

STATE OF ILLINOIS

ILLINOIS COMMERCE COMMISSION

Aqua Illinois, Inc. :
:
Petition for 20-Year Meter Testing : 13-0412
Variance in Aqua Illinois' Vermilion :
Division. :

ORDER

By the Commission:

I. PROCEDURAL HISTORY

On June 18, 2013, Aqua Illinois, Inc. ("Aqua" or the "Company") filed with the Illinois Commerce Commission ("Commission") a Verified Petition ("Petition") seeking an Order granting Aqua a variance from of the Illinois Administrative Code (83 Ill. Adm. Code 100 et seq.) ("Rules"). The variance would authorize the Company to test 5/8 inch service water meters within its Vermilion Division every 20 years.

Pursuant to notice given in accordance with the law and the rules and regulations of the Commission, a prehearing conference was held in this matter before a duly authorized Administrative Law Judge of the Commission, on August 22, 2013.

On October 16, 2013, an evidentiary hearing was held. Aqua presented the testimony of Robert Ervin, the Area Manager in Aqua's Vermilion Division. Staff of the Commission ("Staff") presented the testimony of William H. Atwood, Jr., P.E., a Water Engineer in the Water Engineering Program of the Safety & Reliability Division of the Commission. The Company filed a draft order on November 7, 2013, to which, it represented, Staff had no objections. The record was marked "Heard and Taken" on November 20, 2013.

II. APPLICABLE AUTHORITY

The Rules set forth the requirements for the frequency of water meter testing within Standards of Service for Water Utilities, (83 Ill. Adm. Code 600). Section 600.340 provides as follows:

Unless otherwise approved by the Commission, each service water meter shall be periodically inspected and tested in accordance with the following schedule, or as often as the results may warrant, to insure that the meter accuracy is maintained within the limits set out in Section 600.310:

- 5/8 inch meter – 10 years or for each 100,000 cubic feet registered
3/4 inch meter – 6 years or for each 300,000 cubic feet registered

1 inch meter – 6 years or for each 300,000 cubic feet registered  
Meter 1½ inch and over – 4 years.

The Standards of Service for Water Utilities also contains a provision allowing for the modification or exemption from the Rules. Section 600.60, provides as follows:

If hardship results from the application of any rule herein prescribed, or if unusual difficulty is involved in complying with any rule or otherwise upon good cause shown, a formal application or written request, as may be appropriate under the circumstances, may be made to the Commission for the modification of the particular rule or for an exemption from its provision. Upon good cause shown the Commission may then modify that rule or provide an exemption for that utility.

### **III. THE RECORD**

#### **A. Aqua Position**

Aqua requests that the Commission issue an Order authorizing it to test 5/8 inch meters in its Vermilion Division on a 20-year schedule, rather than the 10-year schedule, as provided for in Section 600.340. Aqua additionally requests that it have the option to either replace 5/8 inch meters with 20 years of service with new meters; or test, recondition and return to service such meters. Aqua asserts that less frequent testing will benefit customers as testing costs will decrease and customers may experience fewer inconveniences associated with meter testing.

Aqua witness Ervin testifies that the Company conducted random testing that demonstrates a 20-year meter testing period is reasonable and appropriate. He states testing was conducted on 69 randomly chosen 5/8 inch water meters that were 20 years or older and 55 randomly chosen 5/8 inch meters that were 15-years or older in order to determine the meters' accuracy. Mr. Ervin states that the tests were conducted consistent with Section 600.310, Test and Allowable Error, of the Rules. In addition, he asserts the testing was in accordance with the standards for testing Cold Water Meters as prescribed in the American Water Works Association Manual M-6 ("AWWA M6"). According to Mr. Ervin, the results were then analyzed against the accuracy ranges for new meters, as set forth in Section 600.310 of the Rules.

Mr. Ervin asserts that all meters tested were removed from service by an independent contractor and also sent to an independent contractor for testing. He states that the data from these tests shows that for meters that were 20-plus years old, the average minimum flow accuracy of all testable 20-plus year meters was 93.4%, and the average weighted accuracy of all testable 20-plus year meters was 99.2%.

The Company explains that because the Rules do not address sample testing of water meters, the sample size was selected consistent with the Commission's Rules addressing standards of service for gas utilities (83 Ill. Adm. Code 500). In particular

the witness states subsections (b) and (c) of Section 500.215, govern sample testing of gas meters. He states the Company tested more than 50 meters in each age group. According to Mr. Ervin, the results are reliable because all meters were manufactured by the same company and the random test eliminated any geographic bias in the group of meters tested. Mr. Ervin further states that water quality was unlikely to negatively affect the accuracy of the meters tested.

Mr. Ervin also addresses Aqua's request that it be permitted to either replace with new meters or test, recondition and return to service the 5/8 inch meters with 20 years of service. He testifies that this request is based on Aqua's experience that it is currently more cost-effective to replace meters with new ones rather than test, recondition and return to service older meters. He asserts providing this option is in the best interests of Aqua and its customers as it will allow Aqua to select the most cost-effective option.

The Company filed a Motion for Confidential treatment of certain information contained on Exhibits 1.1, 1.2, and 1.3. It states that among other things, portions of these exhibits contain sensitive, confidential customer-specific information, such as individual customer names, addresses, and billing information. It avers that Staff has no objection to its request. The Company seeks confidential treatment of the exhibits for a period not less than two years.

At the evidentiary hearing, Aqua stated that it did not object to Staff's recommendations.

## **B. Staff Position**

Staff witness William H. Atwood, Jr., P.E., supports Aqua's request for a variance and agrees that the Company should be given the option of replacing or servicing the meters. Mr. Atwood recommends that Aqua be required to track the volume of water registered by its 5/8th inch meters and either replace or test any meters that have registered 200,000 Cubic Feet ("CF"). His recommendation is that for meters that have reached a 20 year service life or registered 200,000 CF, the Company should have the option of either replacing them with new meters or testing, reconditioning and returning them to service, unless otherwise requested by the customer.

Mr. Atwood states that he reviewed Mr. Ervin's testimony with attached Exhibits, Aqua's responses to Staff Data Requests, and the AWWA M6. Mr. Atwood agrees that Aqua's proposed partial meter population sample size is acceptable, so long as the sample sizes meet certain statistical sampling requirements. Mr. Atwood states that neither the Public Utilities Act (220 ILCS 5/1-101 *et seq.*) (the "Act") nor the Rules provides guidelines or requirements regarding the use of partial meter populations for sample testing of water meters. However, Mr. Atwood observes that the Rules allow for statistical sampling of gas and electric meters, and this practice is also recommended by the AWWA M6. He notes that the Commission has previously agreed that the use of statistical sampling of water meters was acceptable in Docket No. 08-0277.

With respect to sample size, Mr. Atwood states that the population sizes of 55 15-year old 5/8 inch water meters and 69 20-year old 5/8 inch meters are adequate based on the guidelines contained in Military Standard 105-D "Sample Procedures and Table for Inspection by Attributes" ("Mil Std 105"). He says the use of Mil Std 105 is required by Sections 500.215 (b) and (c) of Part 500 of the Rules, for sampling gas meters, and is allowed for sampling of electric meters in Section 410.180(a)(4) of Part 400 of the Rules. He explains that Section 500.215(b) and (c) require the use of Inspection Level II of Mil Std 105. Mr. Atwood asserts that Inspection Level II is considered by Mil Std 105 to be the level normally used; the resulting sample size required by a single sampling plan at Inspection Level II for meter populations ranging from 151 to 280 is only 32 meters.

As to water meter testing and test accuracy requirements, Mr. Atwood states that the 5/8 inch water meters were tested in accordance with Section 600.310 of the Rules, which includes certain requirements for testing cold water meters related to AWWA standards. He says that as required by Section 600.310, 5/8 inch water meters were tested at three different flow rates, a minimum flow rate of ¼ of a gallon per minute ("gpm"), an intermediate flow rate of 2 gpm, and a maximum flow rate of 15 gpm. He asserts that the test accuracy limits in Section 600.130 are:

	<u>NEW METERS</u>	<u>REPAIRED METERS</u>
MINIMUM RANGE	95-101.5%	90-101.5%
INTERMEDIATE RANGE	98.5-101.5%	98.5-101.5%
MAXIMUM RANGE	98.5-101.5%	98.5-101.5%

Mr. Atwood states that although the Rules do not specify accuracy limits for in-service meters that are removed for periodic testing, AWWA M6 recommends accuracy limits of 96-102% for normal test flow, and 80-102% for minimum test flow for displacement meters. His evaluation of the test results indicates that in both the 15-year and 20-year group, all meters except three untestable ones met the intermediate and maximum test flow rate accuracy limits for new or repaired meters in Section 600.310. The same meters also met the normal test flow rate accuracy limits in AWWA M6.

Mr. Atwood explains that in the 15-year group, eleven meters fell below the Section 600.310 95% test flow accuracy limit for new meters and four meters fell below the 90% accuracy limit for repaired meters in Section 600.310. In addition, he states two meters fell below the 80% accuracy limit in AWWA M6. In the 20-year group, thirteen meters fell below the 95% accuracy limit for new meters and five fell below both the 90% accuracy limit for repaired meters in Section 600.310 and the 80% accuracy limit in AWWA M6 for minimum test flow rate. He states that 80% of 15-year old meters

passed all of the accuracy limits for new meters and 92.7% of these passed all of the accuracy limits for repaired meters under Section 600.310. In addition he says that 96.4% of the meters passed all of the accuracy limits for in-service meters in AWWA M6. Of the 20 year old meters, he states that 81.2% passed all accuracy limits for new meters under Section 600.310, and 92.8% passed all accuracy limits for repaired or in service meters as required under Section 600.310 and the MWWA M6.

Mr. Atwood asserts that there are no guidelines or requirements in the Act or the Rules regarding an acceptable rate of passing for water meter testing. He says AWWA M6 suggests a water meter passing rate of 95% of the in-service accuracy limits for the minimum and intermediate test flow rates is acceptable. He states that, using Mil Std 105 as required by Section 500.215 for gas meters, the allowable number of defective meters for the 20-year sample size of 69 5/8 inch water meters used is twelve. In Aqua's case, once the two untestable meters are disregarded, 95.5% of 20-year old meters passed all accuracy limits for in-service meters in AWWA M6. Mr. Atwood states that the 20-year old meters tested easily meet the gas meter requirements found at Section 500.215 of the Rules, even when the two untestable meters are included.

Mr. Atwood raised one additional point. He states that Section 600.340 of the Rules also contains requirements based on the volume of water passed through a meter. The age and volume requirement for 5/8 inch water meters is ten years or 100,000 Cubic Feet ("CF"). In Aqua's case, the corresponding volumes registered for 15-year old meters is 150,000 CF and for 20-year old meters is 200,000 CF. He states that several meters in Aqua's study registered volumes in excess of the corresponding ages. As a result; he recommends Aqua actively track water meter registration volumes and replace or test meters once they reach 200,000 CF. In addition, he recommends that any 20-year old 5/8 inch water meters that are tested, reconditioned and returned to service in the Vermilion Division either be replaced with new meters; or tested, reconditioned and returned to service after an additional ten years of service or an additional 100,000 CF registered volume of water.

Mr. Atwood recommends that the Commission grant Aqua's request for a variance and authorize it to test 5/8 inch meters in its Vermilion Division on a 20-year schedule, rather than the 10-year schedule, as provided for in Section 600.340. He also states that Aqua should be given the option of replacing or servicing the meters. In addition, he recommends that subsequent to a 5/8 inch meter having reached the 20 year or 200,000 CF threshold and having been tested, reconditioned and returned to service once, it should be either replaced with a new meter; or tested, reconditioned and returned to service after an additional ten years of service or an additional 100,000 CF registered volume of water.

#### **IV COMMISSION ANALYSIS AND CONCLUSION**

Having reviewed the record, the Commission finds that Aqua's statistical sampling testing methodology is acceptable, and that the test results support the use of the requested variance of 20-year maximum testing intervals for 5/8 inch water meters, in the Vermilion Division, rather than the 10-year intervals provided in Section 600.340

of Part 600. The Commission has reviewed the request for confidential treatment and finds that it is appropriate to grant a two-year period of confidential treatment for the designated portions of Aqua Exhibits 1.1, 1.2, and 1.3. The Commission also finds that Aqua should be permitted to have the option of replacing the 20 year-old 5/8 inch water meters with new meters, without testing or of testing, reconditioning, and returning them to service, unless otherwise requested by the customer. The Commission agrees with Staff that Aqua should actively track water meter registration volumes. The Commission adopts Staff's recommendation that any 20-year old or 200,000 CF 5/8 inch water meters that are tested, reconditioned and returned to service in the Vermilion Division should either be replaced with new meters; or tested, reconditioned and returned to service after an additional ten years of service or an additional 100,000 CF registered volume of water. Accordingly, Aqua should be granted a variance from 83 Illinois Administrative Code Section 600.340, as set forth herein.

## **V. FINDINGS AND ORDERING PARAGRAPHS**

The Commission, having considered the entire record herein and being fully advised in the premises, is of the opinion and finds that:

- (1) Aqua Illinois, Inc. provides water and sewer public utility service to the public in certain areas of Kankakee, Vermilion, Champaign, Cook, Will, Boone, Knox, DeKalb, Kane, and Lake Counties in the State of Illinois, and is a public utility within the meaning of the Public Utilities Act, 220 ILCS 5/3-105;
- (2) The Commission has jurisdiction over the parties and the subject matter herein;
- (3) The recitals of fact and conclusions of law reached in the prefatory portion of this Order are supported by the evidence of record and are hereby adopted as findings of fact and conclusions of law;
- (4) as stated in the verified motion for confidential treatment and the prefatory portion of this order, portions of Aqua Exhibits 1.1, 1.2, and 1.3 contain confidential customer-specific information and should be given confidential treatment for a period of two years;
- (5) Aqua has shown that a 20-year testing period for 5/8 inch water meters is appropriate for the Vermilion Division;
- (6) in the Vermilion Division, Aqua should have the option of either replacing with new meters; or testing, reconditioning and returning to service, unless otherwise requested by the customer, 5/8 inch water meters that have reached a 20-year service life or registered a volume of 200,000 CF;
- (7) Aqua should track the volume of water registered by its 5/8 inch water meters in its Vermilion Division;

- (8) in the Vermilion Division, 5/8 inch meters which have already been tested, reconditioned and returned to service one time as a result of being 20 years old or having had 200,000 CF volume, should either be replaced with new meters or tested, reconditioned, and returned to service upon reaching an additional 10 years of service time or an additional 100,000 CF registered volume.

IT IS THEREFORE ORDERED by the Illinois Commerce Commission that Aqua Illinois, Inc. is granted a variance from the 10-year intervals provided in Section 600.340 of Part 600.

IT IS FURTHER ORDERED that Aqua Illinois, Inc. shall either replace with new meters; or test, recondition and return to service, unless otherwise requested by the customer, all 5/8 inch water meters that have reached a 20-year service life or registered a volume of 200,000 CF.

IT IS FURTHER ORDERED that Aqua Illinois, Inc. shall track the volume of water registered by its 5/8 inch water meters in its Vermilion Division.

IT IS FURTHER ORDERED that Aqua Illinois, Inc. shall either replace with new meters or test, recondition, and return to service all 5/8 inch meters which have already been tested, reconditioned and returned to service as a result of being 20 years old or having had 200,000 CF volume when they reach an additional 10 years of service time or an additional 100,000 CF registered volume.

IT IS FURTHER ORDERED that the portions of Aqua Exhibits 1.1, 1.2, and 1.3 are afforded confidential treatment, are exempt from public disclosure, and will be accessible only by the Commission and the Commission Staff until November 26, 2015.

IT IS FURTHER ORDERED that, subject to the provisions of Section 10-113 of the Public Utilities Act and 83 Ill. Adm. Code 200.880, this Order is final; it is not subject to the Administrative Review Law.

By Order of the Commission this 26th day of November, 2013.

(SIGNED) DOUGLAS P. SCOTT

Chairman