

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

Linda Beecham,)	
)	
Complainant,)	
)	
v.)	<u>File No. WC-2020-0181</u>
)	
Missouri-American Water Company,)	
)	
Respondent.)	

STAFF’S REPORT REGARDING METER TESTING

COMES NOW the Staff of the Missouri Public Service Commission, through counsel, and files *Staff’s Report Regarding Meter Testing* in response to the Commission’s September 29, 2020, and October 9, 2020, orders concerning whether Missouri-American Water Company (“MAWC”) tested Ms. Beecham’s water meter in accordance with 20 CSR 4240-10.030(38).

1. An evidentiary hearing was held in this matter on June 25, 2020. On September 16, 2020, the Commission reopened the record to admit MAWC’s evidence that with respect to Ms. Beecham’s meter, it either complied with 20 CSR 4240-10.030(39), or obtained a waiver.

2. On September 25, 2020, MAWC submitted the *Affidavit of Tracie Figueroa* and supporting documentation. Ms. Figueroa stated that Ms. Beecham’s meter was installed in 2007. Ms. Figueroa explained that MAWC personnel removed the meter and during a test on September 23, 2020, found that it operated within the parameters of 20 CSR 4240-10.030(37).

3. Ms. Figueroa further described in her affidavit that based upon the results of MAWC's meter studies, its 15-year meter change program ensures compliance with 20 CSR 4240-10.030(37) and that MAWC's Neptune meters are warranted to meet or exceed standards for 15 years.

4. On September 29, 2020, the Commission ordered MAWC to "clarify its previous response regarding its compliance with the 10-year inspection and testing requirement of 20 CSR 4240-10.030(38)." The Commission also ordered Staff to file "a report concerning MAWC's Affidavit" by October 15, 2020.

5. MAWC and Staff requested a one week extension of these deadlines, which the Commission granted on October 9, 2020.

6. Ms. Beecham filed a *Rebuttal to the Procedures of the Testing of My Meter* on October 13, 2020, stating that she is uncertain that the meter MAWC tested was the meter at her home. She also requested that her original meter be reinstalled.

7. On October 16, 2020, MAWC filed its *Response to Order Directing Filing* explaining that it complies with 20 CSR 4240-10.030(38) for a 5/8" meter, such as Ms. Beecham's, by utilizing a 15-year change program. The results of MAWC's meter testing support this schedule, because the meters meet or exceed accuracy standards.

8. Commission rule 20 CSR 4240-10.030(28) and subsection (A) thereof, provide:

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

9. This rule provides water utilities three paths for fulfilling its requirements regarding periodic meter testing. MAWC may satisfy the requirements of this rule by (1) obtaining a Commission order which allows it to test in a manner other than that described in this rule; (2) testing in compliance with subsections (A) through (D); or (3) demonstrating that its meters comply with 20 CSR 4240-10.030(37).¹ Staff will examine each phrase.

10. Unless ordered by the commission ... According to this phrase, the Commission may order testing in a manner not described in this rule. Staff is not aware of any Commission order regarding MAWC's 5/8" water lines. Staff reviewed the Commission's records – including microfiche records – for a waiver from this rule but could find none.

11. ... each water service meter installed shall be periodically removed, inspected and tested in accordance with the following schedule ... The second phrase of the rule refers to paragraphs (A) through (D). Paragraph (D), which is applicable in this matter, states that 5/8" meters automatically comply with the rule if they are inspected every 10 years or 200,000 cubic feet of water, whichever comes first. It does not appear that MAWC removes, inspects, and tests 5/8" meters within this timeline.

12. ... or as often as the results obtained may warrant to insure compliance with the provisions of section (37) of this rule: The last phrase provides water utilities flexibility to remove, inspect, and test its water meters at a schedule based upon testing results

¹ 20 CSR 4240-10.030(37) states, in part:

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.

that show its meters are operating with 5% or less error. MAWC states that its testing complies with this third path.

13. In its report, attached as Appendix A, Staff states that based upon the results of its meter studies going back to 1960, MAWC is meeting the requirements of 20 CSR 4240-10.030(38), because its meters are testing within the accuracy requirements of 20 CSR 4240-10.030(37). It is also Staff's opinion that MAWC has complied with 20 CSR 4240-10.030(38) with respect to Ms. Beecham's meter.

WHEREFORE, Staff submits *Staff's Report Regarding Meter Testing* for the Commission's information and consideration.

/s/ Karen E. Bretz

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CERTIFICATE OF SERVICE

I certify that copies of the foregoing have been emailed to all parties and/or counsel of record on this 23rd day of October, 2020.

/s/ Karen E. Bretz

STAFF'S REPORT CONCERNING MAWC'S AFFIDAVIT

Background

On December 20, 2019, Ms. Linda Beecham filed a complaint against Missouri-American Water Company (MAWC or Company). Generally, Ms. Beecham contested high water usage that occurred over several years. MAWC filed its answer and Staff filed its report: a resolution was not reached and a procedural schedule was ordered. MAWC submitted rebuttal testimony and an evidentiary hearing was held on June 25, 2020. The parties filed post hearing briefs and subsequently, the Commission ordered MAWC to file its records regarding whether MAWC complied with 20 CSR 4240-10.030 (38) with respect to Ms. Beecham's water meter. On September 29, 2020, the Commission ordered MAWC to clarify its response and for Staff to file a report concerning MAWC's affidavit. This Report is Staff's response.

Rule

The rule in question is 20 CSR 4240-10.030 Standards of Quality. The purpose of this rule is to prescribe the standard of quality of electric, gas, and water utilities. Specifically, 20 CSR 4240-10.030 (38) states:

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 sections (37) 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 whichever occurs first;
- (D) All meters above one inch (1") – every four (4) years.

This section also refers to 20 CSR 4240-10.030 (37). This rule states:

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.

This rule was originally effective March 15, 1953 and amended twice first effective October 1, 1959 and then finally effective on May 16, 1968.

Analysis

Subsection (38) of the rule provides three routes for compliance: a testing schedule ordered by the Commission; a testing schedule prescribed by the rule; or a schedule based upon testing results that insures compliance with the accuracy requirements of subsection (37) of the rule.

The purpose of Commission Rule 20 CSR 4240-10.030 is to prescribe the standards of quality for electric, gas and water utilities operating under the jurisdiction of the Commission; in ensuring these standards when it comes to a water utility's meters, Staff believes the primary question to consider is, what is the impact to service as the meter fails? Generally, based on numerous studies and Staff's experience working with water utilities, when meters begin to fail, the meter runs slowly. This means that actual amount of water that flows through the meter is greater than the amount of flow that the meter records. When this occurs, the customer is actually billed for less water usage than the customer actually consumed. In this scenario, this could be seen as a benefit to the customer and is a detriment to the company. Therefore, a utility has an incentive to ensure that its meters are recording usage correctly, to guarantee that it is able to be fully compensated for the water customers are actually using.

Another question that Staff considers is, what is the ultimate cost for the utility and its customers for the utility to comply with this rule? To meet the letter of the rule, the utility must make a trip out to the premise, remove the meter, and, as meter tests are not performed on site, take the old meter to a separate facility for testing. Thus, a new meter must be put in place to allow the customer to continue receiving service. Under the timeline for 5/8" meters prescribed by this rule, a residential customer would effectively be receiving a new meter every ten years, even if the meter was operating within the prescribed guidelines. Further, strict compliance with a ten year testing schedule, the utility would be pulling and testing, and potentially replacing, each meter every ten years (or on a set schedule to replace 1/10 of meters each year), regardless of whether those meters still read accurately. As utilities may have different needs based upon the specifics of its system, Staff understand the rule to allow a utility to test its meters in a manner that allows it to meet the accuracy requirements prescribed by subsection (37) of the rule as efficiently as possible.

Since 1968, there have been technological advances in the quality of meters. As of today, a standard 5/8" meter that is generally used for residential water usage has an average life of 15 to 20 years. Further, based on studies that Staff engineers have reviewed in the past, meters generally meet the standards of quality for at least 15 years, if not more. Staff is cognizant that although water meters generally last at least 15 years, with any mechanical device, some will fail earlier and some will continue operating beyond the average life.

Based on the fact that meters have an average life of around 15 years, the additional cost to the consumers of replacing and/or testing meters in a shorter time frame, and the fact that a failing meter generally benefits the consumer, a ten year cycle may not be the most efficient time period for meter replacement and testing.

MAWC's Program

The rule (subparagraph (38)) stipulates that the Commission can Order a different standard than the one that is included in the rule. The rule also contemplates that if a utility's meters can be shown to meet the standards in subparagraph (37), which sets out the flow requirements, then the utility may test their meters as often as necessary to ensure compliance. Based on studies dating back to 1960 performed by MAWC, and its predecessor company in the St. Louis County service area, St. Louis County Water Company, the company's meters have been shown to meet the general standards of quality set by the rule on a 15-year basis.

In case WO-97-488, United Water Missouri, Inc., the predecessor to MAWC providing service in the Jefferson City service area, asked the Commission for a variance from 20 CSR 4240-10.030 (38). This request was granted by the Commission. In the Order, the Commission discusses arguments made by United Water that are pertinent to this current proceeding. The arguments were that: (1) meters were maintaining accuracy longer; (2) United Water was experiencing a lower failure rate; (3) lengthening the time period would allow for the better use of the utility's labor. Staff, agreed with the utility and the Commission ultimately approved the request. Nothing further was noted in the case, but after case WM-2000-222, MAWC purchased United Water. This is an example of a water utility requesting a waiver from the rule. However, Staff does not believe that a waiver is necessary if a utility has a meter-testing program that shows compliance, such as the program MAWC has been utilizing.

Staff's Conclusion and Recommendation

Based upon Staff's experience, Staff's review of the rules, and the results of the various studies performed by MAWC's predecessor companies, it is Staff opinion that MAWC is currently meeting the requirements of 20 CSR 4240-10.030 (38). It is also Staff's opinion that MAWC has complied with 20 CSR 4240-10.030(38) with respect to Ms. Beecham's meter. The meter was installed in 2007, which means that it falls within MAWC's timeframe.

However, should the Commission believe a variance from the Rule is required for MAWC to utilize a schedule other than that prescribed therein, Staff would recommend the Commission direct MAWC to file a pleading requesting said waiver.