BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the Matter of a Request	)	
For Increase in Annual Water	)	**Case No. WR-2015-0246**
System Operating Revenues	)	
For Raytown Water Company	)	

NOTICE OF DISPOSITION

COMES NOW the Staff of the Missouri Public Service Commission, by and through counsel, and on behalf of Raytown Water Company, Inc. (Raytown), and for their *Notice of Disposition* in this matter hereby state:

1. Raytown filed a letter initiating its Small Company Rate Increase Application with the Commission pursuant to 4 CSR 240-3.050(2) on April 1, 2015. Staff filed a Small Utility Rate Case Timeline pursuant to 4 CSR 240-3.050(5) on April 6, 2015, establishing the procedural schedule.

2. Staff conducted an investigation and audit of Raytown pursuant to 4 CSR 240-3.050(6), complying with 4 CSR 240-3.050(9), the requirement to file a preliminary report within 90 days of filing, and 4 CSR 240-3.050(10), the requirement to file a settlement proposal within 120 days of filing. Staff has provided its findings to Raytown and the Office of the Public Counsel (Public Counsel).

3. On October 2, 2015, the Office of the Public Counsel requested a local public hearing, and on October 8, 2015, the Commission granted that request. A local public hearing was held October 22, 2015, revealing no material information to substantively change the original disposition agreement.

4. Subsequent to Staff's investigation, and through negotiations between Staff, Raytown and Public Counsel, Staff, Raytown and Public Counsel have reached an agreement as to all of the elements of the small company rate increase request. Attached to this pleading as Attachment A, and reflecting that agreement, is a disposition as approved by Staff and Raytown pursuant to 4 CSR 240-3.050(11).

5. The disposition includes expenses, revenues and rate base for the 12-month period ending December 31, 2014, and updated for all known, measurable and significant changes as of July 15, 2015. It reflects agreements reached between the parties as to appropriate accounting of company assets, payroll, structural updates, depreciation and customer rates. It provides for an increase of $447,005 to be added to the existing Missouri final adjusted jurisdictional revenues of $3,628,512 for an increase of 12.32% and total annual revenue of $4,075,517. The rate base agreed upon is $5,323,601 and the agreed upon capital structure is 82.16% equity with a return of 7.70%.

6. This disposition reflects updates to the water amounts with corrected proper usage. It also reflects that the Evanston House adjustment has been removed from plant.

7. Raytown will file proposed updated tariff sheets with the Commission pursuant to 4 CSR 240-3.050(14), which reflect the agreements set forth in the disposition and bearing an effective date of December 7, 2015. Raytown will also implement Staff's recommendations regarding the creation of new sub accounts

to track expenses relating to new services and regarding the recording of all depreciation expenses in Account 403. Final written notice of the rate revisions and tariff updates will be sent to the customers within Raytown's next billing cycle.

8. Staff has verified that Raytown filed its annual report and is current on payments of all annual assessments.

WHEREFORE, Staff recommends that the Commission approve this disposition as a final resolution of all matters of Raytown's Small Company Rate Increase Request; and grant such other and further relief as the Commission considers just in the circumstances.

/s/ Whitney Payne
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CERTIFICATE OF SERVICE

I hereby certify that a true and correct copy of the foregoing was served by electronic mail, or First Class United States Postal Mail, postage prepaid, on this 3rd day of November, 2015, to all counsel of record.

/s/Whitney Payne

APPENDIX A

CASE NO. WR-2015-0246

UNANIMOUS DISPOSITION AGREEMENT WITH ATTACHMENTS AND STAFF AFFIDAVITS

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Water and Sewer Unit

Report on System Operations

Raytown Water Company

Case No. WR-2015-0246

INTRODUCTION

The Water and Sewer Unit conducted an investigation of Raytown Water Company's (RWC) system operations and operations recordkeeping practices in the context of RWC's pending rate case before the Missouri Public Service Commission (PSC or Commission). The investigation was conducted by, and this report was prepared by, James Merciel, Curtis Gateley and James Russo. During a Staff visit to RWC on June 19, 2015, RWC stated that it has plans to obtain bond financing to undertake several capital improvement and rehabilitation projects. Although none of the costs of these projects are proposed to be included in this pending rate case, some of the planned projects to be included with this upcoming capital improvements program are important for system operations, and for that reason will be mentioned within this report.

WATER SYSTEM OVERVIEW

RWC has a described service area that includes approximately two-thirds of the City of Raytown, and also a small portion of the City of Independence, both of which are suburban communities near Kansas City, MO. RWC reported 6,611 metered service connections[1] in its 2014 annual report filed with the Commission, consisting of residential customers, small and large commercial customers, and private fire protection customers. RWC's source of supply is the City of Kansas City (KC), from which it purchases water through seven 6-inch metering points and one 4-inch metering point. RWC borders KC and its municipal water system on its north, east and west, and borders Jackson County Public Water Supply District No. 2, also a wholesale customer of KC, to the south. RWC's distribution system consists of cast iron and ductile iron pipe of 2-inch through 12-inch sizes, and galvanized iron and poly vinyl chloride (PVC) of the smaller sizes, 2-inch and less. RWC has three elevated storage tanks, totaling 2.5 million gallons volume. (Merciel)

SYSTEM CAPACITY EVALUATION

RWC's Water Purchase Agreement with KC, which expired in 2011 and is being renegotiated for renewal, contemplates purchase by RWC of up to 3 million gallons per day (mgd). RWC's maximum day demand is estimated by Staff to be approximately 1.2 to 1.5 mgd. Average day demand is approximately 1.1 mgd, according to information reported by RWC in its annual report. RWC has the responsibility to be able to take the amount of water it requires, by

[1] This customer count is snapshot at the end of the year 2014, and also there are variations in how to count customers; as a result, it is likely a different number will be used by the Auditing and Water and Sewer Units to calculate revenues and rate design.

constructing adequate metering points if necessary, with KC's approval. The amount of water that is available through the metering points is also subject to emergencies that could take place within KC's system, and actual flow capability. The actual source of supply capacity for RWC as a wholesale customer cannot be expressed as easily as for a water utility that operates a source facility such as a treatment plant or a series of wells. The reason for this is because the availability of water through the KC meters depends upon the localized hydraulic flow capabilities of both KC's and RWC's distribution systems, customer water-usage, and emergency events that take place within KC's water system such as main breaks and water flow for firefighting. Extraordinary usage such as this can affect available flow through several of the metering points at the same time. RWC has not studied flow testing of the metering points recently, if ever, either by hydraulic modeling, nor by actual flow with the metering points isolated. RWC has studied hydraulic modeling of its own distribution system in the past. Flow testing of the metering points probably is not necessary because of the apparent adequacy of the source of supply, and also due to the fact that it would be rather expensive to create hydraulic models to study both the KC and RWC distribution systems. Although variable hydraulic flow conditions through KC's and RWC's distribution pipelines is a factor, just simple water meter flow capacity of approximately 1,200 gallons per minute (gpm) for six-inch meters and 600 gpm for four-inch meters, would suggest source capacity of approximately 7 million gallons per day (mgd) available at most times even with several metering points shut off, exceeding RWC's current demand. Staff thus concludes that source capacity is adequate, absent highly unusual hydraulic limitation.

Water in storage tanks normally is used to supplement source capacity during peak-hour flow times during the day, and also to maintain a reserve for fire protection. Since RWC is a wholesale customer, its own storage on most days is a supplement to storage from KC's water system, which is available as well for peak flow and fire flow, again subject to unusual hydraulic flow limitations affecting flow through the metering points. However, since emergencies in KC and occasional flow limitations are in fact real considerations, KC requires all of its wholesale customers, RWC among them, to be able to meet their own flow requirements including their own emergencies and fire flows during the evening hours between 5:00pm and 11:00pm with all metering points shut off[2]. So, as a result, unlike storage capacity design for most other water systems, RWC's storage capacity is designed to meet all evening demand especially on peak days, plus fire reserve and other contingencies such as main breaks, without any flow through the metering points. The construction of an additional new storage tank for this purpose, along with distribution system upgrades to address flow throughout the RWC distribution system from the storage tanks rather than from the metering points, was addressed when this newly created turnoff provision was included with the renewed Wholesale Water Agreement in the early 1990s.

Staff takes the position that RWC has a sufficient source of supply capacity, storage capacity and distribution system capacity that is needed to provide safe and adequate water service. (Merciel)

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[2] This requirement is by the terms of RWC's 1991 Wholesale Water Agreement with KC. Construction of a new storage tank to comply with this requirement, and additional water mains to address associated distribution system hydraulics, were among the issues in Case Nos. WR-92-88 and WF-92-95.

SYSTEM OPERATIONS REVIEW

The KC metering points are owned by RWC, except for the meters installed in them. These facilities consist of concrete or mason vaults, inside which an operator may access valves and the meters along with associated components. RWC states that replacement of the meter vaults is one project intended to be included with its upcoming capital improvements program. The two newest vaults were constructed more than 23 years ago along with the distribution system improvements constructed at that time. The vaults are becoming obsolete, some are difficult to enter, and vault modernization will result in features such that both KC and RWC could read the meters remotely at any time, resulting in better monitoring of flows during peak usage or any other time, and remote valve operation by either KC or RWC.

RWC states that KC in fact occasionally shuts off individual metering points when KC experiences emergencies or when it has scheduled major repairs on its system. RWC also states that during times of normal water usage it sometimes chooses to turn off certain individual metering points on its own, in order to draw down water in its storage tanks. The reason for doing this is because normal flow available through the KC metering points can largely meet average and peak flows, and as such water does not flow out of the storage tanks to a significant extent. Aged water in storage tanks is undesirable from a drinking water quality standpoint, and for this reason, some percentage of storage water turnover, usually approximately 25% of the volume, is incorporated into water system design[3] and/or operations practices.

RWC utilizes a specialty contractor for storage tank maintenance. The contractor monitors tank condition, and undertakes minor and major repairs and rehabilitation when necessary. RWC states that the contractor provides excellent response when called upon. The storage tanks are in generally good condition. RWC's storage tank in the northern portion of its service area along East 51st Street has a leak at its control valve, called an "altitude valve," which is located in a vault near the base of the tank. Water from this leak, occasionally visible on the road surface, was reported by a customer in a Public Comment that was sent to the Commission in the context of this rate case. The correction of this problem is a major undertaking, and is planned to be included in RWC's capital improvements program.

RWC's elevated storage tanks have water level indicators. At present, an operator must go to each storage tank location to monitor water levels. RWC has remote indicators in its office that continuously indicate and record tank levels on circular paper charts, which it has used for many years; but these indicators are no longer working well, and are obsolete. RWC states that one of the projects to be included in its upcoming capital improvements program will be to convert the tank level indicators to electronic readout and recording. This will allow easier and more effective tank level monitoring, and allow electronic storage of tank level records.

As stated above, RWC's distribution system includes 2-inch galvanized iron water mains, most of which are located on cul-de-sac streets or other short, dead-end locations. Galvanized iron

[3] Water system design in Missouri most often follows the recommendations of the Missouri Department of Natural Resources *Minimum Design Standards for Missouri Community Water Systems*, publication number 2489, referred to as the "Design Guide". "One-quarter" turnover of the water in a storage tank is stated in Section 7.1.1.c. of the Design Guide.

was used as water main material many years ago, and like other water utilities that utilize this material, RWC's galvanized water main pipelines are old and corroded, with leakage and restricted flow problems. RWC has been replacing galvanized pipe in past years as funds are available, with either ductile iron pipe or PVC pipe of appropriate size needed for the specific location. RWC reported more than 13,000 feet of galvanized iron pipe in its 2004 annual report, and reported a little more than 4,000 feet in its 2014 annual report. RWC states that it plans to complete the remaining 2-inch galvanized iron replacements with the upcoming capital improvements program. RWC has also undertaken replacements of larger sized water main pipeline, often related to either valve or fire hydrant repair or installation, or in conjunction with other projects such as street work or the City of Raytown's downtown revitalization projects.

In addition to water main replacements, RWC modified its water service line rules several years ago, converting the portion of the water service pipe between the water main and the customers' property lines, defined as the "service connection," from customer ownership to RWC ownership. Essentially, when an existing customer-owned service connection requires repair or replacement, RWC steps in and undertakes the work, and then after replacement owns the service connection. The customer retains ownership of the service line between the property line and the premises. Several of the service connections that RWC has replaced involved removal of obsolete galvanized iron pipe. (Merciel)

OPERATIONS RECORDS

RWC contracted to create a Geographic Information System (GIS) record of its water mains along with locations of valves, fire hydrants and meter settings. Locations of these components are on photograph maps, both on paper and in electronic format that is available in the office on a computer or in the field on an electronic tablet.

In addition to locations on the GIS map system, fire hydrant inventory with information regarding the make, condition, and maintenance work is kept in paper form. RWC undertakes routine painting and maintenance checks every few years. Additionally, RWC states that it regularly corresponds with the city fire department, which is authorized to operate and test fire hydrants, and which keeps hydrant test flow records. RWC's communication with the fire department includes information regarding correct operation of fire hydrants; i.e. slowly opening and closing hydrants to prevent mechanical shock or water hammer, and to open hydrants completely[4].

Similar to hydrants, valve inventory is shown on RWC's GIS map system, but RWC also has paper records of valve location and operation with information regarding size, location, direction

[4] To prevent freezing, fire hydrants are drained after use by an underground orifice that remains normally open. As a hydrant is opened, water begins flowing not only out of the hydrant nozzle, but also under pressure out of the drainage orifice, in order to clear dirt and debris and allow drainage to occur. The orifice becomes closed when the hydrant is fully open. Proper operation requires the hydrant be fully opened so that the drainage orifice closes, because if water continually flows from the orifice while the hydrant is open, then the surrounding ground could become saturated, potentially compromising thrust block footing, which in extreme cases could cause the hydrant to blow off the water main.

and number of turns to open, normal position (open or closed), condition information of the valve and valve box, and date of exercise/inspection. Valves are inspected and operated as needed, and as such, there is not a regularly conducted valve exercise program. RWC states that it has identified several areas where additional valves are desirable, in order to reduce the number of affected customers when work is conducted in those areas. Installations of additional valves, in conjunction with new mains or main replacements, are future capital improvements to be included with the upcoming capital improvements program.

All RWC customers are metered. Meter records are kept by electronic database format that can be sorted for a necessary task, for example to look at meter/customer locations, meter serial numbers, meter size, and meter ages. RWC uses the meter size and age sort functions for the meter test/replacement program that meets the Commission's rule 4 CSR 240-10.030(38). This rule requires 5/8-inch meters, used on most residential and small commercial customers, to be tested or replaced every ten (10) years or 1.5 million gallons indication[5]. Larger meters are required to be tested or replaced on more frequent schedules and with greater registered volumes, based on size. Although in the past, water utilities including RWC would test and rebuild all meters on this schedule, now most utilities simply replace 5/8-inch and 3/4-inch size meters with new meters, because the low cost of new small meters makes simple replacement more economical. However, it is more economical to test and if necessary rebuild the larger meters of 1-inch and greater size, because these meters are more expensive, and because of the greater cost of more frequent testing. RWC's larger meters are aging past their useful lives however, and RWC has begun a program of replacing the larger-size mechanical displacement meters with meters that register usage using a principle of measuring the speed of sound through the flowing water. There are no moving parts in these new meters. The cost of the large meters that have already been replaced may be included in this rate case, but the cost of future meter replacements may be included with RWC's capital improvements program.

RWC manually reads most of its meters by opening the meter box lid, visually observing the reading and recording it, but for certain locations it uses "radio-read" meters. Radio read meters have an electronic wireless transponder that permits electronic reading and recording while driving by the location in a service vehicle, without the need for visual access or physical contact. Radio reads are currently used by RWC where access is dangerous or difficult, such as along busy streets or in potentially obstructed areas like parking lots. At the time of Staff's visit on June 19, 2015 RWC stated it had 6,071 visual read meters and 481 radio-read meters.

Because of RWC's proximity to its wholesale water provider, KC, there are some sections of KC's or RWC's water mains that are located generally along city limit boundaries in streets, with KC residents/customers on one side of the street and RWC customers as either City of Raytown or City of Independence residents on the other side. There are currently eleven (11) RWC customers who are actually connected directly to a water main owned by KC and served through KC meters, where KC bills RWC for water service and RWC bills each customer using its approved water rates. Additionally the opposite scenario exists; there are currently twenty-six (26) KC customers who are connected directly to a water main owned by RWC and served

[5] 1.5 million gallons over ten years is about 400 gallons per day average use. Residential customers typically use less than that, approximately 180 gallons per day. Therefore, the ten year period is almost always the test/replacement frequency applied to residential customers.

through RWC meters, where RWC bills KC for water service and then KC (presumably) bills its customers using its water rates. (Merciel)

OTHER OPERATIONS MATTERS

RWC, and the City of Raytown, have an agreement that provides for discontinuance of water service by RWC for nonpayment of sewer bills to the City of Raytown, which is the sewer utility. This activity is authorized by state statutes §393.015 and §393.016, and RWC tariff Rule 13 B.1. RWC states that the agreement is exercised routinely, and seems to be working well.

As a public water system that is subject to the Missouri Department of Natural Resources (DNR), defined in DNR's regulations at 10CSR 60-2.015(2)(P)8., RWC is required to comply with a number of regulations that pertain to drinking water quality. DNR conducted an inspection of RWC within the past year. RWC has a copy of DNR's inspection report readily available for reference, which is in notebook format. There are no violations, nor major compliance issues.

Among the DNR requirements directly affecting customers:

- RWC collects routine water samples for analysis of chemical and microbiological contaminant levels, as per 10 CSR 60-4.010 and 10 CSR 60-4.020. Other provisions of 10 CSR 60 Chapter 4, involving water quality, safety and characteristics, are undertaken by or with the cooperation of KC as the owner and operator of a surface water treatment facility.

- RWC is subject to public notice requirements of 10 CSR 60 Chapter 8 involving extraordinary conditions that adversely affect water quality, and also to annually publish a Consumer Confidence Report (CCR) that provides pertinent information to customers about the drinking water.

- RWC and some of its customers are required to comply with what is sometimes referred to as the "backflow prevention rule," in 10 CSR 60 Chapter 11, which outlines requirements for the installation and testing of backflow prevention devices to protect the public water system from contaminants flowing from customers' premises. RWC keeps records of customers required to install and regularly test backflow devices. The City of Raytown has ordinances pertaining to backflow rule compliance and can assist with enforcement if necessary.

- RWC is subject to DNR's Lead and Copper rule, 10 CSR 60 Chapter 15, as is KC as the water supplier. RWC has a sampling site plan for monitoring of lead and copper, and also provides information to customers since a major source of lead and copper contamination is within house plumbing fixtures.

This report is not intended to be an all-inclusive overview of DNR's regulations regarding water quality and monitoring, treatment facility and distribution system operator certification,

laboratory requirements, or construction approval. These items listed above are certain major points that directly involve customer service or impose requirements upon customers. (Merciel)

Tariff Review

Staff reviewed RWC's current tariff. Raytown's current tariff became effective December 21, 2012. Based on this review, Staff is recommending the Company update the tariff to align with the latest changes to 4 CSR 240 Chapter 13, by adding some definitions, clarifying a rule regarding service connections, and correcting some minor typographical errors. The most significant changes were in Rule 10 'Bill Adjustments Based on Meter Tests', and Rule 13, 'Discontinuance of Service by the Company'. Staff is not recommending changes to any service charges at this time. (Gateley)

Rate Design

Staff reviewed and discussed with the Company the current rate design. As a result of this review and discussions, Staff is not making any recommendations in this rate case that would change the existing rate structure. Currently, all of the Company's customers pay a monthly fixed customer charge and a commodity rate per thousand gallons of water consumed. (Russo)

Conclusion and Recommendations

Staff has no specific recommendations at this time for RWC regarding operations. Staff has not received any substantial number of customer complaints nor significant customer comments that would indicate shortcomings from an operations perspective. Staff notes that RWC appears to be undertaking adequate planning for future projects regarding repairs, rehabilitations and improvements that are necessary for continued safe and adequate service, but none of the projects are so critical as to be immediately needed.

The Staff of the Water and Sewer Unit makes the following recommendations:

- The Commission cancel the current water tariff PSC MO Number 5 1st revised sheet No. 3, and replace with 2nd revised sheet No. 3.
- The Commission cancel the current water tariff PSC MO Number 5 original sheet Nos. 2, 10, 11, 13, 15-17, and replace with 1st revised sheet Nos. 2, 10, 11, 13, and 15-17.
- The Commission cancel the current water tariff PSC MO Number 5 2nd revised sheet No. 9, and replace with 3rd revised sheet No. 9.
- The Commission approve the addition of water tariff PSC MO Number 5 original sheet No. 17A.
- The Commission cancel the current water tariff PSC MO Number 5 original sheet Nos. 18-19, 21, 23, 34, and 36-39, and replace with 1st revised sheet Nos. 18-19, 21, 23, 34, and 36-39.

- The Commission cancel the current water tariff PSC MO Number 5 original sheet No. 40, and replace with first revised sheet No. 40.
- The Commission approve the addition of water tariff PSC MO Number 5 original sheet Nos. 40A, 40B, and 40C.
- The Commission cancel the current water tariff PSC MO Number 5 original sheet No. 41, and replace with 1st revised sheet No. 41.
- The Commission cancel the current water tariff PSC MO Number 5 original sheet Nos. 42-45, and replace with 1st revised sheet Nos. 42-45.