and-comment procedures therein specified. *See* Sections 536.010(6), 536.021.9, RSMo. A rule adopted in violation of Chapter 536 is void. ***NME Hosps., Inc. v. Dep't of Soc. Services, Div. of Med. Services,*** 850 S.W.2d 71, 74 (Mo. banc 1993).

[16] Eli Chen*, Access to Pig Manure-Powered Energy Grows in Northern Missouri*, St. Louis Public Radio KWMU (August 6, 2019), https://news.stlpublicradio.org/post/access-pig-manure-powered-energy-grows-northern-missouri.

[17] FERC regulates the quality of interstate pipeline gas. The problem arises for gas that purports to be "natural gas" that is not delivered by a FERC-regulated pipeline. Generally speaking, this would be the gas produced in landfills, waste water treatment facilities, or agricultural operations. The quality and purity of this gas, which is processed to meet certain standards, is not clearly addressed anywhere in the Commission's rules. In Staff's view, if a gas is purported to have the characteristics of natural gas and is being delivered into a gas distribution system for end-use consumption, then it should meet certain quality standards.

7. Due to recommendations for the suspension or cancelation of public gatherings in light of the novel 2019 coronavirus disease ("COVID-19"), Staff believes written comments from stakeholders is the most appropriate method for collecting information at this time. However, Staff intends to propose either an in-person stakeholder workshop at a later date if recommendations regarding COVD-19 permit such, or a virtual stakeholder workshop.

8. Attached to this motion is a service list of stakeholders that Staff has updated from previous gas safety rules working dockets, File Nos.GW-2017-0347 and GW-2020-0036. Staff requests the Commission direct its data center to provide notice of this working case and invitation to comment to all stakeholders listed in the attached service list.

WHEREFORE, Staff requests the Commission to issue and Order that: 1) opens a working case to consider the attached amendments to the Commission's Rule on Electric, Gas, and Water Utilities Standards of Quality found at 20 CSR 4240-10.030 with notice provided to those in the attached service list, and 2) invites stakeholders to provide comments on Staff's attached rule amendment proposal and its cost impact, if any, within 45 days after the date of said order.

Respectfully submitted,

/s/ Jamie S. Myers
Jamie S. Myers
Associate Counsel
Mo. Bar No. 68291
Attorney for the Staff of the
Missouri Public Service Commission
200 Madison St, Ste. 800
P.O. Box 360
Jefferson City, MO 65102
Phone: 573-526-6036
Fax: 573-751-9285
E-mail: jamie.myers@psc.mo.gov

CERTIFICATE OF SERVICE

I hereby certify that copies of the foregoing have been mailed, hand-delivered, or transmitted by facsimile or electronic mail to counsel of record as reflected on the certified service list maintained by the Commission in its Electronic Filing Information System this 8th day of September, 2020.

/s/ Jamie S. Myers

Title 20--DEPARTMENT OF
COMMERCE AND INSURANCE
Division 4240--Public
Service Commission
Chapter 10—Utilities

PROPOSED AMENDMENT

20 CSR 4240-10.030 Standards of Quality.

PURPOSE: This amendment deletes the subsections that are irrelevant and updates certain standards.

(1) Definitions. For purposes of this rule

(A) "Alternative gas" shall mean gas capable of combustion in customer appliances or facilities which is similar in heat content and chemical characteristics to natural gas produced from traditional underground well sources and which is intended to act as a substitute or replacement for natural gas traditionally supplied by interstate pipelines that are regulated by the Federal Energy Regulatory Commisison (FERC). Alternative gas shall include but not be limited to biogas, biomethane, and landfill gas, as well as any other type of natural gas equivalent produced or manufactured from sources other than traditional underground well sources.

(B) "Pipeline quality" shall mean gas that meets the gas quality specifications contained within the tariffs of the closest FERC-regulated interstate pipeline. The closest FERC-regulated interstate pipeline shall be the defined as the FERC-regulated interstate pipeline located geographically nearest to the point of interconnection of the alternative gas supply

(2) Each gas utility, including municipal systems, and master meter operators using or receiving alternative gas must comply with the following requirements for gas delivered into a natural gas distribution system.

(A) All alternative gas shall be of pipeline quality.

(B) The heating value shall be between 980 and 1100 Btu/SCF dry gas at sixty degrees Fahrenheit (60°F) and an absolution pressure of 14.73 pounds per square inch (psi).

(C) Interchangeability. All alternative gas delivered by any single supplier thereof shall have a Wobbe index of no less than 1290 and no greater than 1370.

(D) All alternative gas delivered into a natural gas distribution system shall be substantially free of impurities that may cause excessive fumes when burned in a properly designed and adjusted burner; and each gas utility, including municipal systems, shall ensure the quantity of impurities such as hydrogen sulfide, nitrogen, or other combustible or

noncombustible, noxious, or toxic gas impurities are within the limits recognized in good natural gas utility practice.

[(10) The monthly average total heating value of manufactured gas shall be not less than five hundred seventy (570) British Thermal Units (BTUs) per cubic foot at any point within at least one (1) mile of the manufacturing plant, and shall be at no time the total heating value of the gas at that point less than five hundred twenty (520) BTUs per cubic foot, unless a different standard of heating value is specifically authorized by the commission, and provided that no utility shall lower its present standard heating value without first obtaining the approval of the commission. To arrive at the monthly average total heating value, the result of all tests made on any one (1) day shall be averaged and the average of all these daily averages shall be taken as the monthly average. The term heating value of the gas, as used in this rule and as the value is determined in the tests referred to in this rule, shall be the total heating value as it is defined in the Bureau of Standards Circular No. 405 Standards For Gas Service.]

[(11) Each utility whose output exceeds twenty (20) million cubic feet of manufactured gas per year shall provide and maintain a calorimeter and all necessary accessories the calorimeter and the utility shall determine the heating value of manufactured gas supplied by it under the requirements set forth by this rule on at least three (3) days of each week. If the gas supplied by the utility is natural gas, it is excused from providing and maintaining a calorimeter; provided, it has available to it information by which it may keep itself fully informed respecting the heating value of the gas delivered by it. If the gas supplied by the utility is liquefied petroleum gas and it has installed adequate facilities by which it is able and does control continuously the heating value of the gas as furnished to the customers' premises and by which it may keep itself fully informed respecting the heating value of the gas delivered by it, the utility is excused from providing and maintaining a calorimeter. Heating value tests should be made or secured on natural gas at least three (3) times per year. A record of these tests or the information secured shall be maintained available for inspection by the commission and preserved for a period of at least two (2) years.]

(1*[2]***0**) All gas distributed in this state shall not contain more than a trace of hydrogen sulphide. The gas shall be considered to contain not more than a trace of hydrogen sulphide if a strip of white filter paper moistened with a solution containing five percent (5%) 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 (1) minute in an apparatus previously purged through which gas is flowing at the rate of five (5) cubic feet per hour and not impinging directly from a jet upon the test paper. Tests shall be made daily on manufactured gas leaving the holders, for the presence of hydrogen sulphide, in the manner specified, and a record of the result of these tests shall be filed available for inspection by the commission and preserved for a period of at least two (2) years. Each utility supplying natural gas shall make tests for hydrogen sulphide with a frequency as is necessary to keep itself informed that the gas distributed by it does not contain more hydrogen sulphide than the trace previously defined and at other times as the commission may require. A record of these tests shall be kept for a period of two (2) years.

[(13) It is recommended that all gas delivered by the utilities shall possess a strong and distinctive odor. If the cost of introducing an odor into the gas to obtain the condition continuously is excessive, a suitable odorant shall be introduced during the early part of the heating season and once during the nonheating season each year. During periods of odorizing

gas to detect leaks, there may be more than a trace of sulphur in the gas and this temporary condition is permissible.]
[(14) Each gas utility should set up and follow a rigid program of preventive maintenance of its gas distribution system.]
[(15) All manufactured gas distributed shall contain not more than thirty (30) grains of total sulphur nor more than five (5) grains of ammonia in each one hundred (100) cubic feet. Each utility whose output exceeds fifty (50) million cubic feet of manufactured gas per year shall provide and maintain the apparatus and facilities as are necessary for the determination of total sulphur and ammonia in gas and each utility shall regularly determine the amount of total sulphur and ammonia in the manufactured gas distributed by it at sufficiently frequent intervals to insure compliance with the foregoing requirements; provided, however, that any such utility supplying only water gas or oil gas shall not be required to provide apparatus or make determinations of the amount of ammonia in gas. A record of these tests shall be maintained available for inspection by the commission and preserved for a period of at least two (2) years.]
[(16) Except by special authority from the commission for the delivery of a higher service pressure, gas shall be furnished at not less than equivalent to four inches (4") water column nor more than two (2) pounds per square inch gauge (psig) pressure measured at the inlet of the consumer's piping downstream from the meter; provided, that with respect to any consumer whose rate of consumption, based upon designed capacity of installed equipment, reaches or exceeds four hundred fifty (450) cubic feet per hour, a utility, without obtaining special permission, may furnish gas to the consumer at a maximum pressure greater than two (2) psig if the utility shall determine that a greater pressure is available and is desirable to effect economy in delivery or efficiency in utilization of gas by the consumer. In those instances where the delivery pressure to the consumer is greater than an equivalent to fourteen inches (14") of water column, a regulator shall be required ahead of all gas consuming equipment. The maximum pressure on any one (1) day at the inlet of the consumer's piping downstream from the meter shall never exceed twice the minimum pressure at that point on that day. At the time a utility establishes gas service to any applicant a leakage test shall be made at the intended delivery pressure to the consumer to insure that the applicant's fuel line is in a safe condition; provided, however, if the maximum delivery pressure exceeds two (2) psig then the customer's piping system shall be tested at one and one-half (1 1/2) times the maximum delivery pressure. Service shall not be established until the utility determines that this test has been properly made.]
[(17) Each utility furnishing gas service in cities of two thousand five hundred (2500) inhabitants or over shall maintain a graphic recording pressure gauge at its plant, down-town office or at some central point in the distributing system or each subdivision of the system where continuous records shall be made of the service pressure at that point. Utilities operating in cities of five thousand (5000) or more inhabitants shall equip themselves with one (1) or more graphic recording pressure gauges in addition to the foregoing and shall make frequent records, each covering intervals of at least twenty-four (24) hours duration of the gas service pressure at various points on the system. All records or charts made by these meters shall be identified, dated and kept on file available for inspection for a period of at least two (2) years.]
(1*[8]***1**) No gas service meter shall be allowed in service which has incorrect gear ratio or dial train or is in any way mechanically defective or shows an error in measurement in excess of two percent (2%) when passing gas at the rate of six (6) cubic feet per hour per rated light capacity. When adjustment is necessary, the adjustment should be made to within at least one percent (1%)

of correct registration. Tests for accuracy shall be made with a suitable meter prover, at least two (2) consecutive test runs being made which agree within one-half (1/2) of one percent (1%).
(1*[9]***2**) Unless otherwise ordered by the commission, each gas service meter installed shall be periodically removed, inspected and tested at least once every one hundred twenty (120) months, or as often as the results obtained may warrant to insure compliance with the provisions of section (1*[8]* **1**) of this rule.
(*[20]***13**) Each utility furnishing metered gas service shall make a test of the accuracy of any gas service meter free of charge upon request of a consumer; provided, that the meter has not been tested within twelve (12) months previous to the request. The consumer shall be notified of the time and place of the test so that s/he may be present to witness the test should s/he so desire. A written report giving the results of the requested test shall be made to the consumer requesting the results, the original record being kept on file at the office of the utility under the provisions of section (2) of this rule.
[(21) Any gas service meter will be tested by the commission upon written application of the consumer or utility as follows:
(A) The utility involved either shall remove the meter or give its consent to the removal of the meter but the consumer shall be given an opportunity to witness the disconnection, packing and shipment of the meter should s/he so desire;
(B) The meter will be returned with a special seal which, if the meter is to be reinstalled on this consumer's premises, shall not be disturbed until after the consumer has been given an opportunity to inspect the meter;
(C) A fee of two dollars ($2) will be charged by this commission and paid to the Division of Collections of the Department of Revenue of Missouri for each gas service meter tested having a capacity of not exceeding ten (10) lights. For larger meters a proportionally larger fee will be charged, depending upon the size of the meter; and
(D) If the meter is fast beyond the prescribed limit in section (18) of this rule, the utility will be required to pay the test fee and cost of shipping meter; otherwise these expenses shall be borne by the consumer requesting the test.]
(*[22]***14**) Each utility having more than one hundred (100) gas meters in service shall maintain one (1) or more suitable gas meter provers of standard design and keep in proper adjustment so as to register the condition of meters tested within one-half (1/2) of one percent (1%). 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, easily accessible and equipped with all necessary facilities and accessories. Meter testing equipment shall at all reasonable hours be accessible for inspection and use by any authorized representative of this commission.
(*[23]* **15**) Each electric utility supplying energy from a constant potential system shall adopt standard service voltages for the entire system and each subdivision. Every reasonable effort shall be made by the use of proper equipment and operation to maintain those voltages within a practicable tolerance. The suitability and adequacy of these service voltages may be determined at any time by the commission. For lighting service, the variation in voltage for periods longer than one (1) minute, as measured at the consumer's cut-out, shall not exceed or fall below these units--
(A) For general all purpose supply where nominal voltage is one hundred twenty (120) volts, one hundred twenty-seven (127) volts maximum and one hundred ten (110) volts minimum;

(B) For general all purpose supply where nominal voltage is one hundred fifteen (115) volts, one hundred twenty-five (125) volts maximum and one hundred eight (108) volts minimum;
(C) For rural service, one hundred twenty-seven (127) volts maximum and one hundred ten (110) volts minimum; and
(D) For power service, the voltage, at any time, shall not be greater than ten percent (10%) above or below standard service voltage. The ranges of voltages indicated in this subsection shall be considered as being made up of three (3) voltage zones--namely, the favorable zone, tolerable zone and the extreme zone. The favorable zone shall be that range of voltage variation with four percent (4%) above and five percent (5%) below nominal. The tolerable zone shall be that zone between six percent (6%) above and eight percent (8%) below nominal voltage, and the extreme zone shall not exceed the maximum and minimum range of the tolerable zone more than an additional three percent (3%). When the system voltage variations extend to within the extreme zone, the utility shall take those steps as may be required to improve the system voltages, or the subdivisions of, the utility, as the case may be, to within either the favorable or the tolerable zone. The utilities will not be held responsible for variations in service voltage at a customer's premises caused by the operation of that customer's apparatus in violation of the utility's rules or by the action of the elements or causes beyond the utility's control. The requirements listed in this paragraph may be waived for any particular consumer by special written agreement other than the regular service contract or application; provided, that the arrangement does not affect the quality or service to other consumers.
(*[24]* **16**) To insure compliance with the requirements specified in section (*[23]* **15**) of this rule, each utility furnishing electric service shall supply itself with one (1) or more portable indicating voltmeters, suitable of the service voltages condition. Where two hundred fifty (250) or more consumers are served by any utility, it must provide itself with one (1) or more portable graphic recording voltmeters suitable for the service voltages furnished. A sufficient number of voltage surveys must be made by each utility to indicate that service furnished from various transformers and service mains is at all times in compliance with the previously mentioned requirements. When graphic recording voltmeters are used, each chart or record should cover an interval of at least twenty-four (24) hours duration. These records or charts suitably identified and dated shall be kept on file available for inspection for a period of at least two (2) years.
(*[25]* **17**) Except as provided in this rule, each electric service watt-hour meter placed in service shall be tested and adjusted for accuracy before installation or within thirty (30) days after that. New meters manufactured during and since 1937 may be placed in service without testing if the meters are not opened and if the manufacturer's seal is not broken. Whenever a watt-hour meter manufactured during or since 1937 is required to be tested for reasons other than physical or electrical damage, it should not be opened unless faulty registration (as defined in this rule) is indicated. Each watt-hour meter which appears to be in good condition may be tested by loading the meter sufficiently to cause it to register not less than one hundred (100) kilowatt hours (kWh) at varying rates of current flow for a specified period of time. If this procedure is used, the meter must be checked with a standard meter, previously determined to be accurate, by reading and comparing the dial registers of the meter being tested with the standard meter. If the dial register of the meter being tested shows less than ninety-nine (99) kWh or more than one hundred one (101) kWh (for each one hundred (100) kWh of registration at varying rates of current flow), the meter will be considered as one with faulty registration and will be opened, retested and adjusted. Otherwise, it will be available to be placed in service. With respect to the testing of all meters manufactured prior to 1937 and with respect to those meters manufactured during and

since 1937 which are required, under this rule, to be opened, retested and adjusted, the following procedure shall be followed (This procedure may be followed in all cases, at the option of the electric corporation.):

(A) Tests and adjustments for accuracy shall be made at from five percent to ten percent (5%--10%) and at from seventy-five percent to one hundred percent (75%--100%) of rated capacity of meter;

(B) Tests for accuracy at each load shall be made with suitable working standards by taking the average of at least two (2) test runs of at least thirty (30) seconds each which agree within one percent (1%), except that where stroboscopic or similarly precise methods of testing are used, only one (1) test run need be made;

(C) Any meter operating on inductive load should be tested under inductive load and should be adjusted to register accurately at the approximate power factor conditions at which the meter will normally be required to operate, or at fifty percent (50%) and one hundred percent (100%) power factors;

(D) When testing, each meter shall be adjusted as accurately as practical for correct registration at the test load specified. Where necessary to adjust the meter fast at light or heavy load, for correct registration at normal load or to correct for inductive load, the fast adjustment should not exceed two percent (2%) above correct registration; and

(E) Commutator-type meters, when feasible, should be allowed to remain in actual service at least five (5) days before being tested.

(*[26]* **18**) No electric service watt-hour meter shall be allowed in service which has incorrect constants or dial train, or which creeps at no load at the rate of more than one (1) disk revolution in five (5) minutes or less when maximum service voltage under which meter operates is applied or which is in any way mechanically defective. Nothing contained in this section shall require any electric corporation to open any new meter manufactured during and since 1937.

(*[27]* **19**) Any electric service meter tested on complaint or for any other reason after having been in service may be considered as having been recording within allowable limits of accuracy at any possible load if it is found to register within three percent (3%) of correct registration when tested in accordance with the provisions of section (*[25]* **17**). After the test, however, the meter shall be adjusted for accuracy in accordance with the provisions of section (*[25]* **17**) before being again placed in service. It is suggested that the average accuracy of a meter in service be defined as follows and that the condition of the meter, as thus determined, be used as a basis for adjusting consumer's bills for incorrect registration beyond certain limits where any utility makes the adjustment a part of its commercial practice:

(A) Test an induction meter or a commutator meter at approximately five percent to ten percent (5%--10%) of rated capacity of meter and at seventy-five percent to one hundred percent (75%--100%) rated capacity of meter; and

(B) The average of the tests at light and heavy load, defined as the average accuracy or condition of meter, shall be obtained by multiplying the result of the test at heavy load by four (4) and adding the result of the test at light load and dividing the total by five (5).

(2*[8]* **0**) Unless otherwise ordered by the commission, each electric service watt-hour meter shall be periodically tested in accordance with the following schedule or as often as the results obtained may warrant, and adjusted in accordance with section (*[25]* **17**):

(A) Induction-type meters manufactured prior to 1927--

1. Induction-type meters having rated current capacity not exceeding fifty (50) amperes, at least once every sixty (60) months; and

2. Induction-type meters having rated current capacity exceeding fifty (50) amperes, at least once every twenty-four (24) months;

(B) Induction-type meters manufactured during the period 1927--1936:

1. Induction-type meters having rated current capacity not exceeding fifty (50) amperes, at least once every ninety-six (96) months;

2. Induction-type meters having rated current capacity exceeding fifty (50) amperes, at least once every thirty (30) months;

3. Commutator-type meters with rated current capacities not exceeding fifty (50) amperes and voltage ratings not exceeding two hundred fifty (250) volts, at least once every twenty-four (24) months; and

4. All other meters at least once every twelve (12) months;

(C) Induction-type meters manufactured during and since 1937, at least once every two hundred forty (240) months; and

(D) In commutator meters having heavy moving elements and sapphire jewels, the number of revolutions of the moving element between tests should not ordinarily exceed one (1) million.

(2*[9]* **1**) 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 twelve (12) months previous to the request. The consumer shall be notified of the time and place of the test so that s/he may be present to witness the test should s/he so desire. A written report giving the result of the test shall be made to the consumer requesting the test, the original record being kept on file at the office of the utility under the provisions of section (2) of this rule.

(*[30]* **22**) Any electric service meter will be tested by the commission upon written application of the consumer or utility. The utility involved shall either remove the meter or give its consent to the removal of the meter, but the consumer shall be given an opportunity to witness the disconnection, packing and shipment of the meter should s/he so desire. The meter will be removed with a special seal which, if the meter is to be reinstalled on this consumer's premises, shall not be disturbed until after the consumer has been given an opportunity to inspect the meter. A fee of two dollars ($2) will be charged by this commission and paid to the Division of Collections of the Missouri Department of Revenue for each single-phase or direct-current watt-hour meter having a current capacity not exceeding twenty-five (25) amperes and without instrument transformers. For other meters a proportionally larger fee will be charged, depending upon the type and size of the meter. If the meter is fast beyond the prescribed limit in section (27) of this rule, the utility will be required to pay the test fee and cost of shipping the meter; otherwise these expenses shall be borne by the consumer requesting the test.

(*[31]* **23**) Each utility furnishing metered electric service shall maintain suitable working standards of a rugged type for the testing of electric service meters. These working standards must be calibrated frequently to insure their accuracy. Approved secondary standards shall be owned and maintained by each utility having more than two hundred fifty (250) meters in service for the calibration of the working standards. All secondary standards and the working standards of those utilities not required to maintain secondary standards must be submitted at sufficiently frequent intervals to insure unquestionable accuracy to the Bureau of Standards at Washington, D.C. or to some testing laboratory of recognized standing for calibration where the utility does not maintain a testing laboratory having primary standards. Each standard shall be accompanied by its certificate of calibration dated and signed by the proper authority. These certificates when superseded shall be kept on file at the office of the utility, available for inspection. Meter testing

equipment shall at all reasonable hours be accessible for inspection and use by any authorized representative of the commission.
(*[32]* **24**) All water furnished by utilities for human consumption and general household purposes shall conform to standards adopted by the Missouri Department of Health. The source of supply shall be of adequate quantity to insure a supply without interruption at all times. Treatment and filtration by approved methods is strongly recommended where doubt exists as to the quality of the water furnished at any time. Satisfactory treatment and filtration of water drawn from surface supplies is required. Disinfection treatment by hypoclorites of lime, chlorine gas or other approved disinfecting agents, is generally necessary for all public water supplies. Storage reservoirs for finished water, where possible, shall be covered to protect the supply from sunlight and contamination. Where covered reservoirs are not provided due to local circumstances, chlorination facilities shall be provided at the reservoir in addition to the facilities provided at the plant.
(*[33]* **25**) Bacteriological analyses shall be periodically made of water furnished for public uses as prescribed by the Missouri Department of Health. The commission reserves the right to require under its supervision an extended bacteriological as well as physical and chemical examination when deemed advisable for any particular water furnished. The results of all tests made must be recorded and kept on file available for public inspection for a period of at least two (2) years. These records must indicate when, where and by whom each test was made. Methods of water analysis prescribed by the Missouri Department of Health shall be followed as regards chemical, physical and bacteriological examination and collection of samples and any departure from these methods must be specifically stated.
(*[34]* **26**) Dead ends in the distributing mains should be avoided as far as possible. Where the dead ends exist, they should be flushed when necessary to insure satisfactory quality of water to consumers. To allow flushing, dead ends should be equipped with hydrants, flush valves or other means of allowing water to be removed from these dead ends.
(*[35]* **27**) Every effort must be made to maintain water pressure which will at no time fall below an adequate minimum pressure suitable for domestic service. In addition to furnishing domestic and commercial service, each utility furnishing fire-hydrant service must be able, within a reasonable period of time after notice, to supply fire-hydrant service to local fire fighting equipment and facilities. No utility, however, shall be required to install larger mains or fire-hydrants or otherwise supply fire service, unless proper contractual arrangements shall have been made with the utility by the municipality, agency or individual desiring the service.
(*[36]* **28**) Each utility furnishing water service in cities of two thousand five hundred (2500) or five thousand (5000) inhabitants shall maintain graphic recording pressure gauges at its plant and at its downtown office or at some central point in the distributing system, where continuous records shall be made of the pressure in the mains at these points. Utilities operating in cities of five thousand (5000) or more inhabitants shall equip themselves with one (1) or more graphic recording pressure gauges in addition to the previously mentioned and shall make frequent records, each covering intervals of at least twenty-four (24) hours duration, of the water pressure at various points on the system. All records or charts made by these meters shall be identified, dated and kept on file available for inspection for a period of at least two (2) years.
(*[37]* **29**) No water service meter shall be allowed in service which has an incorrect gear ratio or dial train or is mechanically defective or shows an error in measurement in excess of five percent (5%) when registering water at stream flow equivalent to approximately one-tenth (1/10) and full normal rating under the average service pressure. When adjustment is necessary, the adjustment

shall be made as accurately as practical for average rate of flow under actual conditions of installation. Tests for accuracy shall be made with a suitable testing device in accordance with the best modern water meter practice and at rates of flow which will properly reflect the accuracy of meters over each meter's range of minimum to maximum flow.

(3*[8]* **0**) Unless otherwise ordered by the commission, each water service meter installed shall be periodically removed, inspected and tested in accordance with the following schedule, or as often as the results obtained may warrant to insure compliance with the provisions of section (*[37]* **29**) of this rule:

(A) Five-eighths inch (5/8") meter--ten (10) years or two hundred thousand (200,000) cubic feet whichever occurs first;

(B) Three-fourths inch (3/4") meter--eight (8) years or three hundred thousand (300,000) cubic feet whichever occurs first;

(C) One inch (1") meter--six (6) years or four hundred thousand (400,000) cubic feet which ever occurs first; and

(D) All meters above one inch (1")--every four (4) years.

(3*[9]* **1**) Each utility furnishing metered water service shall make a test of the accuracy of any water service meter free of charge upon request of a consumer; provided, that the meter has not been tested within twelve (12) months previous to the request. The consumer shall be notified of the time and place of the test so that s/he may be present to witness the test should s/he so desire. A written report giving the result of the requested test shall be made to the consumer requesting the test, the original record being kept on file at the office of the utility under the provisions of section (2) of this rule.

(*[40]* **32**) Any water service meter will be tested by the commission upon written application of the consumer or utility. The utility involved shall either remove the meter or give its consent to the removal of the meter, but the consumer shall be given an opportunity to witness the disconnection, packing and shipment of the meter should s/he so desire. The meter will be returned with a special seal which, if the meter is to be reinstalled on this consumer's premises, shall not be disturbed until after the consumer has been given an opportunity to inspect the meter. A fee of two dollars ($2) will be charged by this commission and paid to the Division of Collections of the Missouri Department of Revenue for each water service meter tested ranging in size up to one inch (1"). For larger meters a proportionally larger fee will be charged, depending upon the size of the meter. If the meter is fast beyond the prescribed limit in section (37) of this rule, the utility will be required to pay the test fee and cost of shipping meter; otherwise these expenses shall be borne by the consumer requesting the test.

(*[41]* **33**) Each utility furnishing metered water service in cities of three thousand (3000) or more inhabitants shall maintain one (1) or more suitable water meter testers and keep the water meter tester in proper adjustment so as to register accurately the condition of the meters tested at all times. Meter testers must be located in a suitable working space, easily accessible and equipped with all necessary facilities and accessories. Meter testing equipment shall at all reasonable hours be accessible for inspection by any authorized representative of the commission or by any authorized representative of any department of weights and measures of Missouri or any political subdivision in which the utility operates.

(*[42]* **34**) Preliminary engineering reports followed by detailed plans and specifications for new constructions, additions to or changes or alterations to any existing public water supply or water purification plant shall be submitted to the Department of Health for examination and written approval secured from the Department of Health before contracts are let or construction begun.

Water utilities must comply with all regulations of the Department of Health or other regulatory bodies having jurisdiction pertaining to installation, extension and operation of public water supplies.
(*[4]***35**) Utilities shall determine the characteristics of service to be made available to each consumer, based upon the location of the premises, size and operating characteristics of the consumer's equipment and shall furnish information, upon request, as to the standard class of service to be furnished which, in the case of either new or enlarged electric connections, shall specify the nominal voltage and number of phases and the number of wires over which service will be delivered. Utilities, when requested, shall provide reasonable assistance to consumers in the selection of equipment best adapted to the service to be furnished and inform consumers as to conditions under which efficient use of service may be realized.

AUTHORITY: section 393.140, RSMo (1986).* Original rule filed March 5, 1953, effective March 15, 1953. Amended: Filed Sept. 22, 1959, effective Oct. 1, 1959. Amended: Filed May 2, 1968, effective May 16, 1968.
*Original authority 1939, amended 1949, 1967.

PUBLIC COST:
PRIVATE COST:
NOTICE OF PUBLIC HEARING AND NOTICE TO SUBMIT COMMENTS:

MISSOURI PUBLIC SERVICE COMMISSION
BioGas Service List

Missouri Public Service Commission
Staff Counsel Department
200 Madison Street, Suite 800
P.O. Box 360
Jefferson City, MO 65102
staffcounselservice@psc.mo.gov

Office of the Public Counsel
Marc Poston
200 Madison Street, Suite 650
P.O. Box 2230
Jefferson City, MO 65102
opcservice@opc.mo.gov

City Utilities of Springfield, Missouri
Legal Department
301 E. Central
P.O. Box 551
Springfield, MO 65801
info@cityutilities.net

Dogwood Energy, LLC
Attn: EH&S Coordinator
P.O. Box 110
Pleasant Hill, MO 64080

Empire District Gas Company, The
Legal Department
P.O. Box 127
602 S. Joplin Avenue
Joplin, MO 64802

Liberty Utilities (MNG)
Legal Department
2751 North High Street
Jackson, MO 63755

Spire, Inc.
Legal Department
700 Market Street, 6th Floor
St. Louis, MO 63101

Summit Natural Gas of Missouri, Inc.
Legal Department
2 Delorme Drive, Suite 100
Yarmouth, ME 04096

Union Electric Company
Legal Department
1901 Chouteau Avenue
P.O. Box 66149, Mail Code 1310
St. Louis, MO 63166
AmerenMOService@ameren.com

Albany Municipal Gas System
Attn: City Administrator
106 E. Clay Street
Albany, MO 64402

Altenburg-Frohna Municipal Gas System
Attn: Mayor of Frohna
Joint Utilities Gas Department
Frohna, MO 63748

Altenburg-Frohna Municipal Gas System
Attn: Utility Safety & Design, Inc.
#9 Executive Woods Court, Ste. 1
Belleville, IL 62226

Altenburg-Frohna Municipal Gas System
Attn: Mayor of Altenburg
9144 Main Street
P.O. Box 22
Altenburg, MO 63732

Amber Glenn Apartments
Attn: Mr. Jesse Da Villa
Mr. Allan Sheehy
2977 Highway K, Ste. 239
O'Fallon, MO 63368

Ameresco
Attn: Manager of Operations
111 Speen St. Ste. 410
Framingham, MO 01701

Bernie Municipal Gas System
Attn: Mayor of Bernie
P.O Box 605
101 W. Main Street
Bernie, MO 63822

Bethany Municipal Gas System
Attn: City Administrator
P.O. Box 344
206 N. 16th Street
Bethany, MO 64424

Bismark Municipal Gas System
Attn: Mayor of Bismark
P.O. Box 27
924 Center Street
Bethany, MO 63624

Clarence Municipal Gas System
Attn: Mayor of Clarence
P.O. Box 9
Clarence, MO 63437

Cuba Municipal Gas System
Attn: Mayor of Cuba
City Hall
P.O. Box K
202 N. Smith Street
Cuba, MO 65453

Dogwood Energy, LLC
Attn: Utility Safety & Design, Inc.
P.O. Box 206
28847 Highway 136
Unionville, MO 63565

Fulton Municipal Gas System
Attn: Director of Administration
P.O. Box 130
4th & Market Streets
Fulton, MO 65251

Granby Municipal Gas System
Attn: Mayor of Granby
P.O. Box 500
302 N. Main Street
Granby, MO 64844

Grant City Municipal Gas System
Attn: Mayor of Grant City
101 W. 3rd Street
P.O. Box 398
Grant City, MO 64456

Green City Municipal Gas System
Attn: Mayor of Green City
P.O. Box 235
#4 Green Street
Green City, MO 63545

Green City Municipal Gas System
Attn: Utility Safety & Design, Inc.
P.O. Box 206
28847 Hwy. 136
Unionville, MO 63565

Hermann Municipal Gas System
Attn: Public Works Director
1902 Jefferson Street
Hermann, MO 65041

John Knox Village
Attn: Manager of Facilities
400 NW Murray Rd.
Lee's Summit, MO 64081

Kennett Municipal Gas System
Attn: Superintendent of Utilities
P.O. Box 40
303 S. Anthony
Kennett, MO 63857

Laddonia Ethanol Plant
Attn: CFO and VP of Admin Services
Missouri Public Utility Alliance
1808 I-70 Dr., S.W.
Columbia, MO 65203

Liberal Municipal Gas System
Attn: Mayor of Liberal
P.O. Box 67
209 S. Main Street
Liberal, MO 64762

Linden Mobil Home Park
Attn: Mr. Jim Janecek
400 NE 76th Terrace
Kansas City, MO 64118

Macon Municipal Gas System
Attn: Mayor of Macon
P.O. Box 569
106 W. Bourke Street
Macon, MO 63552

Madison Municipal Gas System
Attn: Mayor of Madison
P.O. Box 141
209 S. Main Street
Madison, MO 65263

Marshall Municipal Utilities
Attn: Underground Facilities Director
75 East Morgan Street
Marshall, MO 65340

Mercer Municipal Gas System
Attn: Mayor of Mercer
City Hall
14402 State Street
Mercer, MO 64661

Middletown Municipal Gas System
Attn: Mayor of Middletown
City Hall
P.O. Box 127
203 Johnson Street
Middletown, MO 63359

Mid-Missouri Energy
Attn: Ryland Utlaut, President
15311 N. Saline 65 Hwy.
Melta Bend, MO 65339

Milan Municipal Gas System
Attn: Mayor of Milan
City Hall
P.O. Box 247
212 East Second Street
Milan, MO 63556

Monroe City Municipal Gas System
Attn: Mayor of Monroe City
City Hall
109 2nd Street
Monroe City, MO 63456

Montgomery City Municipal Gas System
Attn: Mayor of Montgomery City
723 North Sturgeon Street
Montgomery City, MO 63361

New Florence Municipal Gas System
Attn: Mayor of New Florence
P.O. Box 70
217 South Main Street
New Florence, MO 63363

New Haven and Berger Municipal Gas System
Attn: Mayor of Berger
404 Rosalie
Berger, MO 63014

New Haven Berger Municipal Gas System
Attn: Mayor of New Haven
City Hall
101 Front Street
New Haven, MO 63068

Perryville Municipal Gas System
Attn: City Administrator
215 North West Street
Perryville, MO 63775

Perry Municipal Gas System
Attn: Mayor
P.O. Box 280
127 E. Main Street
Perry, MO 63462

Paris Municipal Gas System
Attn: City Superintendent
112 S. Main
Paris, MO 65275

Plattsburg Municipal Gas System
Attn: City Administrator
114 Maple Street
Plattsburg, MO 64477

Potosi Municipal Gas System
Attn: Mayor
121 E. High Street
Potosi, MO 63664

Princeton Municipal Gas System
Attn: Mayor of Princeton
City Hall
507 West Main Street
Princeton, MO 64673

Richland Municipal Gas System
Attn: Mayor of Richland
P.O. Box 798
Richland, MO 65556

Saint Louis University
Attn: Mr. Michael Lucido
3545 Lindell Boulevard
Wool Center Room 223
St. Louis, MO 63103

Shelbina Municipal Gas System
Attn: Mayor of Shelbina
P.O. Box 646
116 East Walnut
Shelbina, MO 63468

Show-Me Ethanol, LLC
Attn: General Manager
26530 Hwy., 24 E.
Carrollton, MO 64633

Roeslein Alternative Energy Services
Attn: President
9200 Watson Rd., Ste. 200
St. Louis, MO 63126

St. James Municipal Gas System
Attn: Mayor of St. James
P.O. Box 426
200 N. Bourbeuse Street
St. James, MO 65559

St. Robert Municipal Gas System
Attn: Mayor of St. Robert
194 Eastlawn Ave., Ste. A
St. Robert, MO 65584

Stanberry Municipal Gas System
Attn: City Administrator
130 W. First Street
Stanberry, MO 64489

The Talisman Condominiums
Attn: Chris Gripe
Centennial Management & KC Properties Construction
P.O. Box 15142
Shawnee Mission, KS 66285

Ashley Energy, LLC
Attn: Operations Manager
One Ashley Place
St. Louis, MO 63102

Unionville Municipal Gas System
Attn: Mayor of Unionville
P.O. Box 255
1611 Grant Street
Unionville, MO 63565

Unionville Municipal Gas System
Attn: Utility Safety & Design
Vice President of Engineering
P.O. Box 206
28847 Hwy. 136
Unionville, MO 63565

Waynesville Municipal Gas System
Attn: City Administrator
100 Tremont Drive
Waynesville, MO 65583

Wheaton Municipal Gas System
Attn: Mayor of Wheaton
P.O. Box 70
219 E. Main Street
Wheaton, MO 64874

Flower Box Motel
Attn: Mr. Tom Workman
722 West Spring Street
Neosho, MO 64540

Oakridge Apartments
Attn: Ms. Deana Breznik Director of Asset Management Gardner Capitol
8000 Maryland Ave., Ste. 300 St. Louis, MO 63105

Omega Pipeline Company
Attn: DPW Bldg. 2222
1334 First Street
Ft. Leonard Wood, MO 65473

Oronogo Municipal Gas System
Attn: Mayor of Oronogo
P.O. Box 201
653 E. Central Street Oronogo, MO 64855

MoDNR
Attn: Jacob Westen
P.O. Box 176
1101 Riverside Drive
Jefferson City, MO 65102
jacob.westen@dnr.mo.gov