

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

In the Matter of Missouri-American Water Company’s)
Request for Authority to Implement a General Rate)
Increase for Water and Sewer Service Provided in)
Missouri Service Areas)
File Nos. WR-2015-0301

MISSOURI DIVISION OF ENERGY’S INITIAL POST-HEARING BRIEF

COMES NOW the Missouri Division of Energy (“DE”), by and through the undersigned counsel, and for its *Initial Post-Hearing Brief* states:

Introduction

As explained in the direct testimony of DE witnesses Mr. Martin Hyman and Ms. Jane Epperson, there is a water-energy nexus involving the embedded energy used to pump, treat, distribute, and dispose of water and wastewater.¹ This nexus is acknowledged by the Missouri-American Water Company (“MAWC” or “Company”),² which incurs significant fuel and power expenses. A survey of the National Association of Water Companies’ members found that the average energy intensity of water processes, from water source or conveyance to distribution, was 2,300 kilowatt-hours per million gallons.³ A Congressional Research Service summary states that an estimated four to thirteen percent (4-13%) of national electricity generation may be used in such processes.⁴ Based on these considerations, it is clear that the promotion of water efficiency leads to the promotion of energy efficiency. Rate design considerations are crucial to creating efficient consumption outcomes.

District Consolidation/Consolidated Pricing

¹ Hyman, Direct-Revenue Requirement, p. 2-3.

² Kartmann, Corrected Direct, p. 32-33.

³ Hyman, Direct-Revenue Requirement, p. 2-3.

⁴ Ibid. at p. 3.

Should the Commission adopt the consolidation of districts proposed by Staff, the alternative consolidation proposed by MAWC, or maintain the status quo as proposed by OPC?

Due to significant and immediate bill increases to some customers under each of the consolidation proposals, DE does not endorse any of the specific consolidation proposals offered in this case, although DE does recommend that in determining which, if any, consolidation proposal is in the public interest that the Commission considers the bill impacts of the various consolidation proposals. The Commission has previously concluded that, “[u]nder the statutory standard of ‘just and reasonable’ it is the result reached not the method employed which is controlling. It is not theory but the impact of the rate order which counts.” In the Matter of Missouri-Am. Water Company’s Request for Auth. to Implement A Gen. Rate Increase for Water Serv. Provided in Missouri Serv. Areas, WR-2010-0131, 2010 WL 2547450 (Mo. P.S.C. June 16, 2010). In the present case, it is not any particular consolidation proposal that is inherently unduly discriminatory, but the effect of the rates under those proposals that may be unduly discriminatory. Therefore, the Commission’s decision to adopt any of the consolidation proposals must be made by determining which proposal best serves the public interest, which can only be accomplished by looking at the effects the resulting rates would have on customers. The public interest has been defined in various ways in past Commission cases. In one case, the Commission defined the public interest as follows:

The public interest is a matter of policy to be determined by the Commission. It is within the discretion of the Public Service Commission to determine when the evidence indicates the public interest would be served. Determining what is in the interest of the public is a balancing process. In making such a determination, the total interests of the public served must be assessed. This means that some of the public may suffer adverse consequences for the total public interest. Individual rights are subservient to the rights of the public. In the Matter of the Application of KCP&L Greater Missouri Operations Co. for Permission & Approval & A Certificate of Pub. Convenience & Necessity

Authorizing It to Acquire, Construct, Install, Own, Operate, Maintain, & Otherwise Control & Manage Elec. Prod. & Related Facilities in Certain Areas of Cass County, Missouri Near the City of Peculiar, EA-2009-0118, 2009 WL 762539 (Mo. P.S.C. Mar. 18, 2009)

DE acknowledges that rate consolidation generally may be effective in addressing public policy concerns, such as increasing the willingness of large companies to take over troubled systems, increasing the quality of service to such systems' customers, protecting customers from unreasonable rates in districts too small to be self-sustaining, and shielding customers from price volatility in districts in which new facilities are placed. However, rate consolidation can also exacerbate other public policy concerns by decreasing the correlation of rates to costs, decreasing economic efficiencies, and sending less appropriate price signals to customers. These conflicting public policy concerns must be weighed by the Commission to determine what level of consolidation is in the public interest.

In the Commission's Report and Order on Second Remand of the 2000 MAWC rate case, the Commission concluded that the "single tariff pricing" rates existing at the time that rate case was filed were both just and reasonable and complied with §393.130, RSMo. In Re Missouri-Am. Water Co., 200000366, 2007 WL 4302535, at *7 (Mo. P.S.C. Dec. 4, 2007). The Commission, quoting the Court of Appeals, stated, "... 'the Commission [can] select its methodology in determining rates and make pragmatic adjustments called for by particular circumstances'" (citation omitted). The Commission further quoting the Court of Appeals stated, "[T]he existence of another, even more mathematically precise method of achieving the constitution's purposes does not render the chosen method irrational for equal protection purposes. [R]ational distinctions may be made with substantially less than mathematical exactitude.'" Id. at *9 Therefore, a rate is not unduly discriminatory or prejudicial simply because a more precise calculation of the cost to serve a particular district or set of customers

exists. The Commission may rely on a less precise calculation of the cost to serve a district or group of customers in determining rates if the Commission sets out the public policy rationale for doing so. In the 2000 rate case, the Commission determined that the public interest considerations in favor of more specific pricing to each district outweighed the public interest considerations in retaining single tariff pricing; however, the Commission also stated, "... that the decision to move from single tariff pricing to district-specific pricing may be revisited in future cases as a matter of regulatory policy." *Id.* at *11. The Commission is not bound by past Commission decisions, but rather must weigh the evidence for and against the various consolidation proposals in this case to determine which level of consolidation is in the public interest.

As previously stated, DE does not endorse any of the specific consolidation proposals offered in this case. However, it is DE's position that the Commission's decision to adopt any of the proposed consolidation proposals must result from a determination of which proposal best serves the public interest – a determination which must be accomplished by looking at the effects the resulting rates would have on customers. One way of determining the impacts the resulting rates will have on customers is by reviewing the bill impact analyses filed in this case. DE recommends that, in determining which, if any, consolidation proposal is in the public interest, the Commission considers the bill impacts of the various consolidation proposals, as explained below.

Rate Design & Customer Charge

A. How should rates be designed?

DE recommends that within districts the residential volumetric rates resulting from the present case be uniform to better encourage efficient water consumption. DE also recommends

that the Commission open an investigatory docket to study the design, customer impact, and implementation of residential inclining block rates in MAWC's service territory, with the intended result being that such rates would be proposed and ultimately implemented in a future rate case. Finally, DE recommends that the Company's residential customer charges should be set at the minimum level required to recover dedicated, incremental customer-related costs.

The residential rate design considerations in the water sector are similar to those in the energy sector with respect to end-use efficiency. Rates should be designed considering not just cost-causation, but principles of equity, efficiency, and gradualism. Generally, higher customer charges decrease a customer's incentive to use water more efficiently since a customer charge does not change with the amount of water used.⁵ Similarly, declining block rate structures discourage efficient water use compared to uniform rate or inclining block rate structures.⁶ Theoretically, the ideal water rate design to encourage conservation and efficiency would involve low customer charges and inclining variable rate blocks.⁷ Rates should not be set in a manner which recovers all fixed accounting costs through customer charges (i.e., a "straight fixed variable" rate design) because of equity and efficiency concerns as well as cost-causative principles.

As previously noted, the Commission found that it, "... [can] select its methodology in determining rates and make pragmatic adjustments called for by particular circumstances." (citation omitted) Further quoting the Court of Appeals, "[T]he existence of another, even more mathematically precise method of achieving the constitution's purposes does not render the chosen method irrational for equal protection purposes. [R]ational distinctions may be made with substantially less than mathematical exactitude." In Re Missouri-Am. Water Co., 200000366,

⁵ Hyman, Direct-Rate Design, p. 3.

⁶ Ibid.

⁷ Ibid.

2007 WL 4302535, at *9 (Mo. P.S.C. Dec. 4, 2007). When developing rates, the Commission can make pragmatic adjustments to its preferred rate design in order to further public policy goals that were not considered by a particular rate designer. One example of a pragmatic adjustment would be to lower residential customer charges in order to relieve the burden on low use customers, promote efficiency of use, and encourage greater subscription to the system. An adjustment to the customer charge is permissible even if a more precise method of calculation exists, so long as the Commission sets out the rationale for the adjustment.

As Staff witness Mr. Busch stated, the allocation process to develop rates “is much more art than science.”⁸ Like art, much of rate design is at the discretion of the rate analyst. Nationally recognized manuals can give a rate analyst direction and guidance, but the analyst must ultimately exercise judgment in developing rates and charges. The Commission has to determine which rate design among those offered is most beneficial to the public interest as a whole while balancing various policy considerations.

DE generally supports MAWC’s proposal to eliminate declining block rates. Uniform volumetric rates can better encourage efficient consumption through a relatively simple and equitable design, and they provide a more gradual transition towards inclining block rates.⁹ Based upon DE’s residential volumetric rate comparison, the transition to residential uniform volumetric rates within districts seems to have a minimal effect on rate structures and customer bills in most instances, since residential customers currently tend to use water within the first rate blocks of their respective schedules.¹⁰ Although an eventual transition to inclining block rates would promote efficiency, a transition from declining block to uniform rates within districts in the current case would also accomplish this goal in a more gradual manner while avoiding rate

⁸ Busch Surrebuttal, p. 9.

⁹ Hyman Direct-Rate Design, p. 14.

¹⁰ Hyman Direct-Rate Design, p. 16.

shock.¹¹ Similar to DE's proposal, OPC's and Staff's witnesses both recommended the Commission open a rate design docket that could investigate different customer usage levels and the potential impacts of inclining block rates.¹²

DE performed a bill impact analysis of both MAWC's and Staff's rate design proposals under their respective consolidation proposals and revenue requirements. The purpose of a bill impact analysis is to determine the changes to customer bills as the result of changes in rates. While such an analysis is often based on the "average" customer's use, DE's bill impact analysis also takes into account customers who use more or less amounts of water to determine equity and efficiency impacts. DE's bill impact analyses found Staff's initial rate design proposal to be more in line with the principles of equity, efficiency, and gradualism; however, this observation may be due in part to the significant differences in Staff's and MAWC's initial revenue requirements. After the conclusion of the hearing, DE analyzed the bill impact analyses for MAWC's, Staff's, and OPC's respective consolidation proposals under the parties' agreed-upon revenue requirement.¹³ When analyzed under a common, higher revenue requirement, none of the proposed consolidations sufficiently address the principles of equity, efficiency, and gradualism. DE concludes that, generally, the bill impacts customers would experience under each proposed rate design would be inequitable for lower use customers in many districts, would affect the districts in disparate ways, and would not encourage efficiency of use in many instances. DE observed from the respective bill impact analyses for all three consolidation proposals that, in many districts receiving a rate increase, higher use customers would experience a lower percentage bill increase while lower use customers would experience a higher percentage bill increase in all three. Additionally, under all three consolidation proposals, in many districts

¹¹ Ibid. at p. 6.

¹² Tr. Vol. 18, p. 788; and 820.

¹³ These exhibits were marked as MAWC exhibits 48, 49, and 50.

receiving a rate decrease higher use customers would experience a higher percentage bill decrease, while lower use customers would experience a lower percentage bill decrease. The impacts are, in part, likely the result of the customer charge increases under all three proposals; customer charge increases tend to disproportionately impact lower use customers. The higher bill impacts on some lower use customers indicate that the proposed rate designs are not meant to encourage efficiency of use. Therefore, DE has not supported any specific rate design proposals in this case.

In conclusion, DE recommends that the residential volumetric rates resulting from the present case should be uniform within districts to better encourage efficient water consumption. DE also recommends that the Commission open an investigatory docket to study the design, customer impacts, and implementation of residential inclining block rates in MAWC's service territory, with the intended outcome being that such rates would be proposed and ultimately implemented in a future rate case. Finally, DE recommends that, under whichever consolidation proposal the Commission chooses, the residential customer charges should be set at the minimum level required to recover dedicated, incremental customer-related costs, as discussed in additional detail below.

B. How should the customer charge be adjusted?

If the Commission consolidates the districts as Staff proposes, DE recommends that the Commission approve the residential customer charges proposed in Staff's Report on Class Cost of Service and Rate Design.¹⁴ In the alternative, if the Commission consolidates the districts as proposed in the Non-Unanimous Stipulation and Agreement on Rate Design, District

¹⁴ Staff's CCOS Report, filed January 20, 2016, Schedule 2, pages 2-1, 2-2, and 2-3.

Consolidation and Sewer Revenue (“Consolidation Stipulation”),¹⁵ DE would not oppose the residential customer charge proposals made in that Stipulation. Compared to the Company’s proposal, both of these residential customer charge proposals better align the customer charge with dedicated, incremental customer related costs and further the goals of equity and efficiency. DE recommends that the Commission reject MAWC’s and Staff’s updated residential customer charge proposals, as they do not achieve the goals of equity, efficiency, or gradualism. MAWC’s and Staff’s proposals to significantly increase residential customer charges – coupled with their respective consolidation proposals – would create significant bill impacts that would be detrimental to customers. Specifically, the sharp relative increase in residential customer charges within some of the current districts could lead to rate shock and, particularly if residential volumetric rates were to be held constant or reduced, could result in less efficient customer choices regarding consumption.

As noted above, residential customer charges should be set at the minimum level required to recover dedicated, incremental customer-related costs. Customer charges should not be set to recover all fixed accounting costs (i.e., a “straight fixed variable” rate design) because of equity and efficiency concerns, as well as cost-causative principles. OPC agrees with DE that a lower customer charge gives customers more control over their bills, allows them to use water in a more efficient manner, and results in more equitable outcomes between customers with different levels of usage.¹⁶ Based on these considerations, it is DE’s position that, generally, only those dedicated, incremental costs of serving an additional customer should be collected in a customer charge.

¹⁵ The Consolidation Stipulation recommends a \$14.42 per month customer charge at the 5/8” meter size, a \$16.09 per month customer charge at the 3/5” meter size and an increase to all other customer charges proportionate to the overall revenue increase of 1.15%.

¹⁶ Tr. Vol. 18, p. 782.

The American Water Works Association publishes a cost allocation manual (“AWWA manual”) which is used as a reference guide for ratemaking in the water utility industry.¹⁷ The AWWA manual states that, “Fixed and variable charges as defined for rate design in a cost of-service water-rate analysis depart from standard or traditional accounting definitions of fixed and variable costs.”¹⁸ In a cost of service rate design, customer charges recover dedicated customer-related costs based either on the number of customers served by a utility or based on another “nonconsumptive” measure.¹⁹ The AWWA manual lists meter reading, billing, and meter and service line-related costs as typical costs which are included in customer charges. OPC’s witness Dr. Marke explained the difference between a dedicated customer-related cost and a fixed accounting cost when he stated that customer-related costs are those incrementally incurred by the utility to add one additional customer onto the system.²⁰ A meter is one example of such a cost.²¹ On the other hand, Dr. Marke explained that one more customer is not going to necessitate building another water treatment plant. A water treatment plant is a fixed accounting cost, and such costs should not be allocated within the customer charge in a class cost of service study since they are not dedicated, incremental customer-related costs.²²

Another example of a fixed accounting cost which is not a customer-related cost is uncollectable accounts expense. Uncollectible accounts expense is not a customer-related cost because uncollectable accounts expense generally varies with the level of revenue, not the number of customers. Therefore, uncollectible accounts expense should be recovered through

¹⁷ Ziebertz, Bill and Giardina, Rick. 2012. “Principles of Water Rates, Fees, and Charges.” American Water Works Association. AWWA Manual M1. Sixth ed. Denver: American Water Works Association.

¹⁸ Ibid, page 138.

¹⁹ Ibid, pages 137-138.

²⁰ Tr. Vol. 18, p. 783.

²¹ Ibid.

²² Ibid.

variable charges, which also change with the amount of usage.²³ Both MAWC and Staff included uncollectable accounts expense in their customer charge calculations. While uncollectable accounts expense is not the only misallocated cost assigned to the customer charge by MAWC and Staff, this particular cost is significant. MAWC claims \$3,423,934 in uncollectible accounts across all water districts for its cost of service during the test year, of which \$3,338,336 is allocated to its Rate A customers.²⁴ The uncollectible accounts total for all water districts represents 39.3 percent of the Company's total customer accounting expense.²⁵ MAWC witness Mr. Herbert claims that uncollectable accounts expense increases as a utility's number of customer accounts increases, and concludes from this claim that all customers should be responsible for uncollectible accounts expense equally – justifying his allocation of the cost to the customer charge. However, Mr. Herbert's incomplete analysis does not support his arguments. Stating that the residential class has the highest level of write-offs is not a demonstration of how cost allocation should occur, particularly since his analysis does not reference the number of customers per class, the volumetric sales per class, the revenues per class, or attempt to normalize the write-offs shown by any of these metrics.²⁶ While it may make some sense that a utility would have more uncollectable accounts expense as its number of customer accounts increases, such a trend does not automatically imply that all customers have an equal responsibility for that cost; in other words, correlation is not the same as causation. Mr. Herbert essentially states that a customer who uses 3,000 gallons a month should pay the same portion of uncollectable accounts expense as a customer who uses 6,000 gallons a month.²⁷ To the contrary, uncollectible accounts expense generally varies with the level of revenue and

²³ Hyman Direct-Rate Design, p. 13.

²⁴ Herbert, Schedule B, page II-6, columns 1, 3, and 4.

²⁵ Ibid, columns 1 and 3.

²⁶ Hyman, Surrebuttal, p. 21.

²⁷ Tr. Vol. 18, p. 579.

should be recovered through variable charges.²⁸ Put another way, the more of a commodity a customer uses, the more likely the customer will not be able to pay their bill. Given the AWWA manual's definition of customer costs in cost of service rate setting, a movement towards cost-of-service-based rates should not be conflated with a movement towards the recovery of fixed accounting costs through customer charges.²⁹

Staff's initially proposed residential customer charges, under its proposed district consolidation and the initial revenue requirement, generally achieve the goals of equity, efficiency, and gradualism.³⁰ However, Staff's initial customer charge calculations are not without flaws. Staff initially included approximately \$3,295,482 in uncollectible accounts expense across all water districts for its cost of service during the test year, of which approximately \$3,028,714 was allocated to MAWC's residential customers based on customer counts.³¹ As stated above, uncollectable accounts expense should not be included in the calculation of a customer charge because uncollectible accounts expense generally varies with the level of revenue (not customers) and should be recovered through variable charges, which change with the amount of use.³² Later in the case, Staff also made several modifications to its initial customer charge calculations in response to criticisms made by Mr. Herbert.³³ These changes exacerbated the problems with Staff's customer charge calculations by allocating additional costs to the customer charges. Many of these costs are fixed accounting costs that will not change directly with the number of customers served and are therefore more appropriately recovered through a commodity charge. As a result of its modifications, Staff's residential

²⁸ Hyman Direct-Rate Design, p. 13.

²⁹ Hyman Direct-Rate Design, p. 6.

³⁰ Staff's initially proposed customer charges for the 5/8" meter size are for its three zones are \$ 11.06, \$10.57, and \$9.32.

³¹ Staff's CCOS Report, filed January 20, 2016, Schedules 3-4 and 3-24

³² Hyman Direct-Rate Design, p. 13.

³³ Tr. Vol. 18, p. 795.

customer charge proposals are even higher than they would otherwise be under the agreed-upon revenue requirement. While the revenue requirement has increased from the one relied on by Staff in calculating its original customer charge proposals, taking into consideration Staff's additional allocation of costs that are not dedicated, incremental customer-related costs leaves one to conclude that Staff's original residential customer charge proposals are more reasonable than those which Staff later proposed.

If the Commission consolidates the districts as Staff proposes, DE recommends that the Commission approve the residential customer charges proposed in Staff's Report on Class Cost of Service and Rate Design.³⁴ These customer charges are more reasonable in that they are more closely aligned with only recovering dedicated, incremental customer-related costs and will more closely adhere to the principles of equity and efficiency. These customer charges will result in a customer charge reduction for the vast majority of MAWC customers, reducing the bill impacts of any approved rate increase for low-use customers and improving the price signal to use water efficiently. As a result of this residential customer charge recommendation, DE also recommends any approved residential revenue increase should be allocated to the residential commodity charge. In the alternative, if the Commission consolidates the districts as proposed in the Consolidation Stipulation³⁵, DE does not oppose the residential customer charge proposals made in the Consolidation Stipulation. These customer charges are reasonable in that, for at least for the 5/8" and 3/4" meter sizes, approximately eighty percent (80%) of MAWC customers currently pay this customer charge. The residential customer charge proposal in the Consolidation Stipulation would further the goals of equity and efficiency by reducing the bill

³⁴ Staff's CCOS Report, filed January 20, 2016, Schedule 2, pages 2-1, 2-2, and 2-3.

³⁵ The Consolidation Stipulation recommends a \$14.42 per month customer charge at the 5/8" meter size, a \$16.09 per month customer charge at the 3/5" meter size and an increase to all other customer charges proportionate to the overall revenue increase of 1.15%.

impacts of any approved rate increase for low-use customers, and would improve the price signal to use water efficiently. As a result of this recommendation, DE would also recommend in this instance that any approved residential revenue increase should be allocated to the residential commodity charge.

Low-Income Tariff

Should the Commission adopt a low-income tariff for MAWC?

MAWC proposed a low-income tariff in the surrebuttal testimony of Company witness Jeanne Tinsley. The low-income tariff would provide an eighty percent (80%) discount on the monthly customer charge to qualifying customers.³⁶ In order to be eligible for the low income tariff, water customers would have their income verified through application for, or participation in, the Missouri Low Income Home Energy Assistance Program (LIHEAP).³⁷ DE agrees with MAWC in principle that discounting the fixed charges for low income customers helps keep essential water service affordable to qualified customers while sending appropriate price signals through the volumetric charge.³⁸

The low-income tariff is similar to other Commission-approved pilot programs for Missouri's investor-owned electric utilities. In case number ER-2010-0036, the Commission approved a low-income assistance pilot program for Union Electric Company d/b/a Ameren Missouri ("Ameren").³⁹ The Ameren low-income program offered bill credits to customers who were LIHEAP eligible.⁴⁰ This Commission has also recently approved the continuation of

³⁶ Tr. Vol. 18, p. 5.

³⁷ Tr. Vol. 18, p. 841.

³⁸ Tinsley Surrebuttal, p. 5.

³⁹ Order Approving Second Stipulation and Agreement, Third Stipulation and Agreement, and Market Energy Prices Stipulation and Agreement, ER-2010-0036, April 14, 2010.

⁴⁰ Staff Recommendation to Approve Low-Income Pilot Program Tariff Sheets, ER-2010-0036, July 22, 2010.

Kansas City Power & Light's ("KCP&L") Economic Relief Program, which provides bill credits to low-income customers in KCP&L's service territory.⁴¹

At the hearing, both Chairman Hall and Commissioner Kenney expressed an interest in a low-income tariff and commended MAWC for the proposal. While the administrative details of such a proposal will need to be further fleshed out, there is no need for the Commission to wait until MAWC's next rate case to approve a low-income bill credit tariff if MAWC can book the costs of the program to a deferral account, as the Company proposes, to be reviewed in its next rate case. If the Commission believes that affordability of water is an issue that needs to be addressed, and that a low-income tariff bill credit could help alleviate some of the burden of water bills, then the Commission may approve the bill credit amount, eligibility requirements, and accounting treatment; the Commission may also order the Company, staff, and other interested parties to meet to work out the administrative details of the pilot program.

The purpose of pilot programs is to evaluate the effectiveness of different types of programs with an established sunset date. While there are advantages to a long-term approach to helping low-income customers with their water bills, if the program is successful, then the Commission may always approve the continuation of the program and build the cost of the program into rates in a future case. DE believes that the pilot program has the potential to help low-income customers with water affordability and is therefore worth pursuing on a pilot basis.

WHEREFORE, DE respectfully files its *Initial Post-Hearing Brief*.

Respectfully submitted,

/s/ Alexander Antal

⁴¹ Report And Order, Er-2014-0370, September 2, 2015.

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CERTIFICATE OF SERVICE

I hereby certify that true and correct copies of the foregoing have been emailed to the certified service list this 8th day of April, 2016.

/s/ Alexander Antal