

Exhibit No.:
Issues: Cost of Service, Rate Design
Witness: Brian C. Collins
Type of Exhibit: Direct Testimony
Sponsoring Party: MIEC
Case Nos.: WR-2015-0301
Date Testimony Prepared: January 20, 2016

**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) **Case No. WR-2015-0301**
Service Provided in Missouri Service Areas)
_____)

Direct Testimony and Schedules of

Brian C. Collins

On behalf of

Missouri Industrial Energy Consumers

January 20, 2016



Project 10135

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

Case No. WR-2015-0301

STATE OF MISSOURI)
)
COUNTY OF ST. LOUIS) SS

Affidavit of Brian C. Collins

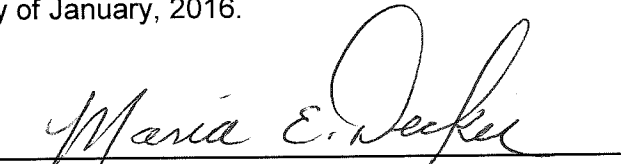
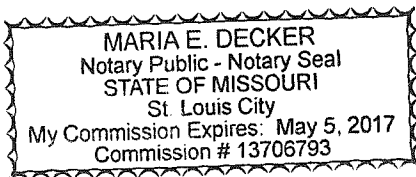
Brian C. Collins, being first duly sworn, on his oath states:

1. My name is Brian C. Collins. I am a consultant with Brubaker & Associates, Inc., having its principal place of business at 16690 Swingley Ridge Road, Suite 140, Chesterfield, Missouri 63017. We have been retained by the Missouri Industrial Energy Consumers in this proceeding on its behalf.
2. Attached hereto and made a part hereof for all purposes are my direct testimony and schedules which were prepared in written form for introduction into evidence in Missouri Public Service Commission Case No. WR-2015-0301.
3. I hereby swear and affirm that the testimony and schedules are true and correct and that they show the matters and things that they purport to show.



Brian C. Collins

Subscribed and sworn to before me this 19th day of January, 2016.



Notary Public

**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)))))))	Case No. WR-2015-0301
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Direct Testimony of Brian C. Collins**

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**Brian C. Collins
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**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**

)
)
) **Case No. WR-2015-0301**
)
)

Direct Testimony of Brian C. Collins

1 **Q PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

2 A Brian C. Collins. My business address is 16690 Swingley Ridge Road, Suite 140,
3 Chesterfield, MO 63017.

4 **Q WHAT IS YOUR OCCUPATION?**

5 A I am a consultant in the field of public utility regulation and a Principal with Brubaker &
6 Associates, Inc., energy, economic and regulatory consultants.

7 **Q PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND AND EXPERIENCE.**

8 A This information is included in Appendix A to this testimony.

9 **Q ON WHOSE BEHALF ARE YOU APPEARING IN THIS PROCEEDING?**

10 A This testimony is presented on behalf of the Missouri Industrial Energy Consumers
11 ("MIEC"). Member companies purchase substantial amounts of water from
12 Missouri-American Water Company ("Missouri-American" or "Company").

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1 Q WHAT IS THE PURPOSE OF YOUR DIRECT TESTIMONY ON CLASS COST OF
2 SERVICE AND RATE DESIGN ISSUES?

3 A The purpose of my testimony is to respond to the Company's proposal for
4 consolidated pricing for its operating districts throughout Missouri and to respond to
5 certain aspects of the Company's class cost of service study and proposed rate
6 design. For the reasons described in my testimony, I recommend that the Company's
7 proposal for consolidated pricing be rejected and that the Company implement
8 district-specific pricing for its operating districts. With respect to the St. Louis Metro
9 District, I also recommend that certain adjustments be made to the Company's
10 proposed class cost of service study and proposed rate design.

11 **Company's Proposal for Consolidated Pricing**

12 Q WHY IS THE COMPANY PROPOSING CONSOLIDATED PRICING FOR ALL OF
13 ITS DISTRICTS?

14 A Company witness Ms. Jeanne M. Tinsley states at page 12 of her direct testimony
15 that the Company requests consolidated pricing for the reasons set forth in Company
16 witness Dr. Karl A. McDermott's direct testimony.

17 Q WHAT REASONS DOES DR. MCDERMOTT PROVIDE IN HIS TESTIMONY FOR
18 THE COMPANY'S PROPOSAL FOR CONSOLIDATED PRICING?

19 A Dr. McDermott recommends consolidated pricing primarily based on public policy
20 benefits, which he claims result in the form of reduced inefficiencies by consolidating
21 smaller water systems with larger water systems. Moreover, Dr. McDermott claims at

1 page 10 of his testimony that the economic benefits of more closely connecting costs
2 with prices (i.e., district-specific pricing) are not likely to be significant in this case.

3 **Q DOES DR. MCDERMOTT PROVIDE ANY ANALYSIS RELATED TO THE FACTS**
4 **OF THIS CASE AND THE COMPANY'S SITUATION TO SUPPORT HIS**
5 **CONCLUSION?**

6 A No, he does not.

7 **Q DO YOU AGREE WITH DR. MCDERMOTT THAT THE BENEFITS OF**
8 **DISTRICT-SPECIFIC PRICING ARE NOT LIKELY TO BE SIGNIFICANT IN THIS**
9 **CASE?**

10 A I do not. For example, under the Company's proposal for consolidated pricing, the
11 Rate J Manufacturing class in the St. Louis Metro District receives an increase of
12 28.1% versus the 6.5% increase necessary to bring it to the Company's indicated
13 stand-alone cost of service for the district. The Rate J class provides a subsidy of
14 \$1.4 million under consolidated pricing, which is approximately 20.3% more than its
15 indicated cost of service of approximately \$7.0 million.

16 **Q DOES ANY OTHER MISSOURI-AMERICAN WITNESS SUPPORT THE**
17 **COMPANY'S PROPOSAL FOR CONSOLIDATED PRICING?**

18 A Yes. Company witness Mr. Paul R. Herbert indicates at page 18 of his direct
19 testimony that variances between allocated costs of the districts do not warrant the
20 use of separate rate schedules. He further claims that charging one group of
21 customers higher rates because they may be served by a newer plant whose original
22 cost exceeds that of other plants is not logical.

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1 **Q DO YOU AGREE WITH MR. HERBERT?**

2 A No. Mr. Herbert's argument ignores the principle of cost causation. A district's rates
3 should be based on the costs that Missouri-American incurs to provide it with service.
4 Mr. Herbert's argument also ignores the fact that not all of the Company's districts are
5 interconnected and thus cannot serve all of its districts with the same group of water
6 treatment plants or other plant investment.

7 **Q IS THE COMPANY'S PROPOSAL FOR CONSOLIDATED PRICING**
8 **REASONABLE?**

9 A No, it is not.

10 **Q PLEASE EXPLAIN WHY THE COMPANY'S PROPOSAL FOR CONSOLIDATED**
11 **PRICING IS NOT REASONABLE.**

12 A Consolidated pricing is inappropriate for several reasons. First, there is no common
13 or economic cost structure across the many Company districts throughout the state.
14 Specifically, many of the districts are not interconnected to the same (or group of
15 same) water treatment plants. Water treatment plants serving the districts are
16 supplied from district-specific raw water sources (including both groundwater and
17 surface water), which impact water treatment costs. Contrary to power plants in a
18 geographically dispersed electric system, which Mr. Herbert compares to water
19 treatment plants for justification of the Company's consolidated pricing proposal, a
20 water treatment plant in Joplin or St. Joseph, for example, cannot provide treated
21 water to the St. Louis Metro District since those districts are not interconnected. The
22 water treatment plants, distribution networks, pumping equipment and even the
23 electric utilities serving the various Missouri-American territories are distinct across

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1 the state, and the various geographic characteristics of each Missouri-American
2 service territory impact costs related to storage, pressure, pumping, chemicals and
3 other costs associated with providing water service in those areas.

4 Second, consolidated pricing ignores the differences in costs of providing
5 service in each non-interconnected district including, but not limited to, water
6 treatment and supply, labor force, and delivery. Consolidated pricing also ignores the
7 differences in rate base investment that have occurred to provide water service in
8 each operating district. Consolidated pricing is inconsistent with traditional cost of
9 service principles and ignores the concept of cost-causation. In essence,
10 consolidated pricing results in price subsidies to customers in high-cost districts at
11 great cost to customers in low-cost districts. For example, the cost to install water
12 pipe in a district with rocky soil is higher than the cost to install water pipe in a district
13 without rocky soil. Under consolidated pricing, the customers in the lower-cost district
14 with non-rocky soil would subsidize a portion of the cost to install pipe in the higher
15 cost district with rocky soil.

16 Moreover, the unjust cross-subsidies created by consolidated pricing could
17 erode the efficiency of the water system. These rate subsidies would erode the
18 economic incentive for customers in high-cost districts to be more efficient in placing
19 demands on the water utility because the prices they pay do not accurately reflect the
20 cost of receiving water service. Hence, customers with subsidized prices may impose
21 greater and less efficient demand on high-cost districts, which could cause greater
22 cost at the high-cost districts and increase customer subsidies to bring that district
23 price down to the consolidated rate.

1 **Q PLEASE ELABORATE ON HOW CONSOLIDATED PRICING CAN ERODE**
2 **SYSTEM EFFICIENCY.**

3 A Consolidated pricing could provide the Company disincentives for cost control within
4 high-cost operating districts because all costs would be averaged across the state. If
5 rates were to be consolidated, there would be no reason to maintain separate books
6 and records for each operating district. This could inhibit management from
7 effectively managing each of its districts because district-specific costs will not be
8 maintained or managed. Due to the loss of transparent operating and financial data
9 for each operating district, it would be very difficult to evaluate the efficiency and
10 effectiveness of each operating district. As a result, the Missouri Public Service
11 Commission would lose some of its ability to exercise proper regulatory oversight of
12 the Company's operations. Consolidated pricing will not allow the Company to
13 properly manage its different geographical operating districts and will prevent it from
14 identifying high-cost operating districts in the future.

15 **Q DO YOU HAVE ANY OTHER CONCERNS WITH CONSOLIDATED PRICING?**

16 A Yes. Consolidated pricing greatly reduces the Company's incentive to perform due
17 diligence before acquiring new water systems and may also impact the price
18 Missouri-American is willing to pay for new systems. New systems could be acquired
19 without adequate consideration as to whether the costs to operate those systems are
20 economical since those costs would be rolled into existing rates under consolidated
21 pricing.

1 Q DOES THE COMPANY'S PROPOSAL FOR CONSOLIDATED PRICING RESULT
2 IN SOME DISTRICTS PROVIDING SUBSIDIES TO OTHER DISTRICTS?

3 A Yes. With respect to the St. Louis Metro District, as shown on Schedule BCC-1, the
4 St. Louis Metro District cost of service is \$228,248,118. However, the Company
5 proposes to collect \$231,241,287 from the St. Louis Metro District under its proposed
6 consolidated rates. This is a subsidy of \$2,993,169 provided by the St. Louis Metro
7 District. Of that amount, Rate J provides a subsidy of \$1,419,088, or 47.4% of the
8 St. Louis Metro District subsidy. This is shown on Schedule BCC-2.

9 As shown on my Schedule BCC-1, the St. Louis Metro, Jefferson City, and
10 Warrensburg Districts provide a total subsidy of \$3,782,726 to the Company's other
11 operating districts. The smaller districts for which a cost of service study was not
12 performed also provide a net subsidy of \$885,801. The total subsidy between
13 Missouri-American operating districts is \$4,668,527.

14 Q UNDER THE COMPANY'S PROPOSAL FOR CONSOLIDATED PRICING, DO
15 SOME DISTRICTS UNDER RECOVER THEIR COST OF SERVICE AS A RESULT
16 OF THE COMPANY'S CONSOLIDATED PRICING?

17 A Yes. As shown in Schedule BCC-1, the Company's cost of service studies indicate
18 that the Brunswick, Platte County, and St. Joseph Districts should receive rate
19 increases of 59.6%, 22.6%, and 4.8%, respectively, to bring their present rates to
20 cost of service. However, under the Company's proposal for consolidated pricing,
21 these districts receive rate **decreases** of 11.1%, 5.4%, and 0.9%, respectively. This
22 is particularly unreasonable since the Company's proposal for consolidated pricing
23 over collects revenue from the St. Louis Metro, Jefferson City, and Warrensburg

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1 Districts as compared to their respective cost of service as calculated by the
2 Company's own cost of service studies.

3 Furthermore, while the Joplin and Mexico Districts receive rate increases of
4 3.2% and 2.9%, respectively, under the Company's proposal, these proposed
5 increases also do not recover these districts' respective cost of service.

6 **Q WHAT DO YOU RECOMMEND REGARDING THE COMPANY'S CONSOLIDATED**
7 **PRICING PROPOSAL?**

8 A I recommend that the Company's proposal for consolidated pricing be rejected and
9 that district-specific pricing be continued. I recommend that each district's revenue
10 requirement recovered in proposed rates be based on its respective cost of service.

11 **Q UNDER DISTRICT-SPECIFIC PRICING, WHAT IS THE REVENUE ALLOCATION**
12 **FOR EACH DISTRICT FOR WHICH A COST OF SERVICE STUDY WAS**
13 **PERFORMED BY THE COMPANY?**

14 A Assuming each major district is moved to its calculated cost of service indicated in its
15 respective cost of service study performed by the Company, the revenue allocation
16 for each district is shown in Schedule BCC-1.

1 **Class Cost of Service Study – St. Louis Metro District**

2 **Q DID YOU REVIEW MISSOURI-AMERICAN’S CLASS COST OF SERVICE STUDY**
3 **FOR THE ST. LOUIS METRO DISTRICT SPONSORED BY MISSOURI-AMERICAN**
4 **WITNESS MR. HERBERT?**

5 A Yes, I did. His class cost of service study utilizes the widely accepted Base-Extra
6 Capacity method for *functionalizing, classifying* and *allocating* costs to Missouri-
7 American’s various customer classes. Investment in water utility plant and operating
8 costs are first *functionalized* according to the role they play in providing water service:
9 water supply, pumping, treatment, transmission, distribution, metering and billing.
10 Next, these costs are *classified* into cost categories that reflect the causation of these
11 costs: Base, or average day rates of flow; Extra Capacity-Maximum Day and Extra
12 Capacity-Maximum Hour rates of flow; and Customer-related costs, such as metering
13 and billing.

14 **Q DO YOU AGREE WITH MR. HERBERT’S CLASS COST OF SERVICE STUDY FOR**
15 **THE ST. LOUIS METRO DISTRICT?**

16 A I generally agree with the classifications and cost allocations in Missouri-American’s
17 cost of service study prepared by Mr. Herbert. However, I would propose a different
18 allocation factor be used for Purchased Fuel/Power for Pumping costs. Mr. Herbert
19 has allocated these costs on Factor 1, which allocates costs based on class annual
20 water volume. The Company has not properly differentiated between the costs it
21 incurs for these items based on its average daily usage on the one hand, and its
22 peaking requirements on the other. These costs vary in part based on the

1 Company's customer peak demands, and they should be allocated on a
2 corresponding basis.

3 **Q CAN YOU CITE ANY AUTHORITY FOR YOUR PROPOSED CLASSIFICATION OF**
4 **PURCHASED POWER EXPENSE?**

5 A Yes, I can. American Water Works Association's Manual M-1, *Principles of Water*
6 *Rates, Fees and Charges, Sixth Edition*, states on page 65 that the extent to which
7 power costs are allocated to extra capacity depends on the variations in electric
8 demands incurred in pumping and the energy/demand electric rate structure that
9 applies to pumping.

10 **Q WHICH ALLOCATION FACTOR DO YOU RECOMMEND BE USED FOR**
11 **PURCHASED POWER IN MR. HERBERT'S COST STUDY?**

12 A I recommend the same allocation factor used to allocate other pumping expenses
13 and the rate base associated with electric pumping equipment, Factor 3. Factor 3 is
14 tied primarily to average flow and maximum day demand requirements. This is a
15 more appropriate allocation factor to reflect the seasonal pricing differential of power,
16 as well as the increased cost for peak periods that normally coincide with peak
17 demands on the water utility system.

18 **Q WHY DO YOU BELIEVE THAT FACTOR 3 MORE ACCURATELY ALLOCATES**
19 **PURCHASED POWER COST BETWEEN CUSTOMER CLASSES RELATIVE TO**
20 **THE COMPANY'S FACTOR 1?**

21 A Factor 3 allocates cost based on customers' maximum day demands as well as
22 average flow or volume. Factor 1 allocates costs only on volume. Also, Ameren

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1 Missouri's commercial rates are broken out for seasonal variation in energy charges.
2 The energy rates during the summer period, a period where water demand is highest,
3 reflect significantly higher demand and energy charges than rates in the winter
4 period. Variation in rates reflects higher demands during the summer during average
5 annual flow conditions. As such, the Company's cost of purchased power is
6 impacted by customers' peak monthly demands, seasonal demand, and energy
7 purchased for base volume.

8 **Q WHAT IS THE RESULT OF MODIFICATIONS TO THE COMPANY'S CLASS COST**
9 **OF SERVICE STUDY THAT YOU PROPOSE FOR THE ALLOCATION OF**
10 **PURCHASED POWER AND FUEL COST FOR PUMPING?**

11 A The results of my modified class cost of service study for the St. Louis Metro District
12 are shown on my Schedule BCC-3. As shown on that schedule, with the adjustments
13 described above, Rate A residential and commercial customers would get an
14 increase slightly above average in order to increase their rates to their cost of service,
15 using the Company's claimed revenue deficiency as a surrogate for testing this cost
16 of service model accuracy. In contrast, Rate B would get a rate decrease, Rate J
17 would get a below system average increase, and Rate F, Private Fire, would get an
18 above system average increase.

19 **Q UNDER DISTRICT-SPECIFIC PRICING, WHAT IS THE ST. LOUIS METRO**
20 **DISTRICT RATE J REVENUE RESPONSIBILITY?**

21 A Based on the Company's cost of service study and proposed revenue requirement,
22 present revenues for Rate J are \$6,571,486 and its cost of service is \$7,000,296.
23 Therefore, Rate J would require an increase of \$428,810, or 6.5%, under

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1 district-specific pricing. This is in contrast to a 28.1% increase, or \$1,847,898, under
2 the Company's proposal for consolidated pricing.

3 **Q BASED ON YOUR MODIFICATIONS TO THE COST OF SERVICE STUDY**
4 **DESCRIBED ABOVE, WHAT IS THE ST. LOUIS METRO DISTRICT RATE J**
5 **REVENUE RESPONSIBILITY?**

6 A Based on my modifications to the Company's cost of service study, Rate J's cost of
7 service is \$6,698,026. Therefore, Rate J would require an increase of \$126,540, or
8 1.93%, under my modified cost of service study and with district-specific pricing
9 implemented.

10 **St. Louis Metro District Class Revenue Allocation**

11 **Q DO YOU RECOMMEND THAT THE ST. LOUIS METRO DISTRICT CLASS**
12 **REVENUE ALLOCATION BE BASED ON YOUR MODIFIED CLASS COST OF**
13 **SERVICE STUDY RESULTS?**

14 A Yes. I propose that the revenue allocation for Rate J be based on its respective cost
15 of service. However, I propose that the Rate B class see no decrease. My modified
16 cost of service study indicates that this class should receive a rate decrease of
17 \$262,839, or 9.1%. However, I propose to maintain this class at current rates. I used
18 the amount of \$262,839 to reduce the revenues to be recovered in proposed rates for
19 the Rate A and Rate F classes.

20 Under my proposed revenue allocation, I capped the increase for Rate F at
21 1.5 times the system average increase of 23.5%, or 35.3%, and propose an increase

1 for Rate A of 25.5%, compared to the 25.7% increase calculated under my modified
2 cost of service study.

3 My proposed class revenue allocation for the St. Louis Metro District is shown
4 in Schedule BCC-3.

5 **St. Louis Metro District Rate Design – Rate J**

6 **Q WHAT IS YOUR RECOMMENDATION WITH RESPECT TO RATE DESIGN FOR**
7 **RATE J IN THE ST. LOUIS METRO DISTRICT?**

8 A I recommend an equal percent increase for each rate component of Rate J. Under
9 my proposal for district-specific pricing and with my recommended adjustments to the
10 Company's cost of service study, Rate J in the St. Louis Metro District should see an
11 increase of 1.93%. Therefore, under my proposal, I recommend that each rate
12 component of the existing Rate J be increased by 1.93%. This will ensure that all
13 customers in Rate J will see the overall Rate J class increase of 1.93%. My proposed
14 rate design for Rate J in the St. Louis Metro District is shown in Schedule BCC-4.

15 It should be noted that my cost of service, revenue allocation, and rate design
16 recommendations in my testimony utilize the Company's proposed revenue
17 requirement. The final percent increase or decrease for Rate J should be based on
18 the final revenue requirement determined by the Commission. For example, the
19 Commission Staff has indicated in its cost of service report that the St. Louis Metro
20 District revenue requirement should be reduced as a result of Staff's proposed
21 modification to the allocation of service company costs to the St. Louis Metro District.
22 MIEC supports this concept and if approved by the Commission, would reduce the
23 1.93% increase for Rate J proposed in my testimony, which is presently based on the

1 Company's proposed district-specific revenue requirement for the St. Louis Metro
2 District and my modified class cost of service study.

3 **Q DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?**

4 **A** Yes, it does.

Qualifications of Brian C. Collins

1 **Q PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

2 A Brian C. Collins. My business address is 16690 Swingley Ridge Road, Suite 140,
3 Chesterfield, MO 63017.

4 **Q WHAT IS YOUR OCCUPATION AND BY WHOM ARE YOU EMPLOYED?**

5 A I am a consultant in the field of public utility regulation and a Principal with the firm of
6 Brubaker & Associates, Inc. ("BAI"), energy, economic and regulatory consultants.

7 **Q PLEASE STATE YOUR EDUCATIONAL BACKGROUND AND EXPERIENCE.**

8 A I graduated from Southern Illinois University Carbondale with a Bachelor of Science
9 degree in Electrical Engineering. I also graduated from the University of Illinois at
10 Springfield with a Master of Business Administration degree. Prior to joining BAI, I
11 was employed by the Illinois Commerce Commission and City Water Light & Power
12 ("CWLP") in Springfield, Illinois.

13 My responsibilities at the Illinois Commerce Commission included the review
14 of the prudence of utilities' fuel costs in fuel adjustment reconciliation cases before
15 the Commission as well as the review of utilities' requests for certificates of public
16 convenience and necessity for new electric transmission lines. My responsibilities at
17 CWLP included generation and transmission system planning. While at CWLP, I
18 completed several thermal and voltage studies in support of CWLP's operating and
19 planning decisions. I also performed duties for CWLP's Operations Department,
20 including calculating CWLP's monthly cost of production. I also determined CWLP's

1 allocation of wholesale purchased power costs to retail and wholesale customers for
2 use in the monthly fuel adjustment.

3 In June 2001, I joined BAI as a Consultant. Since that time, I have
4 participated in the analysis of various utility rate and other matters in several states
5 and before the Federal Energy Regulatory Commission ("FERC"). I have filed or
6 presented testimony before the Arkansas Public Service Commission, the Delaware
7 Public Service Commission, the Florida Public Service Commission, the Idaho Public
8 Utilities Commission, the Illinois Commerce Commission, the Indiana Utility
9 Regulatory Commission, the Minnesota Public Utilities Commission, the Missouri
10 Public Service Commission, the North Dakota Public Service Commission, the Public
11 Utilities Commission of Ohio, the Oregon Public Utility Commission, the Rhode Island
12 Public Utilities Commission, the Virginia State Corporation Commission, the Public
13 Service Commission of Wisconsin, the Washington Utilities and Transportation
14 Commission, and the Wyoming Public Service Commission. I have also assisted in
15 the analysis of transmission line routes proposed in certificate of convenience and
16 necessity proceedings before the Public Utility Commission of Texas.

17 In 2009, I completed the University of Wisconsin – Madison High Voltage
18 Direct Current ("HVDC") Transmission Course for Planners that was sponsored by
19 the Midwest Independent Transmission System Operator, Inc. ("MISO").

20 BAI was formed in April 1995. BAI and its predecessor firm has participated in
21 more than 700 regulatory proceeding in forty states and Canada.

22 BAI provides consulting services in the economic, technical, accounting, and
23 financial aspects of public utility rates and in the acquisition of utility and energy
24 services through RFPs and negotiations, in both regulated and unregulated markets.

1 Our clients include large industrial and institutional customers, some utilities and, on
2 occasion, state regulatory agencies. We also prepare special studies and reports,
3 forecasts, surveys and siting studies, and present seminars on utility-related issues.

4 In general, we are engaged in energy and regulatory consulting, economic
5 analysis and contract negotiation. In addition to our main office in St. Louis, the firm
6 also has branch offices in Phoenix, Arizona and Corpus Christi, Texas.

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**MISSOURI-AMERICAN WATER COMPANY
COMPANY PROPOSAL
COMPARISON OF COST OF SERVICE WITH
REVENUE UNDER PRESENT RATES
TEST YEAR ENDED DECEMBER 31, 2014**

Line	District (1)	Present Revenue (2)	District-Specific Pricing Cost of Service		Increase (4)	% Increase (5)
1	Brunswick	\$ 388,333	\$ 619,776	\$ 231,443		59.6%
2	Jefferson City	8,365,131	8,632,680	267,549		3.2%
3	Joplin	19,125,990	20,586,634	1,460,644		7.6%
4	Mexico	4,194,496	4,743,951	549,455		13.1%
5	Platte County	6,510,007	7,983,820	1,473,813		22.6%
6	St. Joseph	22,868,328	23,957,671	1,089,343		4.8%
7	St. Louis Metro	184,763,899	228,248,118	43,484,219		23.5%
8	Warrensburg	3,972,466	4,372,210	399,744		10.1%
9	Subtotal	250,188,650	299,144,860	48,956,210		19.6%
10	Other Districts	\$ 2,408,223	\$ 2,729,063	\$ 320,840		13.3%
11	Total (All Districts)	\$ 252,596,873	\$ 301,873,923	\$ 49,277,050		19.5%

**MISSOURI-AMERICAN WATER COMPANY
COMPANY PROPOSAL
COMPARISON OF PROPOSED CONSOLIDATED PRICING WITH REVENUE
UNDER PRESENT RATES
TEST YEAR ENDED DECEMBER 31, 2014**

Line	District (1)	Present Revenue (2)	Proposed Revenue		Increase (4)	% Increase (5)
12	Brunswick	\$ 388,333	\$ 345,257	\$ (43,076)		-11.1%
13	Jefferson City	8,365,131	9,103,040	737,909		8.8%
14	Joplin	19,125,990	19,740,380	614,390		3.2%
15	Mexico	4,194,496	4,318,195	123,699		2.9%
16	Platte County	6,510,007	6,158,748	(351,259)		-5.4%
17	St. Joseph	22,868,328	22,660,378	(207,950)		-0.9%
18	St. Louis Metro	184,763,899	231,241,287	46,477,388		25.2%
19	Warrensburg	3,972,466	4,691,407	718,941		18.1%
20	Subtotal	250,188,650	298,258,692	48,070,042		19.2%
21	Other Districts	\$ 2,408,223	\$ 3,614,864	\$ 1,206,641		50.1%
22	Total (All Districts)	\$ 252,596,873	\$ 301,873,556	\$ 49,276,683		19.5%

**MISSOURI-AMERICAN WATER COMPANY
COMPANY PROPOSAL
CALCULATION OF SUBSIDY
TEST YEAR ENDED DECEMBER 31, 2014**

Line	District (1)	District-Specific Pricing Cost of Service		Proposed Revenue (3)	Subsidy (4)	% Increase (5)
23	Brunswick	\$ 619,776	\$ 345,257	\$ 345,257	\$ (274,519)	-44.3%
24	Jefferson City	8,632,680	9,103,040	9,103,040	470,360	5.4%
25	Joplin	20,586,634	19,740,380	19,740,380	(846,254)	-4.1%
26	Mexico	4,743,951	4,318,195	4,318,195	(425,756)	-9.0%
27	Platte County	7,983,820	6,158,748	6,158,748	(1,825,072)	-22.9%
28	St. Joseph	23,957,671	22,660,378	22,660,378	(1,297,293)	-5.4%
29	St. Louis Metro	228,248,118	231,241,287	231,241,287	2,993,169	1.3%
30	Warrensburg	4,372,210	4,691,407	4,691,407	319,197	7.3%
31	Subtotal	299,144,860	298,258,692	298,258,692	(886,168)	-0.3%
32	Other Districts	\$ 2,729,063	\$ 3,614,864	\$ 3,614,864	\$ 885,801	32.5%
33	Total (All Districts)	\$ 301,873,923	\$ 301,873,556	\$ 301,873,556	\$ (367)	0.0%

**MISSOURI-AMERICAN WATER COMPANY
COMPANY PROPOSAL
ST. LOUIS METRO DISTRICT
CALCULATION OF SUBSIDY
TEST YEAR ENDED DECEMBER 31, 2014**

Line	Rate (1)	District-Specific Pricing Cost of Service (2)	Proposed Revenue (3)	Subsidy (4)	% of Total Subsidy (5)
1	Rate A - Res/Com/Ind/OPA	\$ 209,097,492	\$ 210,254,974	\$ 1,157,482	38.7%
2	Rate B - Sales for Resale	2,703,797	3,420,355	716,558	23.9%
3	Rate J - Manufacturing	7,000,296	8,419,384	1,419,088	47.4%
4	Rate F - Private Fire	3,096,131	2,796,173	(299,958)	-10.0%
5	Rate E - Public Fire	-	-	-	0.0%
6	Subtotal	221,897,716	224,890,886	2,993,170	100.0%
7	Other Revenues	\$ 6,350,401	\$ 6,350,401	\$ -	0.0%
8	Total	\$ 228,248,117	\$ 231,241,287	\$ 2,993,170	100.0%

**MISSOURI-AMERICAN WATER COMPANY
COMPANY PROPOSAL
ST. LOUIS METRO DISTRICT
COMPARISON OF COST OF SERVICE WITH REVENUE UNDER PRESENT RATES
TEST YEAR ENDED DECEMBER 31, 2014**

Line	Rate (1)	Present Revenue (2)	District-Specific Pricing Cost of Service (3)	Increase (4)	% Increase (5)
9	Rate A - Res/Com/Ind/OPA	\$ 166,637,144	\$ 209,097,492	\$ 42,460,348	25.5%
10	Rate B - Sales for Resale	2,892,461	2,703,797	(188,664)	-6.5%
11	Rate J - Manufacturing	6,571,486	7,000,296	428,810	6.5%
12	Rate F - Private Fire	2,312,409	3,096,131	783,722	33.9%
13	Rate E - Public Fire	-	-	-	
14	Subtotal	178,413,500	221,897,716	43,484,216	24.4%
15	Other Revenues	\$ 6,350,401	\$ 6,350,401	\$ -	0.0%
16	Total	\$ 184,763,901	\$ 228,248,117	\$ 43,484,216	23.5%

**MISSOURI-AMERICAN WATER COMPANY
COMPANY PROPOSAL
ST. LOUIS METRO DISTRICT
PROPOSED REVENUES VS. PRESENT REVENUES
TEST YEAR ENDED DECEMBER 31, 2014**

Line	Rate (1)	Present Revenue (2)	Proposed Revenue (3)	Increase (4)	% Increase (5)
17	Rate A - Res/Com/Ind/OPA	\$ 166,637,144	\$ 210,254,974	\$ 43,617,830	26.2%
18	Rate B - Sales for Resale	2,892,461	3,420,355	527,894	18.3%
19	Rate J - Manufacturing	6,571,486	8,419,384	1,847,898	28.1%
20	Rate F - Private Fire	2,312,409	2,796,173	483,764	20.9%
21	Rate E - Public Fire	-	-	-	
22	Subtotal	178,413,500	224,890,886	46,477,386	26.1%
23	Other Revenues	\$ 6,350,401	\$ 6,350,401	\$ -	0.0%
24	Total	\$ 184,763,901	\$ 231,241,287	\$ 46,477,386	25.2%

**MISSOURI-AMERICAN WATER COMPANY
MIEC MODIFIED COST OF SERVICE STUDY
DISTRICT-SPECIFIC PRICING
ST. LOUIS METRO DISTRICT
TEST YEAR ENDED DECEMBER 31, 2014**

<u>Line</u>	<u>Rate</u>	<u>Present Revenue</u>	<u>Cost of Service</u>	<u>Increase</u>	<u>% Increase</u>
	(1)	(2)	(3)	(4)	(5)
1	Rate A - Res/Com/Ind/OPA	\$ 166,637,144	\$ 209,401,982	\$ 42,764,838	25.7%
2	Rate B - Sales for Resale	2,892,461	2,629,622	(262,839)	-9.1%
3	Rate J - Manufacturing	6,571,486	6,698,026	126,540	1.9%
4	Rate F - Private Fire	2,312,409	3,158,002	845,593	36.6%
5	Rate E - Public Fire	-	-	-	
6	Subtotal	178,413,500	221,887,632	43,474,132	24.4%
7	Other Revenues	\$ 6,350,401	\$ 6,350,401	\$ -	0.0%
8	Total	\$ 184,763,901	\$ 228,238,033	\$ 43,474,132	23.5%

**MISSOURI-AMERICAN WATER COMPANY
MIEC PROPOSED CLASS REVENUE ALLOCATION
DISTRICT-SPECIFIC PRICING
ST. LOUIS METRO DISTRICT
TEST YEAR ENDED DECEMBER 31, 2014**

<u>Line</u>	<u>Rate</u>	<u>Present Revenue</u>	<u>Proposed Revenue</u>	<u>Increase</u>	<u>% Increase</u>
	(1)	(2)	(3)	(4)	(5)
9	Rate A - Res/Com/Ind/OPA	\$ 166,637,144	\$ 209,168,587	\$ 42,531,443	25.5%
10	Rate B - Sales for Resale	2,892,461	2,892,461	-	0.0%
11	Rate J - Manufacturing	6,571,486	6,698,026	126,540	1.9%
12	Rate F - Private Fire	2,312,409	3,128,559	816,150	35.3%
13	Rate E - Public Fire	-	-	-	
14	Subtotal	178,413,500	221,887,632	43,474,132	24.4%
15	Other Revenues	\$ 6,350,401	\$ 6,350,401	\$ -	0.0%
16	Total	\$ 184,763,901	\$ 228,238,033	\$ 43,474,132	23.5%

**MISSOURI-AMERICAN WATER COMPANY
MIEC PROPOSED RATE DESIGN - RATE J
ST. LOUIS METRO DISTRICT
TEST YEAR ENDED DECEMBER 31, 2014**

<u>Line</u>	<u>Description</u> (1)	<u>Customer Meter Billings</u> (2)	<u>Sales 100 Gallons</u> (3)	<u>Current Rate</u> (4)	<u>Current Revenue</u> (5)	<u>MIEC Proposed Rate</u> (6)	<u>MIEC Proposed Revenue</u> (7)	<u>Increase</u> (8)	<u>% Increase</u> (9)
<u>Minimum Charge</u>									
1	5/8"	0		\$ 13.13	\$ -	\$ 13.38	\$ -	\$ -	-
2	3/4"	0		14.69	-	14.97	-	-	-
3	1"	24		17.73	426	18.07	434	8	1.93%
4	1-1/2"	84		25.41	2,134	25.90	2,176	41	1.93%
5	2"	365		34.60	12,629	35.27	12,872	243	1.93%
6	3"	345		59.10	20,390	60.24	20,783	393	1.93%
7	4"	485		86.68	42,040	88.35	42,850	810	1.93%
8	6"	398		163.29	64,989	166.44	66,242	1,253	1.93%
9	8"	170		255.23	43,389	260.15	44,225	836	1.93%
10	10"	89		377.82	33,626	385.10	34,274	648	1.93%
11	12"	0		-	-	-	-	-	-
<u>Volumetric Charge</u>									
12	Monthly All Water		41,036,486	\$ 0.1550	\$ 6,361,476	\$ 0.1580	\$ 6,484,093	\$ 122,617	1.93%
13	Monthly Fixed Charge and Cr				(9,735)		(9,923)		1.93%
14	Total Charges				\$ 6,571,364		\$ 6,698,026	\$ 126,662	1.93%