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Case No.: WR-2011-0337
SR-2011-0338
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MISSOURI PUBLIC SERVICE COMMISSION

CASE NO. WR-2011-0337

REBUTTAL TESTIMONY

OF

KARL A. MCDERMOTT

SUBMITTED ON BEHALF

OF

Missouri-American Water Company

JANUARY 19, 2012

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

IN THE MATTER OF MISSOURI-AMERICAN WATER COMPANY FOR AUTHORITY TO FILE TARIFFS REFLECTING INCREASED RATES FOR WATER AND SEWER SERVICE	)))))	CASE NO. WR-2011-0337 CASE NO. SR-2011-0338

AFFIDAVIT OF KARL A. MCDERMOTT

Karl A. McDermott, being first duly sworn, deposes and says that he is the witness who sponsors the accompanying testimony entitled "Rebuttal Testimony of Karl A. McDermott"; that said testimony and schedules were prepared by him and/or under his direction and supervision; that if inquires were made as to the facts in said testimony and schedules, he would respond as therein set forth; and that the aforesaid testimony and schedules are true and correct to the best of his knowledge.

Karl A. McDermott

"OFFICIAL SEAL"
BRADLEY M. KRALL
Notary Public, State of Illinois
My commission expires 01/04/15

State of Illinois
County of Champaign
SUBSCRIBED and sworn to
Before me this 18th day of January 2012.

Notary Public

My commission expires: 01/04/15

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KARL A. MCDERMOTT
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KARL A. MCDERMOTT

I. INTRODUCTION

Q1. Are you the same Karl A. McDermott who submitted pre-filed direct testimony in this matter?

A. Yes.

II. PURPOSE AND SUMMARY OF TESTIMONY

Q2. What is the purpose of your rebuttal testimony?

A. I have been asked by Missouri-American Water Company (MAWC or Company) to respond to the direct testimony of parties in this case regarding the Company's proposed Consolidated Tariff Pricing (CTP). In particular I will respond to, or comment on, parts of the direct testimony from Mr. James A. Busch (Busch, Dir.), Ms. Barbara A. Meisenheimer (Meisenheimer, Dir.), Mr. Donald E. Johnstone (Johnstone, Dir.) and Mr. Michael P. Gorman (Gorman, Dir.).

Q3. What were your conclusions in your direct testimony concerning the Company's proposed CTP?

A. I concluded that CTP provides significant public policy benefits to consumers, MAWC, and to the Missouri Public Service Commission (MPSC or Commission) and should be approved.

Q4. Would you please summarize the arguments the parties raise in opposition to CTP?

A. There are several stated reasons for the opposition, but at the core of the opposition is the concern that CTP does not follow cost of service principles. (Johnstone Dir., 8:19-23; Meisenheimer Dir., 13:12-17; Gorman Dir., 4:16-23) This concern appears to be rooted in the proposition that there is no common cost structure across MAWC's service territory. (*See e.g.,* Gorman Dir., 4:6-15) Using this assumption, some conclude that pricing based on something other than a district-specific cost of service will distort the price signal to "high-cost" areas raising demand in those areas and causing all rates to increase. (Gorman Dir., 5:1-8) Others claim that CTP will cause the Company to excessively invest in some districts. (Meisenheimer Dir., 4:15-17; Gorman 5:11-20) There is also a claim that CTP will inappropriately support Company growth strategies by removing the incentive for due diligence and shifting costs from newly acquired properties to existing customers. (Gorman 5:22-6:4; Johnstone 4:7-13)

Q5. Has any of the testimony provided by the witnesses you cited above changed your opinion?

A. No. The major problem with this opposition is that it is focused on a narrow interpretation of cost of service ascribing accuracy to such exercises that simply is not there. An embedded cost of service study (ECOSS) is a static engineering study of the accounting costs of providing water service. For major cost items such as overhead or corporate costs; such studies rely on the judgment of the analyst and on allocation methods that, as Staff has noted, are laborious and

problematic. (Busch Dir., 7:8-13) ECOSSs, by themselves, can neither provide proper policy guidance nor provide the proper economic understanding of the system. (Of course, the allocation of overhead costs to districts must occur before the class ECOSS is completed.) ECOSSs are useful to provide guidance on setting rates, and in many cases are used, more or less, directly to set rates. However, without judicious interpretation and wise application relying solely on an ECOSS output can lead to poor policymaking. Further, two of the witnesses cited agree that at least some degree of consolidation can make sense. (Meisenheimer Dir., 14:3-7; Busch 6:21-9:7) The major problem with this approach is the bright-line that seems to be drawn between what is and what is not a "significant" cost differential between districts. Any attempt to set such a bright line is fraught with ambiguities and arbitrariness. Indeed the witnesses' testimony has reinforced my initial conclusions that CTP is beneficial from a policy perspective and the arguments opposing CTP largely result from narrow special interests or an over-reliance on a narrow and strict interpretation of cost of service.

III. CONSOLIDATED TARIFF PRICING HAS BEEN INCREASINGLY ADOPTED BY STATE REGULATORS IN RESPONSE TO POLICY AND OTHER CONCERNS

Q6. Ms. Meisenheimer has presented a table from the 1999 EPA CTP Report cited in your direct testimony which outlines the numerous arguments in favor and opposed to consolidated tariff pricing. (Meisenheimer Dir. Sch. BAM DIR 2). How should the Commission view this evidence?

A. By itself the table does exactly what Ms. Meisenheimer intended; which is to summarize the arguments both pro and con. The table, however, does much more than that, especially when combined with the evidence I provided in my direct testimony on the adoption of CTP across the country. (*See* Exhibit KAM-3 and the surrounding discussion.) First, it is important to note that this table is the crux of the issue before the Commission. CTP has both pros and cons and this is why I testified in my direct testimony that this issue involves a policy decision. The Commission has to weigh the pros and cons to determine if CTP is right for MAWC's customers. The table itself does not provide a relative weighting of the arguments, but it is interesting to note that the basic arguments against CTP, which I will address below, relate to the theoretical concepts behind cost of service and cost-based pricing, including efficiency implications. The arguments in favor or CTP, however, are larger policy issues such as the mitigation of rate shock, providing incentives for consolidation of water utilities, improving the service quality and affordability for all consumers. This table provides, in short-hand form, the decision facing the Commission. Does the Commission wish to promote minimum service standards and access to clean, affordable water or does it wish to stick to narrowly defined cost of service concepts?

III. COST OF SERVICE CONCERNS SHOULD NOT PREVENT THE COMMISSION FROM ADOPTING CONSOLIDATED PRICING

Q7. Would you please summarize the issue concerning cost of service?

A. The basic notion is that the costs of providing service, including expenses, are not similar enough across districts to warrant consolidation. (Meisenheimer Dir., 14:11-15:16; Gorman 4:6-23; Johnstone 4:21-5:16)

Q8. What evidence is provided to conclude that the cost of service does not support consolidated pricing?

A. The evidence is summarized by Ms. Meisenheimer in her Exhibit BAM DIR-3. This exhibit shows the rate base and expenses per customer in nineteen districts based on Staff's accounting data. (Meisenheimer Dir., 14:11-19) (The districts are: Brunswick, Jefferson City, Joplin, Mexico, Parkville, St. Joseph, St. Louis Metro, Warrensburg, Warren County, Lake Taneycomo, Lakewood, Loma Linda, Maplewood, Ozark Mountain, Rankin Acres, Riverside Estates, Roark, Spring Valley, and White Ranch.)

Q9. What does this evidence show?

A. Perhaps not surprisingly, it shows that per customer rate base and expenses vary across districts.

Q10. Is this evidence dispositive of the issue of rate consolidation?

A. No. First, it is hardly surprising that one would find variation in per customer costs across such a wide service territory. Some districts have large number of customers others have a small number. We would find a similar variation if the cost study were broken down by neighborhood or by individual customer. Consider a customer that lives on top of a hill versus one that lives at the bottom. The cost per customer of the rate base to support these two customers would vary dramatically. Yet no one in this proceeding is calling for individual cost of service

and pricing which is entirely appropriate due to the high administrative cost of attempting such an exercise.

Second, it is not clear to me that calculating expenses and demand costs per customer, as Ms. Meisenheimer does, is the appropriate measure of unit costs. Expenses tend to be associated with throughput and rate base such as pipes and treatment plants tend to be related to peak demand, not customers. For example, consider Town A with 100 residential customers and one large industrial customer and Town B with 100 residential customers and no large industrial customers. We would expect that the cost per customer in Town A would be different than Town B, yet that finding has nothing to do with unit costs, rather it has to do with total costs.

Third, even if we accept Ms. Meisenheimer's approach, the differences in expenses per customer are, on balance, caused by the difference in allocated overhead costs (i.e., Administrative and General or A&G costs). For example, using the data from Ms. Meisenheimer's exhibit I found that in all but four districts A&G expense makes up over half of the total O&M expenses per customer (excluding depreciation and amortization expense). Further, I calculated the mean expenses per customer and the differences between the mean and the actual for each district. With the exception of Warren County, the A&G costs make up between roughly 35% and over 1000% of the difference between the mean for the entire system and the district overall O&M costs per customer.

Moreover, allocating A&G costs between districts is fraught with problems and difficulties as Mr. Busch notes. (Busch Dir., 7:9-13) Basing a policy decision on costs that are, at best, educated guesses seems somewhat arbitrary.

Fourth, investment costs appear to be largely driven by transmission and distribution (T&D) investment costs and not water treatment and source of supply as some in this case appear to argue. With the exception of Warren County, Rankin Acres, and Spring Valley, T&D investment costs are well over 50 percent of the total rate base per customer. This should not be surprising either. T&D investment costs can vary depending on the density of customers, the distance between load and supply, and the age of the assets, but again, this is true even within a district. For example, suppose that MAWC replaced a water main in an area whose average age of pipe was 60 years. The people served by the new main now appear to have a high (historic, depreciated book) cost per customer of investment simply because they happened to live on the block where the main was replaced. I don't think anyone is suggesting that the cost of service be disaggregated to reflect those costs, but none-the-less according to cost of service principles the costs are different, and perhaps "significantly" different among customers depending on where they live in a district. Mains are replaced all the time and over the entire service territory. Regulators have averaged the costs of mains across the entire service territory for several good reasons that I discussed in my direct testimony. CTP does nothing more than what regulators have been doing for 100 years.

Finally, there is a practical hurdle in applying district-specific pricing. How does the Commission determine what makes a "significant" enough difference to warrant a separate district. I will address this issue in more detail in response to Staff's proposal below, but here I note that the other parties have not provided any guidance on this issue other than to note that the costs appear to differ between districts. Yet every conceivable metric one might use to make this judgment has a flaw. If one only looks at percentage differences in costs that does not take into account the absolute difference. If one tries to group areas by geography that does not take into account the possibility that two systems in different areas of the state could have exactly the same costs. Further, should we review marginal or embedded costs? Embedded costs have the advantage of being audited, but have no economic meaning. Marginal costs have the advantage of meaningfulness, but are generally not used in setting rates in the water industry. These hurdles are not insignificant and therefore it does not make sense to attempt to define the undefinable.

Q11. Mr. Gorman claims that there is "no common or economic cost structure" across the districts. (Gorman 4:6-7) How do you respond?

A. It seems to me that Mr. Gorman makes two different claims here. First, he claims there is no common cost structure. While I do not know what he means by "common" I suspect he is referring to the age and type of assets (and in turn expenses). If assets are fully depreciated in one area and relatively new in another, one could claim those are not common cost structures. (For example, Ms. Meisenheimer calculates that per customer depreciation and amortization at

somewhere between 3 and 4 percent of the per customer rate base in a district. Those districts with higher rate base, per customer, are going to have higher depreciation and amortization expense, but on the margin the depreciation and amortization expense is roughly the same across the entire territory.) To the extent that this type of commonness has any meaning it is demonstrably true that assets are of different vintage throughout the MAWC system. But Mr. Gorman must also admit that this can be true within districts as well. MAWC replaces mains and upgrades systems on a continual basis through its system. Indeed, even within a district MAWC may have multiple sources of supply. To arbitrarily ignore that fact in order to support district-specific pricing reveals the weakness of the argument. Mr. Gorman, however, makes a more appropriate argument by claiming that the economic cost structure differs. If this were true, in any significant way, then Mr. Gorman would have a stronger argument. When Mr. Gorman uses the term "economic" he must be referring to the marginal cost as that is the economic cost that is important for evaluation of "commonness." Marginal cost is the change in total cost as output changes and is the opportunity cost faced by the Company when deciding to serve an additional customer or gallon of water. Marginal cost does not refer to the historic depreciated cost and therefore to determine the "commonness" of the economic cost structure the historic or embedded accounting costs are of no use. As I will discuss below, it seems unlikely that the marginal cost of hooking up an additional customer to the system differs much across the system. As for the source of supply, water treatment, and transmission and distribution (T&D) the marginal cost of these

may differ slightly, but providing water from a well or a surface source largely costs the same on an on-going basis. Furthermore, it is my understanding the Company purchases T&D equipment for the system centrally and therefore the marginal cost of a main is nodifferent in St. Louis as it is in St. Joseph. (It is also my understanding that the T&D marginal costs may be slightly higher in the St. Louis district due to paving and other additional requirements. If anything, however, this suggests that St. Louis County is the "high cost" area, quite different from what most of the parties are suggesting.) There may be some marginal costs that do differ. For example, electricity costs may differ throughout the state. There may also be some variation in labor costs and there may be slight differences in treatment costs. Yet these are hardly what I would call the most important costs of the system. As I noted above T&D investment is the most important rate base cost and A&G is the most important O&M expense. Mr. Gorman's claim that the economic costs are not similar is largely not true for MAWC.

Q12. What other evidence might be useful for the Commission to use in making this determination that Ms. Meisenheimer does not cite?

A. Certainly costs are important, but prices and bills are also an important element of the discussion. Mr. Williams provided an exhibit in his direct testimony that provides a bill analysis under both CTP and district-specific pricing. (Schedule DRW-2) The Schedule shows that, while residential customers in a few districts would see moderate increases in bills above the district-specific level, in many cases customers would see dramatic decreases in prices relative to district-specific

pricing. For example, Rate A 5/8" metered customers using 3,000 gallons per month in Brunswick would see a 76 percent reduction in rates relative to district-specific pricing and roughly a 50 percent decrease from current rates which is $89 a month less than district pricing. It is true that a few areas will have higher prices, for example, the same customer in Maplewood taking monthly service would see a roughly 40 percent increase over district-specific pricing or about $8 a month. When viewed through the lens of what matters to customers—their total bills— the CTP proposal appears to significantly reduce the burden on some customers, while only moderately increasing the burden on others. For the lager customers we find similar results. Nearly all of the districts will see double digit percentage **reductions** in monthly bills under CTP for the largest customers (4,000,000 gallons a month). MAWC witness Mr. Herburt provides a more concrete example of this phenomenon. (Herburt Reb.)

A final piece of information that is helpful to put this discussion in context is Ms. Meisenheimer's Table 4. (Meisenheimer Dir., 10) In this Table she provides her class cost of service study results for the customer charge (i.e., the fixed monthly charge). Ms. Meisenheimer claims that these figures only include those costs that are "directly related to the number of customers." (Meisenheimer Dir., 9:9-10) Presumably this includes only those costs and investments that can be associated with adding another customer to the system. For example, this would include the cost of the meter, the services to bring the water into the customer's premise, and the associated expenses. (I understand this does not include an allocation of A&G costs.) From an economic perspective, the (marginal) cost of any given meter is

roughly the same everywhere, and the marginal cost of adding a new home to the system is roughly the same everywhere, and the expenses are probably similar as well. Yet Ms. Meisenheimer's table shows wide variation in the costs to serve the same residential customer depending on the district. For example, in Jefferson City Ms. Meisenheimer claims that the (monthly) customer costs are only $4.05 for residential customers and $6.02 for commercial customers whereas in Brunswick the same customers have costs of $14.26 and $20.37, respectively. Now it simply cannot be the case that the economic price signal for adding another customer to the system differs that much between these two districts. That is, it cannot cost 3.5 times more to hook up a residential customer in Brunswick than Jefferson City. One can only get such results by using a historic, depreciated cost analysis. While such studies are commonly used, here is an example where such a study cannot provide the correct pricing signal and the cost analyst and the regulator must make a decision as to what weight one puts on "cost of service" versus other legitimate goals of ratemaking.

Q13. Are you suggesting that the Commission abandon use of embedded cost studies?

A. No, that is not the purpose of this testimony. ECOSSs have been used for many years in guiding class allocations of cost and for setting rates. My point, however, is that the use of ECOSSs have limitations and especially in this case where we are not necessarily discussing the allocation of cost between customer classes but between geographical regions of a service territory.

Q14. What other arguments do the parties raise based on cost of service principles?

A. The basic notion is that if the Commission does not follow cost of service principles, then price signals will be distorted and that will lead to excess investment and subsidization of high cost customers by low-cost customers. (Gorman 3:4-5, 5:2-8; Johnstone 1:20-24)

Q15. What is your response to these arguments?

A. As an economist I am sympathetic to concerns about sending poor price signals to customers, but no one in this case has provided an appropriate cost study to make such technical economic conclusions concerning the price signals contained in the Company's proposal. Economists do not consider embedded cost the appropriate price signal for economic efficiency as embedded costs do not calculate economic costs (i.e., marginal costs). Any discussion of economic efficiency requires an understanding of the marginal cost of service. While it sounds reasonable to suggest that if a new water treatment plant is built for a particular district those customers should pay for that plant, that conclusion is not based on economic principles it is based on regulatory concepts of cost-causation and fairness. One could just as easily argue, and I believe more persuasively, that if one wishes to take fairness into account the CTP proposal provides a much fairer mechanism as all customers of a particular class are treated the same. Additionally, it is hard to imagine that the marginal cost of providing service to customers is much different between geographical regions, even those with different sources of supply. This leads to another problem with the conclusions of those who argue that some

customers are subsidizing others when employing CTP. Without a marginal cost study such conclusions are pure speculation and if the marginal cost of service is roughly the same for all customers CTP does no worse than district-specific pricing at avoiding subsidies. In fact, it could be that CTP does a better job of approximating the marginal cost-based price signal by sending the same price signal to the entire service territory.

Q16. Mr. Gorman claims that customers in "high-cost" areas will use "too much" water under the proposed CTP causing costs for the entire system to increase. (Gorman Dir., 5:1-8) How do you respond?

A. First, I take exception to the premise of Mr. Gorman's contention that there are "high-cost" areas and "low-cost" areas. This contention is based solely on the embedded cost of service which does not necessarily reflect the economic cost of providing service. Second, even if one can get past the economic problem raised by depending on embedded costs, I do not know if this is true and neither does Mr. Gorman. This is an empirical question that cannot be answered with certainty today. Indeed, economists find it extremely difficult to determine the price-only effects of changes in pricing structures as opposed to other factors that may cause people to consume more or less water. (Many other factors affect water usage for residential customers other than price including the number of people living in the house, the age of these people, the number and type of bathing equipment, swimming pools, the amount of rainfall, etc. For industrial customers price is likely more important than for residential customers but there too water usage depends on other factors, such as the customer's production process.) It may well

be that the elasticity effect of a price decrease will cause people to change their behavior in such a significant way that the Company will be inundated with demand and have to increase investment to meet all the new demand. Probably, however, other factors that affect demand will outweigh the relatively minor elasticity effects. In fact, water usage per customer has been on a declining path for nearly 20 years nationwide and is expected to decline over time as efficiency measures are continually applied.[1] Moreover, if Mr. Gorman is correct then it should work the opposite way for those customers that face a price increase. These customers should reduce usage causing the Company to save on expenses and perhaps even avoid some new investment. It is impossible to tell ahead of time if price changes alone will increase or decrease total costs due to changes in water consumption.

Q17. How do you respond to those who claim that CTP will result in higher levels of investment than otherwise would be the case? (Meisenheimer Dir., 4:15-17; Gorman 5:11-20)

A. As a matter of efficiency this assertion is nearly impossible to evaluate as the parties provide no mechanism as to why the Company should invest inefficiently. Further, prices are not based on marginal cost and no party has proposed that prices be based on marginal cost; as a result the same claim could be made of district-specific pricing. (Although no one has made this claim.) Therefore as a matter of the "science" there is no way to evaluate the allegation and associate it solely with the CTP proposal. I suspect, however, the parties are not thinking of

[1] *See e.g.*, "North American Residential Water Usage Trends Since 1992," a report sponsored by the Water Research Foundation and the US Environmental Protection Agency, 2010.

efficiency in the technical economic sense, rather they are thinking about it as a matter of embedded costs (which has no economic meaning). For example, consider a small rural district that needs a large investment to bring its water quality up to an acceptable average standard of service. Under district-specific pricing it may be rate-prohibitive to make the investment (i.e., rates would increase to unacceptable levels) but under CTP the investment could be made as the costs could be spread over the entire customer base. Those opposed to CTP will claim that such an investment is excessive as it would not occur under district-specific pricing. That is one rule that one could use to judge the appropriateness of the investment. Another, and more common rule, is the prudence rule. The prudence rule asks if the investment was necessary to provide adequate, reliable, and cost-effective service to customers and if the work was done in a reasonable manner. If the Commission determines that customers in rural areas should not be provided the same level of service as those in other areas it could determine that the investment was excessive and disallow it no matter what the pricing mechanism. Moreover, under CTP one might expect that investment will increase somewhat over district-specific pricing as the Company attempts to provide a more standard level of service quality in its entire service territory. Indeed, this is one of the policy benefits of CTP as I discussed in my Direct Testimony. Such investment is not efficient or inefficient in any accepted definition of the term "efficiency." The investment would be undertaken as a matter of the policy of the Commission to provide standard service across the entire state. (Whether that policy is stated or implicit in the rulings of the

Commission over time.) Finally, the same arguments can be made within a district. If the cost of service was disaggregated sufficiently within a district, one could always find "excessive" investment. Perhaps this is why regulators tend to use the prudence rule as opposed to the "comparison with disaggregated pricing" rule to determine the appropriateness of investment.

Q18. Do any of the parties address the issue of consolidation of water assets?

A. Yes. There appears to be two separate issues concerning consolidation. First, Mr. Gorman claims that CTP will reduce the incentive to perform due diligence in acquiring new water properties. (Gorman Dir. 5:22-6:4) Second, Mr. Johnstone suggests that MAWC may be using the CTP proposal to hide underperforming acquisitions. (Johnstone 9:20-22)

Q19. How do you respond?

A. Mr. Gorman asserts that the incentive to undertake due diligence is "greatly" reduced. While I do not know how Mr. Gorman defines "greatly," such an assertion must be backed up with fact and Mr. Gorman provides none. Further, this concern *assumes* the Commission is unable to determine if the Company has properly expanded its system and cannot properly determine the prudent level of costs to include in the Company's rates. This, however, is the role the Commission plays in regulating public utilities and I expect the Commission will continue to play that role in the future. Having said that, I fear that Mr. Gorman's comments could be interpreted to mean that a larger water utility should be

prevented from acquiring small water systems that are too small to support the necessary investment alone. Yet this is the one of the reasons for moving to a CTP policy and apparently one that Staff supports, at least in part. (Busch Dir. 9:1-7) Often small water systems have problems maintaining high quality drinking water due to the high cost of investment; CTP is one method of providing for recovery of costs over a larger customer base such that all customers may reap the benefits of high quality water, not solely those lucky few that live in so-called "low-cost" areas. This is the crux of the issue before the Commission: Should the Commission rule that anyone who lives in a small town or an area that is not physically interconnected to MAWC's other assets should never expect to have the same quality of water as those in larger regions? This approach runs contrary to the traditional approach taken to public utility regulation.

Mr. Johnstone's concern is similar to Mr. Gorman's claim, but his argument that CTP would "automatically guarantee MAWC's earnings by subsidizing growth," is simply incorrect. (Johnstone Dir., 10:4) MAWC's return is currently and will for the foreseeable future be regulated by the MPSC. Having said that, it could be that MAWC would acquire underperforming assets in the future; indeed, it is likely that smaller water companies will underperform and that is the very reason for a policy such as CTP to help provide incentives for investment in local areas that are likely to be underserved. That is neither inefficient nor somehow contrary to free enterprise (to the extent that a regulated utility can be considered "free" enterprise).

IV. STAFF'S PROPOSED CONSOLIDATION MOVES IN THE RIGHT DIRECTION BUT IS UNNECESSARY

Q20. What is your understanding of Staff witness Mr. Busch's rate design proposal?

A. Mr. Busch has proposed that the Commission move to a "hybrid" rate structure that is neither district-specific nor fully consolidated. (Busch Dir. 9:8-10:1) Under this approach the current districts would be consolidated into three areas based roughly on geography and Staff's evaluation of the operating characteristics of the districts.

Q21. What is Mr. Busch's rationale for moving toward a hybrid system?

A. Mr. Busch makes arguments similar to those I have made in my direct testimony and expanded on in my rebuttal. (Busch 6:21-9:7) While I will not repeat all of Mr. Busch's well-founded arguments, in particular, it is worth re-iterating two of the arguments. First, Mr. Busch recognizes the difficulty in allocating overhead costs to the different districts. (Id. 7:8-83) Second, Mr. Busch notes the difficulty small water systems have in undertaking the required investment and notes that private water companies, such as MAWC, may be the one of the few entities capable of providing the needed investment. (Id. 8:8-11, 8:21-9:7) Mr. Busch then notes that moving away from strict district-specific pricing may encourage more private investment in the water systems in Missouri. (Id.)

Q22. Do you have any comments on Mr. Busch's proposal?

A. Yes. I commend Mr. Busch for recognizing the problems that the state faces in attracting water investment. These are real problems that require regulatory

support to address. However, for all of the reasons Mr. Busch cited, as well as my discussion of the issue, Staff's proposal seems unnecessary. Maintaining three districts moves sufficiently away from district-specific pricing that the relatively minor move to full consolidation or a single tariff does not seem too much of a movement. Further, without any real economic benefit, in terms of pricing, from maintaining three districts the movement to a single tariff should be undertaken in this case. Finally, as I noted above, any method of grouping districts will, by necessity have flaws. Again, while I understand Mr. Busch's rationale, it too has flaws that unnecessarily complicate the tariffs.

Q23. How does Mr. Busch propose to group districts for the purpose of cost of service and rate design?

A. Mr. Busch maintains that the approach is based on the cost causation principles underlying district-specific pricing. (Busch 10:5-6) This approach groups districts that have similar sources of supply together and also takes into account geography. (Id. 10:8-10)

Q24. What districts does Mr. Busch propose to group together?

A. District 1 would include St. Louis and Jefferson City largely because these two areas obtain water from surface sources and are grouped together by MAWC for operational purposes. District 2 includes all water systems that obtain water from alluvial (shallow) wells and also exhibits similar grouping for operational purposes. District 3 includes districts that mostly obtain water from deep wells and also exhibits similar grouping for operational purposes.

Q25. What flaws do you see in Mr. Busch's proposed water districts?

A. First, it must be understood that any grouping of districts will have flaws. It is a difficult task because the economic costs structures of the system are so similar. Second, it is not clear to me that the source of supply is an appropriate metric to distinguish the districts. While it is true that sources of supply differ from surface sources to wells (deep and shallow), from the accounting data presented by Ms. Meisenheimer, with a few exceptions, the rate base per customer for source of supply is typically less than 20 percent of total rate base per customer. Further, under Staff's proposed District 1 Warren County and St. Louis would be grouped together. Warren County is one of the exceptions with source of supply representing 48 percent of its total rate base per customer whereas St. Louis has roughly 1 percent. Looking at expenses, again, with a few exceptions, the sources of supply expenses tend to be less than six percent of overall O&M expenses per customer (in the typical district source of supply expenses is less than one percent of total O&M expenses per customer). Hardly significant enough to warrant the use of source of supply expenses to distinguish between districts. Finally, the data shows that the T&D rate base per customer and A&G expense are by far the most important factors in the overall accounting costs in each district. As I noted above, from a marginal cost perspective the T&D costs are probably similar across the entire territory (with some exceptions) and the A&G costs cannot be directly assigned to any one district and must be allocated. Again, not a very trustworthy way to distinguish among districts. Furthermore, when the A&G and T&D expenses are added together, those two factors represent roughly 60 percent or more of total per customer O&M expenses in all but two districts and for the

typical district those two expenses represent roughly 75 percent of expenses. It seems a bit like the tail wagging the dog to focus the distinction between districts on source of supply when those costs are relatively unimportant to the overall cost structure even on an embedded cost basis.

Q26. What is your conclusion concerning Staff's proposed hybrid approach?

A. While I commend Staff for considering the larger policy issues concerning the rate structure, I conclude that using source of supply as the distinguishing factor in grouping districts is not very meaningful. From the perspective of administrative ease, if the Commission determines that consolidation is appropriate it is unnecessary to make a decision concerning what factors do or do not make a district similar or not similar to another district; the Commission should approve overall rate consolidation as proposed by the Company.

Q27. Does this complete your rebuttal testimony?

A. Yes.