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Public Service Commission of Wisconsin
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BEFORE THE

PUBLIC SERVICE COMMISSION OF WISCONSIN

Application of Milwaukee Water Works, Milwaukee County, Wisconsin, for Authority to Increase Water Rates	)	**Docket 3720-WR-108**

Rebuttal Testimony of Philip Q Hanser

1. INTRODUCTION AND SUMMARY

Q. Please state your name and business address.

A. My name is Philip Q Hanser. My business address is 44 Brattle Street, Cambridge, MA 02138.

Q. Are you the same Philip Q Hanser who previously submitted direct testimony in this proceeding?

A. Yes. My direct testimony was filed in this proceeding on June 4, 2014.

Q. What is the purpose of your rebuttal testimony?

A. I have read the direct testimony simultaneously submitted by MWW and other parties to this proceeding. The purpose of my rebuttal testimony is to respond to certain issues raised in the parties' direct testimony.

Q. Please provide a summary of your rebuttal testimony.

A. My rebuttal testimony addresses three issues: demand ratios, allocating the cost of fire protection, and allocating the cost of MWW's water mains.

First, witnesses for the wholesale customers recommend that demand ratios should be reset to the approach or values used in the last rate case (3720-WR-107).[1] MWW has proposed using demand ratios developed on the basis of a new demand study carried out after the last rate case.[2] In my opinion, neither approach is optimal. Demand ratios should be based on forecast usage or system design parameters, since the system is operated, maintained and expanded to meet expected future flows.

Second, witnesses for the wholesale customers recommend that the cost of providing fire flows should be allocated solely to the retail customer base, with no fire flow costs allocated to wholesale customers.[3] It may be correct that wholesale customers should pay a smaller proportion of the costs of fire flows than retail customers, but that is exactly what MWW already proposes—wholesale customer fire flows are charged "system" costs but are not charged any distribution costs, which saves the wholesale customers about 60% in fire flow costs compared to what they would pay if wholesale and retail customers

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[1] Direct-Wholesale Customers-Rothstein-14 (PSC REF#: 205715) and Direct-Wholesale Customers-Planton-12 to -14 (PSC REF#: 205719)

[2] Direct-MWW-Cramer (PSC REF#: 205694), Direct-MWW-Wright (PSC REF#: 205691), Direct-MWW-Granum (PSC REF#: 205697), and Ex-MWW-Wright-2 (PSC REF#: 205539).

[3] Direct-Wholesale Customers-Rothstein-24 to -27 (PSC REF#: 205715) and Direct-Wholesale-Kaempfer-2 (PSC REF#: 205718).

were charged in the same way. In my opinion, MWW's proposed allocation of fire flow costs is not unreasonable.

Third, witnesses for the wholesale customers recommend that the cost of MWW's water mains should be split between distribution and transmission on the basis of undepreciated original cost.[4] I disagree with this recommendation because undepreciated original cost is unrelated to the going-forward cost of providing service, particularly since original cost for long-lived assets like water mains will be very different for similar assets installed at different times. I am also concerned that MWW is proposing to charge industrial retail customers a significant share of the cost of distribution mains and wholesale customers none of the cost of distribution mains when neither group uses the bulk of the smaller distribution mains.

Q. Having reviewed the direct testimony of MWW and the other parties, have you substantively revised any of the opinions expressed in your direct testimony?

A. No.

Q. How is the rest of your rebuttal testimony structured?

A. In section 2 I discuss demand ratios. In section 3 I address fire protection costs. I analyze the allocation of MWW water mains cost in section 4.

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[4] Direct-Wholesale Customers-Rothstein-14 to -16 (PSC REF#: 205715) and Direct-Wholesale Customers-Planton-4 to -8 (PSC REF#: 205719).

2. DEMAND RATIOS

Q. What is the significance of MWW's demand ratios?

A. As I explained in my direct testimony, demand ratios are important in determining the allocation of costs to different cost functions and ultimately to different customer classes. The additional cost of providing the capacity to supply peak flows at times of high demand is allocated to those additional flows, and customers that tend to consume more water at times of peak demand are charged a higher proportion of that extra cost.

Q. Did you agree with the approach proposed by MWW?

A. No. I was (and am) concerned that MWW's demand study is not allocating enough cost to peak flows.

Q. What is the basis of your concern?

A. As I explained in my direct testimony, efficient pricing should be based on forward-looking costs. In particular, a forecast of future usage of the network should be used to determine cost allocation, not historical usage patterns. The network is designed and maintained to meet *future* peak flows. The price that a particular customer pays should therefore relate to the cost of providing service to that customer in the future.[5] If a particular historical year or set of years happens to have shown a different pattern of consumption than the

[5] Subject to the requirement that the total revenue should allow the utility to recover all prudently-incurred costs. Efficient forward-looking prices may have to be adjusted in order to meet this requirement.

expected future pattern of consumption that the network must be able to meet, that should not change prices.

Q. Do witnesses for the wholesale customers share your concerns?

A. No. Witnesses for the wholesale customers have technical concerns about the demand study.[6] As a result, these witnesses do not support the system and customer demand ratios suggested by the authors of the demand study. Instead, witnesses for the wholesale customers recommend that MWW revert to the demand ratios used in the last rate case.

Q. In your opinion, would it be better to use demand ratios from the last MWW rate case?

A. No. I recommend that forward-looking ratios should be used. These would be based either on forecast flows or system design parameters.

3. FIRE PROTECTION COSTS

Q. Have you reviewed the contention of witnesses on behalf of the wholesale customers that wholesale customers should not pay the costs of fire protection?

A. Yes.

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[6] Direct-Wholesale Customers-Rothstein-4 to -14 (PSC REF#: 205715) and Direct-Wholesale Customers-Planton-8 to -14 (PSC REF#: 205719).

Q. Do you agree that wholesale customers should pay nothing towards the cost of fire protection?

A. If it is the case that MWW does not provide fire protection to the wholesale customers, those customers should not pay for a service that they are not receiving. However, my understanding is that MWW does in fact provide fire protection service, albeit of a different nature than the fire protection service that is provided to retail customers. Therefore I do not agree with the witnesses for the wholesale customers.

Q. In what way is the service provided to wholesale and retail customers different?

A. According to witnesses for wholesale customers, if a wholesale customer requires water for fire-fighting, that water is provided from the MWW water supply system as it is for MWW's retail customers. However, the ability to deliver the very high flow rates needed for fire-fighting is provided by the wholesale customer's distribution system, not by MWW's distribution system as it is in the case of MWW's retail customers.[7]

Q. Is this difference reflected in MWW's cost of service proposal?

A. Yes, I believe so. Wholesale customer fire flows are charged "system" costs but are not charged any distribution costs. As a result, wholesale customers are charged about 60% less than they would pay if they were charged on the

[7] Direct-Wholesale Customers-Behm-3 to -5 (PSC REF#: 205713) and Direct-Wholesale-Kaempfer (PSC REF#: 205718).

same basis as retail customers for the same volume of fire flow.[8] Because of this, I believe that MWW's proposed allocation of fire flow costs to the wholesale customers is not unreasonable.

Q. Is MWW proposing to allocate the costs of fire protection in proportion to population?

A. No. If the allocation between retail and wholesale customers was on the basis of population, wholesale customers would pay much more than MWW is proposing (MWW is proposing fire protection costs that are 60% below this level for wholesale customers).[9]

4. THE COST OF MWW'S WATER MAINS

Q. How is MWW proposing to allocate the cost of its water mains?

A. One step in the process of allocating the cost of water mains is to determine how much cost is related to transmission mains (the larger pipes) and how much is related to the smaller distribution mains. This is important because the cost of transmission mains and distribution mains are subsequently allocated in different proportions to different customer classes. For example, wholesale customers do not pay any of the costs associated with distribution mains.

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[8] See Ex.-MillerCoors-Hanser-3, Allocation of Fire Protection Costs.

[9] See Ex.-MillerCoors-Hanser-3, Allocation of Fire Protection Costs.

Q. What has MWW proposed for allocating costs between transmission and distribution?

A. MWW proposes that the total cost should be allocated on the basis of "inch-feet". Under this approach, for example, one foot of 8-inch pipe would be allocated the same cost as four feet of 2-inch pipe.

Q. What have witnesses for the wholesale customers proposed?

A. Witnesses for the wholesale customers have proposed that the division of costs should be on the basis of original cost. Under this approach, one foot of 8-inch pipe installed in 1960 for $100 (1960 dollars) would be allocated the same cost as one foot of 2-inch pipe installed in 2010 for $100 (2010 dollars).

Q. Do either of these approaches make sense?

A. The approach recommended by witnesses for the wholesale customers does not make sense because it uses undepreciated original cost. Thus, for example, two identical pipes installed decades apart would be allocated very different costs (because of inflation) even though they provide exactly the same service. In contrast, MWW's approach would treat the two pipes exactly the same. MWW's approach makes sense if the cost of maintaining, replacing and extending the pipeline network going forward involves costs that are proportional to inch-feet (i.e., to pipeline length multiplied by diameter).

Q. Why is it important that costs be allocated on the basis of the going-forward cost of maintaining, replacing and extending the network?

A. If prices are based on the forward-looking costs of providing service, customers will make efficient investment and consumption decisions.

Q. Do you have other concerns about how the costs of MWW's mains are allocated?

A. Yes. I do not understand why a significant portion of the costs of distribution mains are allocated to large industrial customers.

Q. Is the distribution system used to provide service to large industrial customers?

A. Large industrial customers typically connect "high up" in the distribution network, by which I mean that they connect to the larger diameter pipes which are topologically close to the transmission mains. In contrast, smaller customers connect "lower down", because they are supplied through smaller-diameter pipes. Large industrial customers therefore only make use of that part of the distribution system that consists of larger-diameter pipes.

Q. Does MWW's proposed allocation of costs reflect the fact that large industrial customers use only a portion of the distribution network?

A. No. Large industrial customers pay a proportion of the costs of the entire distribution network, in the same way that smaller customers (including households) pay a proportion of the costs of the entire distribution network.

Q. Do wholesale customers pay the same share of the costs of the distribution network as do large industrial customers?

A. No. Wholesale customers pay nothing towards the cost of the distribution network.

Q. Is that because wholesale customers connect only to transmission mains, and therefore do not use the service provided by the smaller distribution mains?

A. I do not know the technical details for supplying the wholesale customers from the MWW network. However, I understand that the wholesale customers are supplied via meters that range in diameter from 6 inches to 12 inches. Transmission pipelines are those 16-inch and larger.[10]

Q. How is MillerCoors supplied from MWW?

A. I understand that MillerCoors is supplied via an 8-inch meter.[11]

Q. How is West Allis supplied?

A. I understand that West Allis is supplied through four 8-inch meters.[12]

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[10] Direct-Wholesale Customers-Planton-5 (PSC REF#: 205719).

[11] Live Revenue Requirement-Cost of Service-Rate Model dated 5/30/14 and served on parties on 5/31/14 (PSC REF#: 205627), tab “Attach1”.

[12] Live Revenue Requirement-Cost of Service-Rate Model dated 5/30/14 and served on parties on 5/31/14 (PSC REF#: 205627), tab “10 Meters”.

Q. Do West Allis and MillerCoors pay the same contribution towards the cost of MWW's distribution system?

A. No. West Allis pays nothing towards the cost of the MWW distribution system. In contrast, MillerCoors pays the same proportion of the cost of the distribution system as do all other retail customers (before taking into account customer demand ratios).

Q. How much of the cost of the distribution network is accounted for by mains of different sizes?

A. On the basis of MWW's inch-feet methodology, approximately 24% of MWW's distribution network is smaller than 8 inches, 27% is larger than 8 inches, and the remaining 50% is 8 inch mains.[13] Customers like MillerCoors that connect through an 8-inch meter make no use of mains smaller than 8 inches. Assuming that customers like MillerCoors use half of the 8-inch mains in addition to their use of the 27% of mains that are larger than 8 inches, I estimate that only slightly more than half of the total cost of the distribution network is accounted for by pipes that provide service to customers such as MillerCoors ((50% ÷ 2) + 27% = 52%).

[13] See Ex.-MillerCoors-Hanser-4, Distribution Main Sizes

Q. How much of the rates paid by the different customer classes is accounted for by the costs of distribution mains?

A. The urban industrial class pays about $2.4 million per year towards the cost of distribution mains. On a volumetric basis, I estimate that the urban industrial class pays about $0.60 per 100 cubic feet towards the cost of distribution mains. The urban residential class pays about $0.70 per 100 cubic feet.[14] The wholesale customer class pays nothing. If, as I have estimated, customers such as MillerCoors that connect via an 8-inch meter use only about half of the distribution network, I would expect them to pay about half as much towards the distribution network costs as the residential customers do (or less than half given that the residential customer load is more peaky).

Q. Is it good practice to allocate costs only for mains which are used to provide service?

A. Yes. Other water utilities use this approach, and I note that the American Water Works Association manual recommends this.

> In establishing customer classes, water utilities consider similarity of service characteristics, demand patterns, and whether service is provided both inside and outside the city (jurisdictional) limits. Service characteristic differences may be illustrated by recognizing that customers using treated water require facilities that raw-water customers do not need. Similarly, large-volume industrial customers, wholesale customers, and other large users tend to be

[14] See Ex-MillerCoors-Hanser-5, Distribution Main Costs – Volumetric Basis.

served directly from major treated water transmission mains, whereas smaller users are served by both large and small mains. Utilities must sometimes consider this factor when establishing customer classes and their costs of service.[15]

Q. Does this complete your rebuttal testimony?

A. Yes.

[15] *Principles of Water Rates, Fees, and Charges – Manual of Water Supply Practices*, 5th edition, American Water Works Association, p.63 (see Ex-MillerCoors-Hanser-6).