

Exhibit No.: _____
Issues: Cost Allocation/Rate Design
Witness: Paul R. Herbert
Exhibit Type: Rebuttal NON PROPRIETARY
Sponsoring Party: Missouri-American Water Company
Case No.: WR-2010-0131
Date: April 15, 2010

MISSOURI PUBLIC SERVICE COMMISSION

CASE NO. WR-2010-0131

REBUTTAL TESTIMONY

OF

PAUL R. HERBERT

ON BEHALF OF

MISSOURI-AMERICAN WATER COMPANY

JEFFERSON CITY, MISSOURI

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)	CASE NO. WR-2010-0131
RATES FOR WATER AND SEWER)	CASE NO. SR-2010-0135
SERVICE)	

AFFIDAVIT OF PAUL R. HERBERT

Paul R. Herbert, being first duly sworn, deposes and says that he is the witness who sponsors the accompanying testimony entitled "Rebuttal Testimony of Paul R. Herbert"; 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.


Paul R. Herbert

Commonwealth of Pennsylvania
County of Cumberland
SUBSCRIBED and sworn to
Before me this 14th day of April 2010.


Notary Public

My commission expires:

COMMONWEALTH OF PENNSYLVANIA
Notarial Seal
Cheryl Ann Rutter, Notary Public
East Pennsboro Twp., Cumberland County
My Commission Expires Feb. 20, 2011
Member, Pennsylvania Association of Notaries

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JEFFERSON CITY, MISSOURI

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WITNESS INTRODUCTION

5
6

1. Q. Please state your name and address.

7
8

A. My name is Paul R. Herbert. My business address is 207 Senate Avenue,
9
10 Camp Hill, Pennsylvania.

11

2. Q. By whom are you employed?

12
13

A. I am employed by Gannett Fleming, Inc. as President of the Valuation and
14
15 Rate division.

16

**3. Q. Are you the same Paul Herbert that submitted direct testimony in this
17
18 proceeding?**

19
20

A. Yes, I am. My direct testimony and exhibits were submitted with the
21
22 Company's filing on October 29, 2009.

23

4. Q. What is the purpose of your rebuttal testimony in this proceeding?

24
25
26

A. The purpose of my rebuttal testimony is to address the cost of service
allocation and rate design issues presented in the testimonies of Staff witness
James Russo, Office of Public Counsel (OPC) witness Barbara
Meisenheimer, MIEC witness Michael Gorman and AGP witness Donald
Johnstone.

5. Q. How have you structured your rebuttal testimony?

A. First, I will discuss and explain key differences between the cost allocation
studies I prepared and those of Staff and Public Counsel and certain
allocations presented by MIEC. Then I will address the rate design issues
proposed by Staff and AGP.

1

2 **REBUTTAL OF COST OF SERVICE ISSUES**

3 **6. Q. Please address the cost allocation issues presented by MIEC witness**
4 **Mr. Gorman.**

5 A. Mr. Gorman suggests that the demand charge portion of the Company's
6 electric bills be allocated on an extra capacity basis, using my Factor 6
7 instead of Factor 1, which is based on average daily sales. The result of his
8 revision would allocate less purchased power costs to the Rate J class (i.e.,
9 large, industrial customers) and more to the remaining classes. The
10 reduction to the Rate J would be \$170,894 or approximately 2.5% of the total
11 costs allocated to Rate J - a relatively minor adjustment.

12 **7. Q. Do you agree with Mr. Gorman's revision?**

13 A. I would agree with the concept of this refinement, but not to the extent that
14 Mr. Gorman suggests.

15 **8. Q. Please explain.**

16 A. I have conducted an analysis of a sample of the Company's power bills in St.
17 Louis County and determined that the bills include a monthly demand charge
18 regardless of the level of service. Generally, electric rates are structured with
19 a customer charge, a demand charge and commodity charges. Depending
20 on the rate schedule, there will be a monthly demand charge even if power is
21 taken at a steady rate, 24 hours a day, 7 days a week. To the extent that the
22 demand charge fluctuates from month to month, I would consider that to be
23 the extra capacity portion of the Company's power purchases. In my

1 analysis, the difference between the minimum demand charge for the lowest
2 demand month and the demand charges for the remaining months result in
3 approximately 6.0% of the total purchased power expense attributable to
4 extra capacity. Therefore, I would support a refinement to my cost allocation
5 that would allocate 6.0% of purchased power costs to the extra capacity
6 function; however, as I will demonstrate, this refinement results in a very
7 minor revision.

8 **9. Q. Does the AWWA Manual M1 support your method of allocating**
9 **purchased power in this manner?**

10 A. Yes, it does. It states that “the demand portion of power costs should be
11 allocated to extra capacity ***to the degree that it varies with the demand***
12 ***pumping requirements.*”** (emphasis added). It does not suggest that the
13 total demand portion of power costs should be allocated to extra capacity,
14 only to the degree that it varies with pumping requirements.

15 **10. Q. What is the result of allocating power costs using your alternative**
16 **method?**

17 A. As shown on Exhibit No. PRH-R1, the result of allocating 6.0% of the power
18 costs on an extra capacity basis reduces the industrial cost of service by
19 \$19,857 or about 0.28% of the total Rate J costs - a small and insignificant
20 amount.

21 **11. Q. Please discuss the similarities and differences among the cost of**
22 **service studies prepared by you and the studies submitted by Mr.**
23 **Russo of the Staff and Ms. Meisenheimer of the OPC.**

1 A. The similarities include the use of the base-extra capacity method of
2 allocation and the use of district specific cost of service. The differences are
3 numerous – some significant, many others not so significant. I will try to focus
4 on the significant differences.

5 **12. Q. Please continue.**

6 A. The major differences include:

- 7 • The use of a much lower revenue requirement by Staff and OPC –
8 a total of \$15 million increase as opposed to the Company's \$48.7
9 million increase.
- 10 • Differences in the distribution of the revenue requirements to the
11 various districts.
- 12 • Differences in the billing determinants in some districts used for
13 allocation purposes as a result of different projected revenues.
- 14 • Differences in the allocation of distribution mains in certain districts.
- 15 • Differences in the allocation of costs to contract customers.
- 16 • Differences in the use of certain peak factors.

17 The issues dealing with revenue requirements, the distribution of revenue
18 requirements to the districts and the proper level of billing determinants will be
19 addressed in other Company rebuttal testimony.

20 **13. Q. Please address some of the specific errors contained in Staff's study.**

21 A. The Staff report includes several errors that I discovered and are listed below.
22 The list shows only the items uncovered and may not represent all the errors
23 in Staff's study.

- 1 • Joplin – Staff used the same consumption for Sales for Resale as is
2 used for OPA (Other Public Authority). Usage for Sales for Resale
3 should be 322,906 thousand gallons rather than 143,250 thousand
4 gallons (OPA usage).
- 5 • St. Joseph – Staff did not include sales or revenues for Triumph or
6 deducted their revenues from cost of service. Staff also included 548
7 additional 5/8-inch bills for OPA which is more than twice the number
8 of bills in the Company's data. I cannot reconcile Staff's data from
9 what I received from the Company.
- 10 • All Districts – Staff added, rather than subtracted, costs associated
11 with Contributions in Aid of Construction, Deferred Taxes and
12 Pensions to determine rate base. Staff excluded the Sales for Resale
13 class from the small mains adjustment. And Staff deducted other
14 revenues from only the Residential class instead of all classes.

15 **14. Q. Please address the allocation of distribution mains.**

16 A. One distinct difference that affected the results in the St. Louis Metro, Joplin,
17 and St. Joseph districts was that Staff only used a small mains adjustment for
18 the industrial class and excluded the Sales for Resale class from the
19 adjustment. However, this was an improvement from the last case where
20 Staff did not include a small mains adjustment for any class. OPC witness
21 Ms. Meisenheimer employed a modified small mains adjustment but not to
22 the extent necessary. My studies reflect that many of the large users,
23 including sales for resale, in those districts are served primarily from large

1 transmission mains (generally larger than 10-inch) and thus, large users do
2 not benefit from the smaller mains in the distribution system. A more detailed
3 explanation of my small mains adjustment is provided in my direct testimony.

4 **15. Q. Why is a small mains adjustment appropriate?**

5 A. Generally, water flows from treatment facilities in large mains often referred to
6 as transmission mains. The primary purpose of transmission mains is to
7 transfer water from the treatment facilities to the distribution system and costs
8 associated with transmission mains are allocated on a maximum day basis.
9 The distribution system consists of many miles of smaller mains which deliver
10 water to customers' service lines and are designed to meet maximum hour
11 demands. In larger systems, large users such as industrial and sales for
12 resale customers are located on transmission mains and take water before it
13 reaches the distribution system. My study recognizes this fact and excludes
14 certain large users from the allocation of costs associated with small mains.

15 **16. Q. What is the effect of Staff using only a small mains adjustment for
16 certain industrial customers?**

17 A. By not using a small mains adjustment in the same manner as the Company,
18 Staff's and, to a lesser extent, OPC's cost allocations result in higher costs
19 being allocated to industrial and sales for resale customers in St. Louis Metro
20 and St. Joseph Districts and to the industrial customers in Joplin, than would
21 have been allocated if they had fully recognized a small-mains adjustment.
22 This will have an adverse impact on industry and will make it more difficult for
23 the Company to meet competitive pressures. For example, as a result of

1 Staff's allocations in the St. Louis County district, the Rate J class (industrial)
2 would require a 35.4% increase and the Rate B class (Sales for Resale)
3 would require a 69% increase on Staff's overall St. Louis County increase of
4 6.6%. This compares to increases of 16% and 5.3% for the Rate J and Rate
5 B classes, respectively, on an overall increase of 23% as a result of my study.

6 Furthermore, Staff's allocation of operation and maintenance
7 expenses for mains is inconsistent with how Staff allocated rate base and
8 depreciation expense for mains. For rate base and depreciation expense,
9 Staff allocated smaller mains (distribution) using the max hour factor (4) and
10 the larger mains (transmission) using the max day factor (3), which is
11 appropriate. However, for the allocation of operation and maintenance
12 expenses for all mains, Staff did not classify any of these costs as
13 transmission and allocated all operation and maintenance for mains based on
14 distribution alone, using the max hour factor. This assumes that all operation
15 and maintenance expenses are performed only on small mains and none on
16 the larger mains, which is not logical. For these reasons, Staff and OPC
17 allocation of costs associated with mains are in error and should be rejected.

18 **17. Q. Please describe how you treated the allocation of costs to contract**
19 **sales customers.**

20 A. As a result of the Stipulation in the last case, I treated Triumph Foods in this
21 case differently than in prior cases. In prior cases, I did not allocate any costs
22 to Triumph and instead, deducted their revenues from the total cost of service
23 of all other classes. This was to recognize that having Triumph on the system

1 was beneficial to the remaining classes because they are covering their
2 marginal costs and contributing revenues toward fixed costs.

3 For this case, I set Triumph in a Large Industrial classification and
4 allocated costs to them *“to determine whether the alternative rate continues to
5 be in the best interest of all customers in the Company’s St. Joseph service
6 area”*. Although the cost allocation study shows that Triumph is not covering
7 its fully allocated costs, the rate charged to Triumph of ****\$_____**** per
8 thousand gallons exceeds the incremental cost to produce water of
9 **** _____ **** per thousand. Incremental production costs include power,
10 chemicals and waste disposal. The result is a contribution toward fixed costs
11 of **** _____ **** per thousand gallons **** _____ ****).

12 In my cost allocation study for St. Louis Metro, I excluded the
13 volumes associated with contract sales and deducted the contract sales
14 revenue from the cost of service from all classes in proportion to the result of
15 each class’s cost of service. (Contract customers include Rate G and H
16 classes in the St. Louis Metro District) This recognizes that contract
17 customers have been retained on the system to the benefit of the remaining
18 tariff customers and should offset the cost of service in proportion to each
19 class’s cost of service. Staff and OPC did not make this refinement and they
20 effectively allocate the entire difference between the costs allocated to
21 contract customers and the actual contract revenue to the remaining tariff
22 customers in that classification rather than to all tariff customers.

23 Furthermore, Staff’s study for St. Joseph District excludes the

1 volumes and revenues for the contract customer and omitted the
2 consumption from the basis of their allocation factors. This produces
3 erroneous results and does not properly match revenues with the allocated
4 cost of service.

5 **18. Q. What other cost allocation differences exist among the studies?**

6 A. There are differences in the estimated system-wide peak hour ratios used in
7 the studies. It appears that Staff and OPC used non-coincident demands to
8 estimate the system peak hour factor rather than an estimated coincident
9 peak hour. My approach uses the method described in the AWWA Manual
10 M1 which uses a coincident peak hour factor to determine base and
11 maximum hour allocations and then uses class non-coincident factors to
12 allocate the maximum hour extra capacity costs. A factor based on non-
13 coincident demands would produce a higher ratio than what would actually be
14 experienced based on coincident demands. Generally, the use of higher
15 coincident maximum hour peak ratios will allocate more costs to the
16 residential class. Typically, if no actual system peak hour data is available, a
17 factor of 1.3 to 1.5 times the maximum day ratio is used to estimate the
18 coincident peak hour ratio.

19 **19. Q. What are your conclusions with regard to the cost of service studies**
20 **submitted in this case?**

21 A. Each of the witnesses supports the use of the base-extra capacity method.
22 However, only the Company's studies have applied the principles consistent
23 with proper rate making and reflect the proper allocation of small mains, the

1 operation and maintenance expenses for mains, the costs associated with
2 contract customers and the allocation of peak hour demands. It is important
3 that the Company's studies are used for the purposes of designing rates in
4 this case to ensure an appropriate allocation of costs to the various customer
5 classes and proper revenue distribution among the classes.

6 REBUTTAL CONCERNING RATE DESIGN ISSUES

7 **20. Q. Please outline the rate design issues you will address.**

8 A. I will address customer charges, the rate design proposed by Mr. Russo and
9 certain rate design issues presented by Mr. Johnstone.

10 **21. Q. What did the Company propose for customer charges?**

11 A. The Company proposed uniform customer charges for all districts except for
12 St. Louis Metro, based on the customer costs properly allocated for each
13 district. The customer costs include the operation and maintenance costs
14 associated with meters and services, the depreciation, return and taxes on
15 meters and services, billing and collecting costs including meter reading, and
16 the reallocated costs of public fire service which are not recovered through
17 hydrant charges. Customer costs also include a portion of administrative and
18 general costs allocated to the customer cost components as explained and
19 supported in the AWWA Manual M1.

20 **22. Q. Why are public fire service costs included in customer costs?**

21 A. In the districts other than St. Louis Metro, there are no public fire hydrant
22 charges, therefore public fire costs must be recovered from the other
23 customer classifications. In my study, the costs of public fire service are

1 reallocated to the classes based on meter equivalents. This is to recognize
2 that costs associated with providing fire service are almost entirely fixed and
3 that fire costs vary with the number and relative size of the customers. Since
4 these costs are fixed costs, it is appropriate to recover such costs in fixed
5 charges rather than volumetric charges.

6 **23. Q. Please describe the costs that are included in public fire service.**

7 A. Public fire service costs include the investment (depreciation, return and
8 taxes) in the extra capacity to meet fire demands for mains, pumps and
9 storage facilities as well as the investment in public fire hydrants. Only a very
10 small portion of the costs are related to actual water usage because the
11 usage related to putting out fires is very small compared to the usage of all
12 other classes.

13 **24. Q. Why did the Company propose uniform customer charges?**

14 A. All customers regardless of the service area have a service line and a meter.
15 In all Districts, except the St. Louis Metro District, each customer has their
16 meter read each month and receives a bill for payment. These customer
17 services are provided by a common workforce and are billed from a central
18 billing function. The only cost difference that may exist among the districts is
19 the original cost of the services lines and/or meters and some minor
20 differences in wage rates. However, I do not believe that this should prevent
21 uniform customer charges because everyone has a meter and service line
22 adequate to provide service, regardless of the original cost of those facilities.

23 **25. Q. Did you prepare a schedule that shows the customer costs for each**

1 **district?**

2 A. Yes. The attached schedule PRH-2R shows the customer costs by
3 component for each district and computes the appropriate cost for a 5/8-inch
4 meter which is typical for residential and small commercial usage. The fire
5 costs discussed earlier are included in the meter costs in line 1. The
6 schedule shows that the customer costs vary from \$11.61 in Parkville to
7 \$20.43 in Brunswick. The last column shows the customer costs aggregated
8 for all the districts and results in an overall cost of \$15.35 per month for a 5/8-
9 inch meter. The Company's proposal is to charge \$15.00 per month for a 5/8-
10 inch meter for all districts except St. Louis Metro.

11 **26. Q. What was proposed for St. Louis Metro?**

12 A. Due to the fact that a majority of the customers in the St. Louis Metro District
13 are billed quarterly, the customer charges were set at \$16.70 per quarter and
14 \$11.40 per month for a 5/8-inch meter.

15 **27. Q. How did Staff and OCA calculate customer charges?**

16 A. Staff used my methodology except that public fire costs were not included
17 resulting in lower customer costs. OPC, in addition to excluding public fire
18 costs, also excluded any portion of administrative and general costs which, as
19 I stated earlier, are appropriate and supported by the AWWA methods.
20 OPC's cost analysis results in much lower customer costs and should not be
21 relied upon in the calculation of an appropriate customer charge.

22 **28. Q. Please compare the Company's rate design with Staff's proposal.**

23 A. The Company's proposed rate design is explained in more detail in my direct

1 testimony however I will list the major points below:

- 2 • Maintained district specific pricing for all districts with the exception of
3 Brunswick, Warren County, and Parkville Water districts and two small
4 sewer districts which receive a subsidy.
- 5 • Proposed a uniform set of customer charges for the seven districts
6 other than St. Louis Metro. An exception are the customer charges for
7 meter sizes greater than 5/8-inch for Jefferson City which have
8 charges less than the other districts in order to avoid large increases
9 there.
- 10 • Proposed a single volumetric block for residential customers and a
11 declining block structure for non-residential customers for the seven
12 districts other than St. Louis Metro.
- 13 • Maintained St. Louis Metro basic structure with district specific monthly
14 and quarterly customer charges and single block structure for each
15 class.

16 **29. Q. Please summarize Staff's proposal.**

17 A. Staff proposed district specific pricing but recommends that subsidies
18 continue only for Brunswick and Warren County Water. All districts have
19 specific (and different) customer charges and single block rates for each class
20 within each district.

21 **30. Q. Please discuss the advantages of your proposed volumetric rates.**

22 A. The Company is proposing single block rates for residential customers and
23 declining block rates for non-residential classes. This allows for larger

1 customers who generally experience better load factors to pay a lower tail
2 block rate to reflect the lower cost to serve them. Staff proposed single block
3 rates for all classes that do not reflect this benefit and results in extreme
4 increases in certain districts for larger users.

5 **31. Q. Mr. Russo indicates on page 7 of his class cost of service report that**
6 ***“the existing declining block rates result in the small users in a***
7 ***customer class paying much more of the costs to provide their water***
8 ***than large customers pay.” Do you agree?***

9 A. No, I do not. Mr. Russo ignores the fact that large customers must first pay
10 for the all the usage at the initial block rates before they pay the lower rates at
11 the tail block. This is the basic idea of the declining block rate structure.
12 Large customers will pay for all the extra capacity costs in the initial blocks
13 which allows for the payment of base costs in the tail block. It is appropriate
14 and justified from a cost standpoint for larger customers with favorable load
15 factors to pay less per unit as their volumes increase.

16 **32. Q. Please address the issues presented in Mr. Johnstone’s testimony.**

17 A. Mr. Johnstone recommends that if the Commission finds that the contract
18 rates for Triumph are reasonable, then the proper way to reflect the cost of
19 service is to deduct the revenue generated from Triumph’s contract from the
20 cost to serve all other classes.

21 **33. Q. Do you agree with that assessment?**

22 A. Yes, I do. As I stated earlier, Mr. Johnstone’s suggestion is exactly the way I
23 presented the cost of service for St. Joseph’s in prior cases. I set them out

1 separately in this case in as a result of the Stipulation from the last case
2 which addressed assessing the reasonableness of the contract rate.

3 **34. Q. What other cost allocation issues did Mr. Johnstone address?**

4 A. First, I'd like to correct Mr. Johnstone's testimony that this is the first time that
5 I reflected a small mains adjustment in the St. Joseph cost allocation study.
6 His statement is simply not correct. In all previous studies, I provided a small
7 mains adjustment in a similar manner as I did in this case.

8 He also criticizes my use of judgment to estimate extra capacity factors.

9 **35. Q. Did Mr. Johnstone use judgment to produce his studies?**

10 A. Yes, he did. Staff and OPC witnesses did as well. It's part of conducting cost
11 of service studies.

12 **36. Q. Please address Mr. Johnstone's criticism of the allocation of corporate
13 costs.**

14 A. Mr. Johnstone allocates corporate costs on the basis of number of customers.
15 This is not supported by the AWWA Manual M1. The manual states that such
16 costs, which are really administrative and general costs, should be allocated
17 based on the allocation of all other O&M expenses, excluding power and
18 chemicals. This is the method I used to properly allocate corporate costs.

19 **37. Q. What does Mr. Johnstone recommend for rate design in St. Joseph's?**

20 A. Mr. Johnstone does not oppose the Company's customer charges and
21 recommends equal percentage increases to the industrial consumption rates.

22 **38. Q. On what basis does he support equal percentage increases to the
23 industrial consumption charges?**

1 A. He presumes that the existing rates are fair and reasonable. However, his
2 presumption is simply not correct.

3 **39. Q. Please explain.**

4 A. The existing industrial first block rate in St. Joseph's is \$6.065 per thousand
5 gallons. This rate is about 47% higher than the same first block rate for
6 residential (\$4.1288) and commercial (\$4.1374) customers. There is
7 absolutely no cost of service basis for this discrepancy and Mr. Johnstone
8 cannot explain it either. I have proposed (as in prior cases) to correct this
9 problem by lowering the first block rate to a level that is more consistent with
10 the other classes. This problem exists in other districts as well and I have
11 proposed similar adjustments. Furthermore, his equal percentage increase to
12 the tail-block rate will not be sufficient to cover the base cost of water.

13 **40. Q. What do you mean by the base cost of water?**

14 A. In the base-extra capacity method, the base cost of water represents the
15 costs required to supply and deliver water at average load conditions without
16 the costs necessary to meet extra capacity demands.

17 **41. Q. Did you conduct such an analysis?**

18 A. Yes, I did. It shows that the base cost of water is \$2.205 per thousand
19 gallons. Mr. Johnstone's recommended industrial rate increase, even at the
20 10.8% increase in his Study 2, would only produce \$1.855 for the tail block
21 which would be significantly below base costs. The AWWA Manual M1 on
22 water rates suggests that the rates in a declining block structure should at
23 least recover the base cost of water. The language comes from page 59 of

1 the Manual and states as follows:

2 *“ . . . Therefore, the unit base cost provides a measure of the*
3 *lowest potential charge in a schedule of rates for delivery of*
4 *uniform service. As such, the unit base cost is an important*
5 *guide in preventing utilities from establishing a charge that could*
6 *result in the sale of water below cost.”*
7

8 **42. Q. What do you conclude from your analysis of base costs with respect to**
9 **Mr. Johnstone’s recommended rate?**

10 A. Mr. Johnstone’s rate design is not cost based and results in rates that
11 are significantly higher for the first-block rate and significantly below
12 the unit base cost of water for the tail-block rate. Therefore, his rate
13 design must be rejected.

14 **43. Q. What is your view regarding other witnesses who are**
15 **recommending across-the-board increases in this case?**

16 A. My view is that cost of service allocation studies are conducted to
17 assess the relative cost responsibilities with the proposed distribution
18 of revenues. Generally, the proposed rate design should move
19 revenues toward or equal to the cost allocation results. Across-the-
20 board increases only perpetuate the inequities that may exist under the
21 current rate structure. Therefore, I recommend the design of proposed
22 rates that moves revenue toward the indicated cost of service.

23 **43. Q. What do you conclude with regard to rate design?**

24 A. The Commission should adopt the Company’s rate design. It is cost
25 based and reflects the proper allocation of costs presented in the
26 Company’s cost of service studies. It appropriately uses a uniform set

1 of customer charges for the six districts plus the 5/8-inch charge in
2 Jefferson City. It includes a single block volumetric rate for residential
3 customers and a declining block rate structure for non-residential
4 customers. Finally, it maintains the basic rate structure for the St.
5 Louis Metro District which has been in existence for many years.

6 **44. Q. Does this conclude your rebuttal testimony?**

7 A. Yes, it does.

MISSOURI-AMERICAN WATER COMPANY
ST. LOUIS METRO DISTRICT

Exhibit PRH-R1

COMPARISON OF COST OF SERVICE WITH REVENUES UNDER PRESENT AND PROPOSED RATES
FOR THE TEST YEAR ENDED JUNE 30, 2009

Customer Classification (1)	Cost of Service**		Revenues, Present Rates		Revenues, Proposed Rates		Proposed Increase	
	Amount (Schedule B) (2)	Percent (3)	Amount (4)	Percent (5)	Amount (6)	Percent (7)	Amount (8)	Percent Increase (9)
Rate A - Res/Com/Ind/OPA	\$ 166,098,481	87.0%	\$ 136,795,310	88.2%	\$ 166,030,744	87.0%	\$ 29,235,434	21.4%
Rate B - Sales for Resale	2,547,324	1.3%	2,418,389	1.6%	2,545,425	1.3%	127,036	5.3%
Rate J - Manufacturing	6,950,720	3.6%	5,928,260	3.8%	6,877,224	3.6%	948,964	16.0%
Rate F - Private Fire	1,918,040	1.0%	2,070,724	1.3%	2,070,724	1.1%	-	0.0%
Rate E - Public Fire	13,300,116	7.0%	8,001,215	5.1%	13,290,207	7.0%	5,288,992	66.1%
Total Sales	190,814,680	99.9%	155,213,898	100.0%	190,814,324	100.0%	35,600,426	22.9%
Other Revenues*	5,309,208		4,361,115		5,309,208		948,093	21.7%
Total	\$ 196,123,889		\$ 159,575,013		\$ 196,123,532		\$ 36,548,519	22.9%

* Includes Rate G and H Contract Sales.

** Cost of Service includes a revenue contribution to the Brunswick, Parkville Water, Warren County Water, Warren County Sewer and Cedar Hill Sewer Districts.

MISSOURI-AMERICAN WATER COMPANY
CALCULATION OF CUSTOMER CHARGE

ALL DISTRICTS EXCEPT ST. LOUIS METRO

	Brunswick	Jefferson City	Joplin	Mexico	Parkville Water	St. Joseph	Warren County Water	Warrensburg	Total	Customer Charge
(1) Cost Related to Meters	\$ 68,124	\$ 772,701	\$ 2,278,023	\$ 452,417	\$ 329,888	\$ 2,793,793	\$ 82,244	\$ 851,336	\$ 7,628,526	
(2) Meter Equivalents X 12	5,736	155,796	361,704	69,444	81,480	446,064	5,376	99,132	1,224,732	
(3) Cost per Bill - Meter related	\$ 11.88	\$ 4.96	\$ 6.30	\$ 6.51	\$ 4.05	\$ 6.26	\$ 15.30	\$ 8.59		\$ 6.23
(4) Cost Related to Services	22,061	605,843	1,035,940	361,760	139,256	784,046	12,947	285,584	3,247,438	
(5) Service Equivalents X 12	5,460	139,728	321,672	64,656	72,564	415,152	5,292	90,276	1,114,800	
(6) Cost per Bill - Services related	\$ 4.04	\$ 4.34	\$ 3.22	\$ 5.60	\$ 1.92	\$ 1.89	\$ 2.45	\$ 3.16		\$ 2.91
(7) Cost Related to Billing and Collecting	24,121	947,426	1,864,518	388,216	380,818	2,371,213	12,538	390,847	6,379,698	
(8) Number of Customers X 12	5,940	129,766	290,376	58,740	67,530	385,840	5,256	84,180	1,027,027	
(9) Cost per Bill - Billing and Collecting	\$ 4.52	\$ 7.30	\$ 6.42	\$ 6.61	\$ 5.64	\$ 6.15	\$ 2.39	\$ 4.64		\$ 6.21
(10) Total Customer Charge (3)+(6)+(9)	\$ 20.43	\$ 16.60	\$ 15.94	\$ 18.72	\$ 11.61	\$ 14.30	\$ 20.13	\$ 16.39		\$ 15.35