

**BEFORE THE PUBLIC SERVICE COMMISSION  
OF THE STATE OF MISSOURI**

In the Matter of Aquila, Inc.'s	)	
Application for a Variance	)	Case No. _____
from the Provisions of	)	
4 CSR 240-10.030(19)	)	

**APPLICATION FOR VARIANCE**

**COMES NOW**, Aquila, Inc. ("Aquila"), and in support of its Application for Variance ("Application") from the provisions of 4 CSR 240-10.030(19) of the Rules of Missouri Public Service Commission (the "Commission"), states as follows:

1. Aquila is a Delaware Corporation duly organized, validly existing and in good standing in all respects with its principal office and place of business at 20 W. 9<sup>th</sup> Street, Kansas City, MO 64105-1711. Aquila is authorized to conduct business in Missouri through its Aquila Networks-MPS and Aquila Networks-L&P operating divisions and is engaged, generally, in providing electrical, natural gas and industrial steam utility service in those areas of Missouri certificated to it by the Commission.

2. A certified copy of Aquila's Amended Certificate of Authority to do business as a foreign corporation evidencing Aquila's authority to conduct business in Missouri and copies of the registrations of fictitious names of Aquila Networks-MPS and Aquila Networks-L&P were filed with the Commission in Case No. EU-2002-1053. Said documents are incorporated herein by reference in accordance with 4 CSR 240-2.060(1)(G) and made a part hereof for all purposes. Aquila is an "electrical corporation," a "gas corporation," and a "public utility" as those terms are defined in Section 3786.020 RSMo and as such is subject to the jurisdiction of the Commission as provided by law.

3. Aquila has pending actions or final unsatisfied judgments or decisions against it involving customer service or rates having occurred within three (3) years from the date of this Application in certain of the jurisdictions in which it provides service, but none in Missouri. Aquila has no annual report or assessment fees that are overdue.

4. Communications in regard to this Application should be addressed to the undersigned counsel and:

Robert J. Amdor  
Aquila, Inc.  
1815 Capitol Avenue  
Omaha, NE 68102  
402.221.2227

5. Commission Rule 4 CSR 240-10.030(19) (the “Rule”) requires that gas service meters be removed, inspected and tested at least once every one hundred twenty (120) months or more often as necessary. The Rule expressly authorizes the Commission to issue an order prescribing a different period. As more fully described herein, Aquila seeks a variance from compliance with the Rule and requests the Commission to issue an order modifying the manner in which the number and identity of meters to be removed and tested by Aquila is determined.

6. The purpose of the Rule is not safety-related, nor is it intended to replace gas meters which continue to be usable. Instead, the purpose is to ensure that the meters remaining in service continue to comply with the accuracy requirements of Rule 4 CSR 240-10.030(18). Aquila proposes to implement a meter sampling program as described below as an alternate method to assure compliance with such accuracy requirements.

7. Aquila’s proposed meter sampling program, which is described more completely in Appendix A attached hereto, will group gas meters with a capacity under four hundred fifty cubic feet per hour (450 ft.<sup>3</sup>/hr.) by manufacturer, type and size into groups. Larger meters are

not included in the sampling plan and will continue to be tested in accordance with the Rule. As of December 31, 2005, Aquila had 42,200 such meters in its Missouri service territories. Each meter group will be stratified into lots by set years such that beginning in the 9th year after installation, every lot in each group is sample tested every year. These meters will be analyzed statistically as described in detail in **Appendix A**. This proposed sampling plan ensures that not more than 6.5% of the meters in service will deviate from 100% accuracy by more than plus or minus 2%, assuring compliance with Rule 4 CSR 240-10.030(18).

8. In Case No. GO-98-25, the Commission, by order dated October 30, 1997, granted Union Electric a variance from Commission Rule 4 CSR 240-10.030(19), which prescribes accuracy testing requirements for gas meters. That order authorized UE to implement a sample testing program which is substantially the same as the program proposed herein for Aquila.

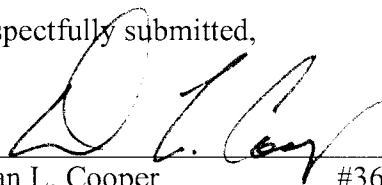
9. In addition to Union Electric's sample testing program, the Commission has authorized other utilities to implement gas meter sample testing in variance from the Rule (See Case Numbers G0-95-320, G0-91-353, GO-98-567, and GE-2003-0007), which authorized Laclede Gas Company, Missouri Gas Energy's predecessor, Associated Natural Gas, Arkansas Western and Atmos Gas Company, respectively, to implement meter sampling programs. The proposed Aquila gas meter sampling method is similar to the gas meter sampling programs approved by the Commission in the above-referenced cases, with one exception. Rather than rely upon utility-developed proprietary accuracy rates ("AR"), Aquila proposes that the acceptance criteria for each lot will be determined using an AQL of 6.5%. This approach is consistent with ANSI/ASQL Z1.4 and the sample testing program that was approved by the Commission for Union Electric. In addition, Aquila's proposed AQL of 6.5% in its gas meter

sampling plan is consistent with the approach used presently by Aquila in other jurisdictions. Like the approved plans of the other gas utilities, Aquila's gas meter sampling program includes a 30-year cap provision on the age of in-service meters.

10. Full compliance with the Commission's Rule requires that Aquila annually test approximately 4,200 gas service meters with a capacity under 450 ft.<sup>3</sup>/hr. With the proposed sampling program (assuming no lot rejections), about 2,200 meters would be tested initially. This significant reduction in the overall number of meters required to be tested will result in substantial cost savings without comprising Aquila's ability to meet the measurement accuracy standards set forth in Rule 4 CSR 240-10.030(18). Approval of this Application would therefore be in the public interest.

**WHEREFORE**, Aquila, Inc. requests that the Commission enter an Order granting Aquila a variance from the provisions of 4 CSR 240-10.030(19), in accordance with the foregoing Application, and the sampling program described herein.

Respectfully submitted,



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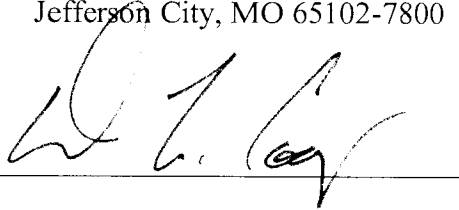
Attorneys for Aquila, Inc.

Certificate of Service

I hereby certify that two true and correct copies of the above and foregoing document was sent by electronic mail, or hand delivered, on this 17<sup>th</sup> day of February, 2006 to:

General Counsel  
Missouri Public Service Commission  
Governor Office Building  
P.O. Box 360  
Jefferson City, MO 65102

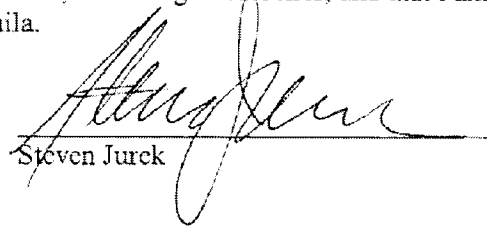
The Office of the Public Counsel  
Governor Office Building, 6<sup>th</sup> Floor  
P.O. Box 7800  
Jefferson City, MO 65102-7800

A handwritten signature in black ink, appearing to read "W. L. Gay", is written over a horizontal line.

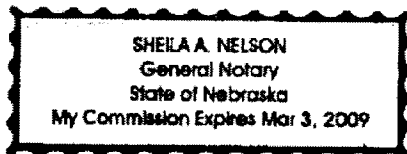
**VERIFICATION**

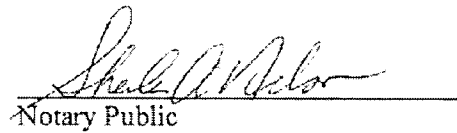
STATE OF NEBRASKA            )  
  )       ss  
COUNTY OF DOUGLAS        )

I, Steven Jurek, of lawful age, state that I am Vice President of Regulatory Services for Aquila, Inc.; that I have read the above and foregoing document; that the statements contained therein are true and correct to the best of my information, knowledge and belief; and that I am authorized to make this statement on behalf of Aquila.

  
Steven Jurek

Subscribed and sworn to before met this 16<sup>th</sup> day of February, 2006.



  
Notary Public

My Commission Expires: \_\_\_\_\_

## EXHIBIT A

### **TECHNICAL DESCRIPTION OF PROPOSED METHOD FOR THE SAMPLE TESTING OF INSERVICE GAS METERS**

#### **1. INTRODUCTION**

Aquila, Inc. (“Aquila”) proposes to employ a sample testing method, using fully developed and widely recognized quality control standards, principles and rules, to test inservice gas meters. These standards, principles and rules can be found in standard texts and statistical sampling tables. Details of the method are described in ANSI/ASQC Z1.4<sup>1</sup> which is the “attributes sampling technique.” Sample testing is an economical substitute for one hundred percent (100%) testing.

#### **2. DEFINITIONS**

- A. **Acceptable Quality Level (AQL)** – a statistically based acceptance criteria for the maximum percentage or proportion of variant units in a lot that can be considered satisfactory as a process average. (See ANSI/ASQC Z1.4) The AQL to be used in sample testing gas meters is 6.5%.
- B. **Annual Sample** – a random sample taken each year from a group of meters based on guidelines set forth in ANSI/ASQC Z1.4 (inspection for attributes) using general inspection level II, Double Sampling Plans for Normal Inspection.
- C. **Check Flow** – the measured flow rate at twenty percent (20%) of the meter’s rated nameplate capacity.
- D. **Group** – meters of a particular type, manufacturer, and size.

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<sup>1</sup>ANSI/ASQC Z1.4 (Military Standard MIL-STD-105E), Sampling Procedures and Tables for Inspection by Attributes (1993)

- F. **Lot** – a collection of meters in a group having the same set year, from which a sample is drawn and inspected to determine compliance with the acceptance criteria.
- G. **Meter** – a hard case diaphragm type gas meter with a flow capacity of less than four hundred fifty cubic feet per hour (450 ft.<sup>3</sup>/hr.). (As of December 31, 2005, the Company had 42,200 such meters in its Missouri service territories.)
- H. **Meter Code** – an Aquila unique identification number used to identify a meter's size. Size is specified by the manufacture.
- I. **Open Flow** – the measured flow rate at eighty percent (80%) of the meter's rated nameplate capacity.
- J. **Percent Accuracy** – the ration comparison of the registered volume of a meter under test to the registered volume of a standard.
- K. **Random** – a statistical method of sampling that ensures that each member of a population has the same probability of being selected as any other member.
- L. **Set Year** – the calendar year during which a meter was installed for a customer.
- M. **Specification Limits** – limits that define the conformance boundaries for the registration accuracy of individual meters. These limits are plus or minus two percent ( $\pm 2\%$ ) of one hundred percent (100%) accuracy.
- N. **Type** – the meter's temperature compensation (compensated or uncompensated).
- O. **Year of Purchase** – the calendar year in which a meter was purchased from a manufacturer.
- P. **Years in Service** - the number of years between the year a meter was set and the year it was removed.

### 3. **PURPOSE**

The purpose of the Aquila gas meter sample testing plan is:



- A. To determine the quality level of each meter lot by providing a reliable percentage estimate of the meters in each lot lying outside the specification limits for registration accuracy.
- B. To provide information relating to the performance of various meter lots when meter accuracy does not meet the specified quality level and thus provide the basis for repair and recalibration or planned retirement of those meters which are nonconforming.

#### **4. GENERAL METER TESTING PROCEDURES**

Meters are tested in accordance with the following:

- A. With the exception of those meters removed from service specifically for known leakage, damage, tampering, noise, or non-registration, and meters that have been selected for retirement, all meters removed from service shall be tested for in-test accuracy at both check flow and open flow prior to any adjustment or repair. The meter accuracy plus the check flow accuracy divided by two (2). This shall be referred to as the in-test accuracy. Those meters which have been removed from service specifically for known leakage or non-registration shall be monitored so that potential problems with certain meter types can be identified, even though the accuracy rate is acceptable.
- B. Meters shall be repaired as necessary and adjusted to within plus or minus one percent ( $\pm 1\%$ ) of one hundred percent (100%) accuracy at the open and check flow rates before being returned to service.

Records shall be maintained for each lot of meters showing in-test accuracy of each lot for each calendar year. This in-test accuracy data shall be organized into three (3) accuracy categories as follows; (1) more than 2% above 100% accuracy (fast); (2) from 2% above to 2% below 100% accuracy; and (3) more than 2% below 100%

accuracy (slow). The accuracy data shall be maintained by number of years in service and by total meters tested in a lot. When calculating the above accuracy categories, all fractions shall be rounded to the nearest whole number (0.5 and greater to be rounded up).

## **5. PERIODIC SAMPLING PROCEDURES**

Meters shall be sample tested in accordance with the procedure described herein.

- A. Aquila will classify its meters into groups according to manufacturer, type and size. Groups are further stratified into lots by set year such that beginning in the 9<sup>th</sup> year after installation, each lot in every group will be sample tested annually.
- B. Sampling will be in accordance with standard sampling plans as set forth in recognized statistical quality control standards. The size of the sample will depend on the size of the lot it will represent. An additional percentage of the meters needed for the sample shall be selected on a random basis as substitutes for damaged, non-registering, inaccessible, or otherwise invalid meters in the sample. All meters in the sample will be tested for their accuracy of registration, where test results are rounded to the nearest whole number (0.5 and greater to be rounded up).
- C. The statistical method applied to the test data will ensure that not more than six and one half percent (6.5%) of the meters in a lot will deviate from one hundred percent (100%) accuracy of registration by more than plus or minus two percent ( $\pm 2\%$ ).

### **Attributes Method**

- 1. Sampling by attributes can be performed several ways, usually classified as “single-sampling,” “double-sampling,” or “multiple-sampling.” The plan selected for sampling meters in Missouri is the “double-sampling” technique.
- 2. The in-test accuracy of registration of each meter in the sample is classified as either being within or beyond the 98% to 102% specification limits. The decision to accept

or reject a lot is then based upon the number of meters in the sample with accuracies beyond the limits. The total number of non-conforming meters is compared with the acceptance and rejection numbers. For those meter lots which have either a very high quality level or a very low quality level, the original sample will be sufficient to provide a decision. The second sample need only be drawn in those instances where the percentage of non-conforming units is within the range between the acceptance and rejection criteria.

- D. If a lot fails, Aquila will remove all meters in that lot over a period not exceed 4 years and it will replace or repair and recalibrate the meters before they can be reused.

However, within a lot of meters, if a particular sub-lot can be identified from evaluation of test results which indicates an untimely performance degradation due to possible manufacturer's defect and is clearly not a condition brought on by age as compared to other members of the lot, the following action will be taken:

1. The particular sub-lot will be further sampled as appropriate to verify above indications.
2. If confirmed, an accelerated removal program of this particular sub-lot will be implemented.
3. In this instance the sub-lot is not indicative of the overall meter lot so the in-test accuracy data will be excluded from the analysis.

- E. All other diaphragm meters, turbine meters, and rotary meters are excluded from sample testing and will be removed, inspected, and tested at least once every one hundred twenty (120) months to ensure proper operation.

- F. For each lot, the maximum permissible sampling period will be listed to thirty (30) years.