

ORIGINAL

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October 10, 2003

Missouri Public Service Commission  
Attn: Secretary of the Commission  
200 Madison Street, Suite 100  
P.O. Box 360  
Jefferson City, Missouri 65102-0360

**FILED<sup>2</sup>**  
OCT 10 2003  
Missouri Public  
Service Commission

Re: Case No. WR-2003-0500  
Missouri-American Water Company

Dear Mr. Roberts:

Please find enclosed for filing in the above-referenced case an original and eight (8) copies of the Direct Testimony of Dennis M. Kalbarczyk, filed on behalf the intervenor The Empire District Electric Company. Please note that only Schedule 2 to Mr. Kalbarczyk's testimony has been deemed to be Highly Confidential and that Schedule 2 has been provided in duly marked sealed envelopes. One copy of a non-proprietary version of the testimony itself is being provided as well pursuant to 4 CSR 240-2.085(3).

Copies of the filing have on this date been mailed or hand-delivered to counsel for all parties of record. Thank you.

Sincerely,



Brent Stewart

CBS/bt

Enclosure

cc: Counsel for all parties of record  
David Gibson  
Dennis Kalbarczyk

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Exhibit No.:  
Issue: Rate Design; Interruptible Rate  
Witness: Dennis M. Kalbarczyk  
Sponsoring Party: The Empire District Electric Co.  
Type of Exhibit: Direct Testimony  
Case No.: WR-2003-0500  
Date Testimony Prepared: October 10, 2003

FILED<sup>2</sup>  
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Missouri Public  
Service Commission

MISSOURI PUBLIC SERVICE COMMISSION

THE EMPIRE DISTRICT ELECTRIC COMPANY

DIRECT TESTIMONY

OF

DENNIS M. KALBARCZYK

MISSOURI-AMERICAN WATER COMPANY

CASE NO. WR-2003-0500


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

In the Matter of the General Rate Increase for	)	
Water Service Provided by Missouri-American	)	Case No. WR-2003-0500
Water Company.	)	
The Empire District Electric Company,	)	
	)	
Complainant.	)	
	)	
v.	)	
	)	
Missouri-American Water Company,	)	
	)	
Respondent.	)	

**AFFIDAVIT OF DENNIS M. KALBARCZYK**

COMMONWEALTH OF PENNSYLVANIA	)	
	)	
COUNTY OF DAUPHIN	)	

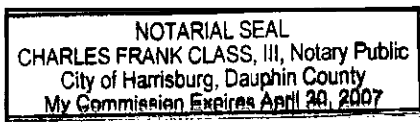
Dennis M. Kalbarczyk, being of lawful age, on his oath states: that he has participated in the preparation of the foregoing Direct Testimony in question and answer form, consisting of \_\_\_\_\_ pages to be presented in the above case; that the answers in the foregoing Direct Testimony were given by him; that he has knowledge of the matters set forth in such answers; and that such matters are true and correct to the best of his knowledge and belief.

  
Dennis M. Kalbarczyk

**Sworn To And Subscribed  
Before Me This Day,**

*Oct - 07<sup>th</sup> 2003*





1                                   **DIRECT TESTIMONY**  
2                                   **OF**  
3                                   **DENNIS M. KALBARCZYK**  
4                   **MISSOURI - AMERICAN WATER COMPANY**  
5                   **Case No. WR-2003-0500**  
6

7   **Q.    STATE YOUR NAME AND BUSINESS ADDRESS.**

8   A.   My name is Dennis M. Kalbarczyk. My business address is 910  
9       Piketown Road, Harrisburg, Pennsylvania 17112.  
10

11 **Q.    BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?**

12 A.   I am the principal in Utility Rate Resources and also  
13 maintain a professional relationship with The Liberty  
14 Consulting Group. I provide consulting services in the field  
15 of public utility regulation and ratemaking.  
16

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

18 A.   My educational background and experience are set forth in  
19 Schedule DMK-1 attached to this testimony.  
20

21 **Q.    ON WHOSE BEHALF ARE YOU SUBMITTING TESTIMONY IN THIS**  
22 **PROCEEDING?**

23 A.   I am appearing on behalf of The Empire District Electric  
24 Company ("Empire"). Empire is a customer of Missouri-  
25 American Water Company ("MAWC"). Empire takes services  
26 within MAWC's Joplin District, whose proposed general rate  
27 increase tariff will produce approximately \$786,778 in

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1 additional gross annual water revenues, excluding gross  
2 receipts and sales taxes.

3  
4 **Q. PLEASE STATE THE BASIS OF YOUR INVOLVEMENT IN THE INSTANT**  
5 **RATE CASE.**

6 A. Empire, an industrial customer taking service under MAWC's  
7 Joplin District Tariff, was notified of the pending rate case  
8 filing and that its proposed rates applicable to Empire would  
9 increase by approximately 8.3%. Empire filed and was granted  
10 approval from the Commission to intervene in the instant rate  
11 case. Empire requested that I review the filing to determine  
12 if MAWC's proposed Joplin District water rate tariff filing  
13 provided for an interruptible rate under which it could take  
14 service. Finally, Empire requested that I submit testimony  
15 and testify on its behalf if the tariffs as filed by MAWC did  
16 not contain such an interruptible rate.

17  
18 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

19 A. The purpose of my testimony is to present my professional  
20 opinions and recommendations related to MAWC's proposed water  
21 tariff as it pertains to Empires' interest in an  
22 interruptible rate. More specifically, I will address the  
23 well-reasoned acceptance of such a rate within the regulated  
24 utility industry generally and that, based upon Empire's  
25 current and future operating characteristics, it would be

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1 appropriate to provide for an interruptible rate. Finally, I  
2 will testify as to what the appropriate interruptible rate  
3 and tariff language should be as it pertains to Empire and  
4 other similarly-situated customers.

5  
6 **Q. PLEASE SUMMARIZE YOUR CONCLUSIONS, OPINIONS, AND**  
7 **RECOMMENDATIONS WITH REGARD TO THE INSTANT PROCEEDING.**

8 **A.** Based upon my independent review and analysis of the rate  
9 case filing which included a review of MAWC's direct  
10 testimony along with information supplied by MAWC through  
11 formal and informal discovery, as well as information  
12 provided by Empire, I have reached the following conclusions  
13 and opinions, and propose a number of recommendations to  
14 address these issues:

- 15  
16 1) MAWC's Joplin District current and proposed tariff  
17 and rate design does not provide for an  
18 interruptible rate from which Empire could take  
19 service.  
20  
21 2) As will be discussed in more detail later in my  
22 testimony, Empire and MAWC have entered into a long  
23 term contractual arrangement which: a) does not  
24 require MAWC to maintain minimum water pressure  
25 requirements; b) allows MAWC to curtail and/or  
26 interrupt water service to Empire; and, c) requires  
27 Empire to take service for a long term period with  
28 a minimum annual revenue charge.  
29  
30 3) Simply put, while Empire has made a long term  
31 commitment to minimize its water service  
32 requirements it would unfairly continue to pay the  
33 same industrial water rates which are premised upon  
34 a commitment to provide service at minimum pressure  
35 with an uninterrupted or firm supply of water

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without any long term commitment to continue taking service from MAWC.

4) As I will explain later in my testimony, a special consideration rate such as an interruptible rate designed to take into consideration Empire's agreement to minimize its water service requirements, when reasonably priced, is beneficial to all of MAWC's customers as well as to Empire's electric customers.

5) In my opinion, as will be reflected in the proposed interruptible rate tariff rider discussed later, the tariff provision, in general, should include a long term commitment to take service, minimized water service requirements, maintenance of a water storage facility, and a provision which provides for the curtailment and/or interruption of water service to be accompanied by a contractual arrangement between the parties which more clearly outlines the terms of the agreement.

6) In my opinion, based upon my analysis of MAWC's cost of service study for the Joplin District as will be discussed in more detail later in my testimony, the appropriate interruptible rate for Empire should not exceed the base volumetric cost for the large industrial class of \$.666 per 1,000 gallons or \$.4995 per CCF until such amount shall meets the minimum annual charge; upon meeting the minimum annual charge all subsequent volumes should be priced no greater than the fully loaded production cost of water estimated at \$.357 per 1,000 gallons or \$.2678 per CCF.

7) Should the Commission make changes to MAWC's proposed filing, I would recommend that the cost of service study be re-run, and consistent with my analysis, the adjusted base cost of water and fully loaded production cost of water associated with Empire's interruptible rate should be recalculated, exclusive of the minimum annual charge provided for under the contract.

**Q. MR. KALBARCZYK, EARLIER IN YOUR TESTIMONY YOU STATED THAT  
EMPIRE ENTERED INTO A CONTRACTUAL ARRANGEMENT WITH MAWC TO**

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OBTAIN WATER SERVICE IN THE JOPLIN DISTRICT. PLEASE EXPLAIN  
YOUR UNDERSTANDING OF THAT CONTRACT.

A. On August 20, 2001 and then again on December 14, 2001,  
Empire entered into a contractual arrangement with MAWC to  
secure water service for its electric production facility  
located in Joplin, Missouri. Pursuant to paragraph A(1) of  
the Commission's Protective Order issued in this case, a copy  
of these contracts are attached to my testimony as HIGHLY  
CONFIDENTIAL DMK Schedule 2. In brief, the contracts provide  
for the following general terms:

- 1) MAWC shall not be required to provide or maintain water pressures to Empire.
- 2) MAWC's obligation to supply water is limited and while it will use reasonable care to avoid interruptions and fluctuations in supply, it can curtail and/or interrupt service to Empire.
- 3) Empire, at its expense, built a storage facility at its site to allow its electric production facility to be an interruptible customer during times of MAWC's peak demands.
- 4) MAWC, at its expense, would construct and install the necessary water mains to serve Empire's electric production facility.
- 5) Upon completion of the facilities to be constructed by MAWC, Empire agreed to a long term service agreement



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1           which agreement also provides for liquidated damages if  
2           Empire should terminate the service agreement.

3           6)   Upon completion of the facilities by MAWC, Empire also  
4           agreed that Commission rates as approved for MAWC would  
5           generate a minimum annual level of revenues to MAWC  
6           throughout the life of the long term service agreement.

7           7)   Empire agreed to pay the then current approved  
8           Commission industrial rates.   Further, the agreement  
9           provides that Empire may propose and MAWC will support  
10          an alternate "interruptible" tariff during any  
11          subsequent applicable rate proceeding, notwithstanding  
12          the forgoing minimum annual revenue charge as discussed  
13          above.

14  
15   **Q.   WHAT IS THE SIGNIFICANCE OF EMPIRE'S AGREEMENT TO BE AN**  
16   **INTERRUPTIBLE CUSTOMER?**

17   **A.**   A utility incurs costs to meet the needs of its customers.  
18           Those needs include the production of water to meet the  
19           required pressure levels and volume of supply for both normal  
20           and peak rates of use which vary among customers and customer  
21           classes.  Customers provided with firm water service, or in  
22           other words, unlimited service at required pressure levels  
23           and in the amounts and times desired, place considerable  
24           demands on the utility operating system, especially in peak  
25           periods.  Unlike those customers who require or demand *firm*  
26           water service, Empire's agreement to take *non-firm* service,

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1 or in other words curtailed or interruptible service, frees  
2 up the facilities required to provide firm service to the  
3 customers who desire such service during those periods of  
4 time. Thus, non-firm customers, like Empire, should receive  
5 consideration in establishing an interruptible rate when they  
6 enter into a contractual arrangement for such service from  
7 the utility provider. This basic, fundamental regulatory  
8 principle and approach has been followed by this and other  
9 utility regulatory commissions across the country for many  
10 years.

11  
12 **Q. WHAT DO YOU MEAN BY CONSIDERATION IN ESTABLISHING RATES FOR**  
13 **AN INTERRUPTIBLE CUSTOMER?**

14 **A.** Because the level of service is not the same, in establishing  
15 rates for an interruptible customer, consideration should be  
16 given to the design or charging of rates which are less than  
17 the rates charged to customers who are provided firm and/or  
18 unlimited water service. Such rates would consist of those  
19 costs associated with the providing of water from existing  
20 facilities, i.e., power and chemical cost as well as other  
21 costs in addition to these purely incremental costs. From an  
22 industry standpoint, consideration of interruptible rates are  
23 well founded and help to maintain and/or attract customers,  
24 especially those customers who have alternatives to the  
25 services provided by the utility.

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1   **Q.   PLEASE CONTINUE.**

2   A.   From an economic standpoint, a utility customer who can  
3       obtain and/or develop part or all of its needed utility  
4       supply can result in a smaller overall utility customer base  
5       over which the remaining cost would be spread. This scenario  
6       would result in higher rates to the remaining customers.  
7       Additionally, in some cases, customers who decide to put in  
8       their own storage facilities minimize and/or eliminate the  
9       reliance upon existing facilities and/or defer the need for  
10      new utility-provided facilities. This scenario would result  
11      in lower rates to customers while still maintaining necessary  
12      operating requirements. These are but a few examples of the  
13      considerations a regulatory body would consider when  
14      implementing rates to reflect the unique operating  
15      characteristic of the customer along with such economic  
16      considerations as it relates to both the customer and  
17      utility.

18

19   **Q.   CAN YOU PROVIDE EXAMPLES OF OTHER SUCH RATE CONSIDERATIONS?**

20   A.   Yes. The Pennsylvania Public Utility Commission has approved  
21       a number of rates for the water utilities it regulates which  
22       takes into consideration the unique operating characteristics  
23       and economic impacts on the customer and utility. For  
24       example, Pennsylvania American Water Company has six tariff  
25       rates which provide for such consideration in its rates.  
26       They are as follows: Industrial Curtailment Rate, Resale and

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1 Electric Generation Standby Rate, Industrial Standby Rate,  
2 Rider DIS - Demand Based Industrial Service, Rider DRS -  
3 Demand-Based Resale Service, and Rate EGS - Electric  
4 Generation Service. Without getting into the specifics of  
5 each, in general, the tariffs are designed to recognize the  
6 unique characteristics of how the customer operates, along  
7 with the demands placed on the utility's system, and balances  
8 the economics of maintaining and/or attracting them as a  
9 utility customer.

10  
11 **Q. WHAT COSTS WOULD YOU RECOMMEND FOR INCLUSION IN AN**  
12 **INTERRUPTIBLE RATE?**

13 **A.** The basic premise is that rates should reflect the cost of  
14 providing water service. A sound analysis of the development  
15 of any proposed rate should reflect the allocation of costs  
16 commensurate with the service requirements of furnishing the  
17 different types of service based upon the total volume of  
18 water and peak rates of use or demand, as well as other  
19 factors. Thus, one relies upon a cost of service study which  
20 allocates the total cost of service or revenue requirement  
21 among the customer classes based upon their respective  
22 service characteristics, demand patterns, including whether  
23 service is provided on a firm or non-firm basis, along with  
24 other considerations. A customer class cost of service study  
25 is a reasonable and objective tool for the design and  
26 establishment of rates among the customer classes that, when

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1       relied upon, demonstrates that rates are nondiscriminatory  
2       and meet as nearly as possible the cost of providing service  
3       to such customer classes.

4  
5   **Q.   DID MAWC PERFORM A CUSTOMER CLASS COST OF SERVICE STUDY IN**  
6   **THE INSTANT PROCEEDING?**

7   A.   Yes.   However, MAWC's customer class cost of service study  
8       and its ultimate rate design did not provide a rate for  
9       interruptible customers such as Empire.   I would note that,  
10      despite this oversight, the customer class cost of service  
11      study as prepared, along with its supporting workpapers, does  
12      provide sufficient information for one to determine an  
13      appropriate and reasonable interruptible rate.

14  
15   **Q.   PLEASE CONTINUE.**

16   A.   Mr. Paul R. Herbert on behalf of MAWC performed a fully  
17       allocated customer class cost of service study for each of  
18       the operating districts.   Mr. Herbert in his testimony noted  
19       he selected the base-extra capacity method, as described in  
20       the 2000 (and prior) Water Rates Manual published by the  
21       American Water Works Association ("AWWA").   Briefly, the AWWA  
22       manual describes two widely accepted cost of service study  
23       methodologies, the base-extra capacity method and the  
24       commodity-demand method.   In my opinion, due to MAWC's size  
25       and complexity, Mr. Herbert's selection of the base-extra  
26       capacity method over the commodity-demand method is

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1 appropriate in that costs are more fairly allocated to  
2 customer classes based upon their respective functional  
3 characteristics. In comparison, the base-extra capacity  
4 method includes commodity cost as base cost, and it also  
5 reflects some costs of facilities and expenses which under  
6 the commodity-demand method would be fully allocated as a  
7 functional demand cost. For example, under the commodity-  
8 demand method cost of pumping plant would be fully allocated  
9 to demand while under the base-extra capacity method a  
10 portion of the cost would be allocated to both base cost and  
11 demand. Thus, the base-extra capacity method takes into  
12 consideration that pumping facilities are required to meet  
13 average day requirements or base costs as well as maximum-day  
14 and maximum-hour demands. Finally, Mr. Herbert in his  
15 testimony, as well as in his study, provided a brief  
16 explanation as to the principal considerations one would use  
17 in determining how the various cost elements in the total  
18 cost of service are to be allocated on a functional basis  
19 under the base-extra capacity method, with which I am in  
20 agreement.

21  
22 **Q. CAN YOU PLEASE SUMMARIZE THESE FUNCTIONAL CONSIDERATIONS?**

23 **A.** Yes. The functional characteristics under the base-extra  
24 capacity method include base cost, maximum-day and maximum-  
25 hour demand, fire protection, customer meter and services,  
26 and customer billing costs. As I noted earlier and as Mr.

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Herbert explained in more detail in his testimony, the various cost of service elements are either fully and/or partially allocated to these functional categories based upon their respective characteristic to the system averages and then distributed to the customer classes based upon the customer classes' respective functional characteristics. However, MAWC's cost of service study for the Joplin District has included Empire as a industrial customer taking firm service rather than an interruptible customer. As discussed earlier, under the contractual agreement between MAWC and Empire, MAWC can curtail and/or interrupt Empire's service during times of MAWC's peak water usage, or in other words, during periods of maximum-day demand or maximum-hour demand.

**Q. IN THAT MAWC CAN CURTAIL AND/OR INTERRUPT EMPIRE DURING MAXIMUM-DAY AND/OR MAXIMUM-HOUR DEMAND PERIODS, IS IT APPROPRIATE TO ALLOCATE ANY OF THESE FUNCTIONAL COSTS TO EMPIRE?**

**A.** No. Simply put, Empire's agreement provides for non-firm service and during maximum-day and maximum-hour periods can be curtailed and/or interrupted for the benefit of those customers who require and/or demand firm service from MAWC. Based upon the contractual agreement with MAWC, Empire's only cost responsibility should be those cost of service elements which are allocated as a function of base cost and its

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1 corresponding cost related to the development of the customer  
2 charge.

3  
4 **Q. BASED UPON THE INFORMATION CONTAINED IN THE FILING AS WELL AS**  
5 **INFORMATION PROVIDED IN DISCOVERY ARE YOU ABLE TO DETERMINE**  
6 **WHAT AN APPROPRIATE RATE SHOULD BE UNDER AN INTERRUPTIBLE**  
7 **RATE?**

8 A. Yes. I have reviewed the as-filed cost of service study for  
9 the Joplin District as well as the supporting workpapers  
10 provided in response to EDEC Data Request #1. Included in  
11 those workpapers was a detailed analysis which reflected the  
12 fully allocated functional costs related to base cost,  
13 maximum-day, and maximum-hour demand costs of service.  
14 Attached to my testimony as Schedule DMK-3 is copy of Mr.  
15 Herbert's functional cost allocation for the Joplin District.  
16 Since base cost is a function of volumetric usage and is  
17 allocated to the customer classes in the same relationship,  
18 one need only divide the fully allocated base cost by the  
19 total usage or sales volumes to arrive at a base cost  
20 volumetric rate. As a further clarification, I would note  
21 that Mr. Herbert's cost of service study appropriately  
22 considered the removal of costs associated with smaller main  
23 sizes. The importance of this distinction is that some of  
24 the industrial customers do not utilize the smaller main  
25 sizes in obtaining service. Thus, working with the  
26 electronic version of the cost of service study provided by



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1 MAWC, I removed the cost elements related to the smaller main  
2 sizes and when divided by the total sales volume produced a  
3 rate of \$.671 per 1,000 gallon. I have attached a copy of the  
4 analysis which I reference as Schedule DMK-4. I then  
5 compared this rate to MAWC's proposed rate schedule for the  
6 Joplin District industrial class. I note that the proposed  
7 rate in the last rate block was \$.666 per 1,000 gallons.

8  
9 **Q. WHAT IS THE SIGNIFINANCE OF THIS ANALYSIS?**

10 A. In my opinion, from a rate design perspective the last rate  
11 block for the large industrial customer should closely  
12 approximate the base cost volumetric rate. In that my  
13 analysis removed costs associated with the smaller main sizes  
14 and produced a \$.671 per 1,000 gallon base cost volumetric  
15 rate, it provided a reasonable comfort level that the  
16 proposed last block of \$.666 for the large industrial class  
17 reasonably accomplished the same. Thus, I recommend that the  
18 appropriate interruptible rate be no more than \$.666 per  
19 1,000 gallons or \$.4995.

20  
21 **Q. DO YOU HAVE ANY OTHER COMMENTS WITH REGARD TO EMPIRE'S  
22 PROPOSED INTERRUPTIBLE RATE?**

23 A. Yes. I would note that Empire's current contractual  
24 agreement provides for a minimum annual revenue charge.  
25 Under this arrangement, once Empire meets that threshold it  
26 is not required to purchase any more water from MAWC. In

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1       that light, I would recommend that Empires Interruptible Rate  
2       provide for an additional incentive to procure additional  
3       water above the minimum annual charge but at a rate less than  
4       my proposed adjusted base cost volumetric rate. I would  
5       recommend that any volumes purchased above the minimum annual  
6       charge be based upon a rate that does not exceed the fully  
7       loaded base production cost of water. In brief, a fully  
8       loaded base production cost of water would include not only  
9       the base variable expenses associated with electric and  
10      chemicals but would also provide for a return on and of the  
11      base cost of the facilities used to produce the water.

12  
13   **Q.   HOW DID YOU CALCULATE THE FULLY LOADED BASE PRODUCTION COST**  
14   **OF WATER?**

15   **A.**   Again using the electronic cost of service workpapers for the  
16       Joplin District, I removed all those components which are not  
17       related to fully loaded production cost of water as described  
18       above. In summary, as shown on the attached Schedule DMK-5  
19       the volumetric charge above the minimum annual charge for the  
20       industrial interruptible rate should not exceed the resultant  
21       volumetric rate for the fully loaded production cost of water  
22       of \$.357 per 1,000 gallons or \$.2678 per CCF.

23  
24   **Q.   EARLIER IN YOUR TESTIMONY YOU INDICATED THAT YOU WOULD**  
25   **PROVIDE THE TARRIFF LANGUAGE FOR EMPIRES PROPOSED**  
26   **INTERRUPTIBLE RATE. HAVE YOU PROVIDED THAT?**

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1 A. Yes. Attached as Schedule DMK-6 is a specimen tariff for  
2 Empire's proposed Interruptible Rate. In brief, the tariff  
3 language provides for a Rider which encompasses the core  
4 requirements the applicant must meet to qualify for such a  
5 rate, i.e., be a industrial customer; water used for  
6 industrial purposes; enter into a long term service  
7 agreement; agrees to take water without any firm pressure  
8 requirements; agrees to have and maintain a fully operational  
9 water storage facility; agrees to a minimum annual charge  
10 under the rate; and, agrees to the reasonable curtailment  
11 and/or interruption of service.

12  
13 **Q. DO YOU HAVE ANY OTHER COMMENTS?**

14 A. Yes. Should the Commission make changes to MAWC's proposed  
15 filing, I would recommend that the cost of service study be  
16 re-run, and consistent with my analysis discussed above, the  
17 adjusted base cost of water and fully loaded production cost  
18 of water for Empire's interruptible rate would be  
19 recalculated, exclusive of any change to the minimal annual  
20 charge reflected in the contractual agreement between Empire  
21 and MAWC.

22  
23 **Q. DOES THAT CONCLUDE YOUR DIRECT TESTIMONY?**

24 A. Yes.

**Dennis M. Kalbarczyk**

**Educational and Professional Experience**

I graduated in 1971 with a Bachelor of Science Degree in Accounting from Husson College, Bangor, Maine. In 1969, I received an Associate in Art Degree in Accounting from Strayer College, Washington D.C.

I am the principal in Utility Rate Resources, which was formed in October 1990. Utility Rate Resources also maintains a professional relationship with The Liberty Consulting Group ("Liberty"). Before forming the firm of Utility Rate Resources I was employed by Drazen-Brubaker & Associates, Inc. from March 1988 to September 1990 where I presented testimony and prepared financial statements necessary for Water and Sewer Utility Applications of Certificates of Public Convenience before the Pennsylvania Public Utility Commission (PaPUC). Additionally, I was responsible for the preparation and filing of rate cases, and testified on behalf of utilities under PaPUC regulation.

Prior to March 1988, I was employed by Metropolitan Edison Company (MET-ED), a subsidiary of GPU Energy, formerly General Public Utilities, for three years in their Rate Revenue Requirement Department as a Senior Financial Analyst. My responsibilities included the preparation, review and analysis of financial reports, budgets, and management philosophy of rate and regulatory matters before the PaPUC.

From 1975 through 1985, I was employed by the PaPUC where I actively participated and testified in matters related to the TMI Nuclear Accident replacement power issues before the PaPUC Commissioners; and, before PaPUC Administrative Law Judges (ALJ's) in nearly all the major electric rate cases regarding revenue

requirements, and performed audits on electric, gas, and water companies for compliance with Commission regulations in the areas of energy cost, coal and gas contracts, and affiliated service contracts for water companies. I testified before PaPUC ALJ's in Energy Cost Rate, Gas Cost Rate, and Coal Compliance proceedings. I actively participated in developing the Commission's first set of regulations on Fuel Procurement Policy and Procedures, Tariffs and procedures on Energy Cost Rates for electric companies and Gas Cost Rates for gas companies, and designed computerized procedures for electric utilities to report fossil fuel purchases to the PaPUC. From 1972 to 1975 I held progressive degrees of responsibilities with Certified Public Accounting firms performing accounting, auditing and tax preparation duties.

Utility Rate Resources specializes in the area of utility rate and economic consulting as it relates to the financial aspects of public utility rates and regulation i.e., rate case filings, certificates of public convenience, expert testimony, financial applications for funding by the Pennsylvania Infrastructure Investment Authority (PENNVEST). The firm participates in regulatory and legal proceedings concerning investor-owned and municipal utilities, and testifies before governmental agencies and Pennsylvania Courts of Common Pleas; and, has represented utilities as well as consumers of utility services. In 2002 and 2003, Utility Rate Resources provided senior level consulting services to Liberty related to an electric reliability audit of distribution delivery service system cost for its inclusion in revenue requirement values in a Delivery Service Tariff proceeding at the Illinois Commerce Commission and a focused audit related to financing, accounting, and related affiliated charges under regulatory review for the New Jersey Board of Public Utilities, respectively.

I have prepared rate case filings to include pro forma Revenue Requirement Study (RR), Cost of Service Study (CoS), Rate Design (RD) and/or supporting documents for Applications of Certificate of Public Convenience (CPC) for the following utilities, all of which were before the PaPUC:

<u>Year</u>	<u>Utility</u>	<u>Docket No.</u>	<u>Subject</u>
1988	Meadows Sewer Company	R-881173	RR and RD
1988	LP Water & Sewer Company		
	Water Division	A-211770	CPC, RR, CoS, RD
	Sewer Division	A-230242	CPC, RR, CoS, RD
1989	Honesdale Gas Company	R-891272	RR
1989	Valley Utilities Company, Inc.	R-891358	RR, RD
1990	Northumberland Utility Inc.		
	Butler Twp. Water Division	R-901668	RR, RD
1990	Winona Lakes Utilities, Inc.		
	Water Division	R-901749	RR, RD
	Sewer Division	R-901750	RR, RD
1990	Borough of Ambler	R-901881	RR, RD
1991	Audubon Water Company	R-911896	RR, RD
1992	Village Water Company	A-210110	CPC, RR, RD
1992	Superior Water Co; New Hanover & Douglas Twps	A-212955	CPC, RR, RD
1992	Regal Oaks, Inc.	A-230023	CPC, RR, RD
1992	LP Water & Sewer Company-Sewer Division	R-922493	RR, CoS, RD
1993	Superior Water Co.; Additional Douglas Twp.	A-212955F0003	CPC
1993	Borough of Phoenixville	R-932770	RR, RD
1993	Lake Spangenberg Water Co.	R-932658	RR, RD
1993	Evansburg Water Company	R-932930	RR, RD
1994	Spring Grove Water Co.	R-940386	RR, RD
1994	LP Water & Sewer Company-Water Division	R-943021	RR, CoS, RD
1994	Evansburg Water Company	R-943117	RR, RD
1994	Wilbar Realty Inc.-Water Division	R-943121	RR, RD
1994	Audubon Water Company	R-943224	RR, RD
1995	Borough of Ambler	R-953435	RR, RD
1995	LP Water & Sewer Company-Sewer Division	R-953496	RR, CoS, RD
1996	Spring Run Water Company, Inc. & B & E Water Company, Inc.	A-212845F200	CPC
1996	Superior Water Company; Skippack Twp.	A-212955F0005	CPC
1996	Superior Water Company; Worcester Twp.	A-212955F0006	CPC
1996	Center Square Water Company	R-963707	RR, RD

1997	Patriot Treatment Plant, Inc.	A-230076	CPC, RR, RD
1997	Superior Water Company; North Coventry	A-212955F0007	CPC
1997	Superior Water Company; Douglass Twp.	A-212955F0008	CPC
1998	Borough of Schuylkill Haven - Water Fund	R-00984392	RR, CoS, RD
1998	Audubon Water Company	R-00984425	RR, RD
1998	Superior Water Company; North Coventry	A-212955F0009	CPC
1998	City of Lancaster - Water Fund	R-00984567	RR, CoS, RD
1999	Elephant Walk Water Company	A-210087	CPC, RR, RD
1999	Elephant Walk Sewer Company	A-230082	CPC, RR, RD
1999	Superior Water Company	R-00994672	RR, CoS, RD
1999	Mountain Spring Water, Inc.	R-00994914	RR, RD
2000	City of Lancaster - Sewer Fund	R-00005109	RR, CoS, RD
2000	High Meadows Sewer Service, Inc.	R-00005257	RR, RD
2001	City of Lancaster - Water Fund -Rate Case -Tapping Fee	R-00016114	RR, CoS, RD
		R-00016297	Tapping Fee
2002	Monteforte Enterprises, Inc.	A-230093	CPC, RR, RD
2002	Audubon Water Company	R-00027104	RR, CoS, RD
2002	Borough of Schuylkill Haven - Water Fund	R-00027552	RR, CoS, RD
2003	Borough of Ambler Water Department	R-00038103	RR, CoS, RD
2003	Buck Hill Water Company	R-00038471	RR, RD
2003	High Meadows Sewer Service, Inc.	R-00038581	RR, RD
2003	Clean Treatment Sewage Company	R-0003_____	RR, RD

I testified and/or submitted testimony in the following cases:

<u>Year</u>	<u>Utility</u>	<u>Docket No.</u>	<u>Represented</u>	<u>Subject</u>
*	North Penn Gas Company	*	PaPUC	Gas Cost
*	Class A Pa. Electric Companies	*	PaPUC	Fuel Cost
*	Metropolitan Edison Co.	C-21597	PaPUC	Coal Contracts
1979	Metropolitan Edison Co./ Pennsylvania Electric Co.	I-79040308	PaPUC	TMI Repl.Pwr Cost
1982	Pa. Power & Light Co.	R-822169	PaPUC	Rev. Req. & Exp.
1982	Metropolitan Edison Co.	R-822249	PaPUC	Rev. Req. & Exp.
1982	Pennsylvania Electric Co.	R-822250	PaPUC	Rev. Req. & Exp.
1983	Duquesne Light Co.	R-832337	PaPUC	Rev. Req. & Exp.
1983	Penn Power co.	R-832409	PaPUC	Rev. Req. & Exp.
1983	Metropolitan Edison Co.	R-832549	PaPUC	Rev. Req. & Exp.
1984	Duquesne Light co.	R-842583	PaPUC	Rev. Req. & Exp.
1984	Pa. Power & Light Co.	R-842651	PaPUC	Rev. Req. & Exp.
1987	Superior Water Co.	A-212955	Superior	Cert.of Publ. Conv.
1988	Meadows Sewer Company	R-881173	Meadows	Rev. Req. Rate Design
1989	Media Borough Water Works	R-891258	Townships	Rev. Req. & Exp.
1989	Valley Utilities Company Inc.	R-891358	Valley	Rev Req/Exp/Rate Design
1989	Birch Acres Water Works	R-891430	BAWW	Rev Req/Exp/Rate Design
1990	Northumberland Utilities Co.Inc. Butler Twp Water Division	R-901668	Butler Twp	Rev Req/Exp/Rate Design
1990	Winona Lakes Utility Inc. (Water)	R-901749	WLU, Inc.	Rev Req/Exp/Rate Design
1990	Winona Lakes Utility Inc. (Sewer)	R-901750	WLU, Inc.	Rev Req/Exp/Rate Design
1990	CS Water & Sewer Associates	R-881147	Homeowners	Rev. Req. & Exp.
1990	CS Water & Sewer Associates	I-890088	Homeowners	Rev. Req. & Exp.
1991	LP Water & Sewer Co. Water Div.	A-211770	LP-Water	Rev Req/Exp/Rate Design
	LP Water & Sewer Co. Sewer Div.	A-230242	LP-Sewer	Rev Req/Exp/Rate Design
	LP Water & Sewer Co.	G-910255	LP-W&S	Affiliated Interest
	LP Water & Sewer Co.	C-913285	LP W&S	Cust. Complaint-Rates
	LP Water & Sewer Co.	C-913304	LP W&S	Cust. Complaint-Rates
	LP Water & Sewer Co.	P-910533	LP W&S	Temporary Rates
1991	Evansburg Water Company	A-210870	Evansburg	Cert. of Publ. Conv.
1991	Media Borough Water Works	R-912150	Townships	Rev. Req. & Exp.
1992	Superior Water Company	A-212955	Superior	Cert. of Publ. conv.
1992	Pennsylvania Electric Co.	M-920312	Lg. Ind.	Energy Cost/Rate Design
1992	LP Water & Sewer Company-Sewer Div	R-922493	LP-Sewer	Rev Req/Exp/Rate Design



1993	Borough of Phoenixville	R-932770	Phoenixville RevReq/Exp/Rate Design
1993	Lake Spangenberg Water Co.	R-932658	LSW Co. Rev Req/Exp/Rate Design
1994	LP Water & Sewer Company-Water Div	R-943021	LP-Water Rev Req/Exp/Rate Design
1995	CMV Water Company, Inc.	C-956618	CMV Water Bill Freq/Rate Design
1995	CMV Sewer Company, Inc.	C-956619	CMV-Sewer Bill Freq/Rate Design
1995	LP Water & Sewer Company-Water Div	C-956966	LP-Water Cust Complaint-Rates
1996	Pennsylvania Electric Co.	M-960791	Lg. Ind. Rate Design
1997	Superior Water Company	A-212955F007	Superior Cert. of Publ. Conv.
1998	Manufactures Water Company	R-00984275	Cambria Cogen & EbensburgPwrCo. CostOfServ/Rate Design
1998	City of Lancaster-Water Fund	R-00984567	CityOfLanc Rev Req/Exp/Rate Design
1999	Pa. American Water Company	R-00994638	Butler Twp. W&S Auth. CostOfServ/Rate Design
1999	Superior Water Company	R-00994672	Superior Rev Req/Exp/Rate Design
2000	City of Lancaster-Sewer Fund	R-00005109	CityOfLanc Rev Req/Exp/Rate Design
2001	City of Lancaster-Water Fund RC Tapping Fee	R-000016114 R-000016297	CityOf Lanc Rev Req/Exp/Rate Design CityOf Lanc Tapping Fee/Rate Design
2002	Delaware Valley Utilities, Inc.	C-00004517	Samall,Assoc Developer CIAC

\* Actual docket numbers cannot be ascertained; time frame is approximately 1978.

**Non-PaPUC Proceedings:**

Court of Common Pleas of Westmoreland County:

Allegheny Ludlum Corporation

v.

Municipal Authority of Westmoreland County

Alleg. Ludlum Co.  
No. 5851 Of 1992

Testified on behalf of Allegheny Ludlum Corporation- Cost of Service and Rate Design

Before the Philadelphia Water Department:

Philadelphia Water Department

Proposed Water & Wastewater Rates 2001

v.

Water Reg. Nos. 81, 82, & 83

Sewer Reg. Nos. 23 and 24

Public Advocate, Commercial Customer Consortium,  
Philadelphia Condominium Managers Association, and  
Other Citizens of Philadelphia

Testified on behalf of Commercial Customer Consortium (CCC):

Building Owners' and Managers' Association (BOMA) of Phila.;

Interfaith Coalition on Energy (ICE); and,

Apartment Association of Greater Philadelphia (AAGP)

Cost of Service and Rate Design

Before the Illinois Commerce Commission:

Commonwealth Edison Company

v.

ICC Dkt. No. 01-0664 Audit

Illinois Commerce Commission

Utility Rate Resources maintains a professional relationship with The Liberty Consulting Group ("Liberty"). In 2002, Utility Rate Resources provided senior level consulting services to Liberty related to an electric reliability audit of Commonwealth Edison Company distribution delivery service system for its inclusion in revenue requirement values in a Delivery Service Tariff proceeding before the ICC at the above docket number.

Testified in support of audit finds.

Professional Organizations:

Member of the American Water Works Association

Pursuant to paragraph A(1) of the Commission's Protective Order issued in this case, the contracts between The Empire District Electric Company and Missouri-American Water company are considered HIGHLY CONFIDENTIAL and being provided consistent with the provisions of that order.

MISSOURI-AMERICAN WATER COMPANY  
JOPLIN DISTRICT

COST OF SERVICE FOR THE TWELVE MONTHS ENDED DECEMBER 31, 2002, FUNCTIONAL ALLOCATION

Empire - Source MAWC Response to EDEC Data Request #1

		Base	Max Day	Max Hour	Meters	Services	Billing & Collecting	Fire Service	
<b>OPERATION AND MAINTENANCE EXPENSES</b>									
<b>SOURCE OF SUPPLY EXPENSES</b>									
Super & Eng Oper SS	2	0	0	0	0	0	0	0	0.0
Labor & Exp Oper SS	2	0	0	0	0	0	0	0	0.0
Labor & Exp Oper SS	2	14,834	8,651	6,109	0	0	0	74	0.0
Purchased Water	1	0	0	0	0	0	0	0	0.0
<b>TOTAL SS EXPENSE - OPERATION</b>		<b>14,834</b>	<b>8,651</b>	<b>6,109</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>74</b>	<b>0.0</b>
<b>MAINTENANCE EXPENSES</b>									
Misc Exp Oper SS	2	0	0	0	0	0	0	0	0.0
Misc Exp Oper SS	2	3,378	1,970	1,391	0	0	0	17	0.0
Rents Oper SS	2	0	0	0	0	0	0	0	0.0
Super & Eng Maint SS	2	0	0	0	0	0	0	0	0.0
Struct & Improve Maint SS	2	0	0	0	0	0	0	0	0.0
Struct & Improve Maint SS	2	129	75	53	0	0	0	1	0.0
Collect & Impound Maint SS	2	0	0	0	0	0	0	0	0.0
Lake, River & Oth Maint SS	2	0	0	0	0	0	0	0	0.0
Lake, River & Oth Maint SS	2	0	0	0	0	0	0	0	0.0
Wells & Springs Maint SS	2	0	0	0	0	0	0	0	0.0
Wells & Springs Maint SS	2	0	0	0	0	0	0	0	0.0
Infilt Gall & Tunnels Maint SS	2	0	0	0	0	0	0	0	0.0
Supply Mains Maint SS	2	0	0	0	0	0	0	0	0.0
Misc Plant Maint SS	2	11,644	6,791	4,795	0	0	0	58	0.0
Misc Plant Maint SS	2	10,804	6,301	4,449	0	0	0	54	0.0
<b>TOTAL SS EXPENSE - MAINTENANCE</b>		<b>25,955</b>	<b>15,137</b>	<b>10,688</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>130</b>	<b>0.0</b>
<b>TOTAL SS EXPENSE</b>		<b>40,789</b>	<b>23,788</b>	<b>16,797</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>204</b>	<b>0.0</b>
<b>POWER AND PUMPING EXPENSES</b>									
Super & Eng Oper P	6	40,968	23,328	16,068	865	0	0	711	4.1
Fuel for Power Prod	1	0	0	0	0	0	0	0	0.0
Labor & Exp Oper Pwr Prod	6	0	0	0	0	0	0	0	0.0
Labor & Exp Oper Pwr Prod	6	0	0	0	0	0	0	0	0.0
Purch Fuel/Power for Pump	1	510,240	505,903	0	0	0	0	4,337	0.0
Labor & Exp Oper Pump	6	182,909	104,153	71,737	3,863	0	0	3,175	18.3
Labor & Exp Oper Pump	6	141	80	55	3	0	0	2	0.0
Expenses Transferred	6	0	0	0	0	0	0	0	0.0
Misc Exp Oper P	6	6,378	3,631	2,501	135	0	0	111	0.6
Rents Oper P	6	0	0	0	0	0	0	0	0.0
<b>TOTAL PUMPING EXPENSE - OPERATION</b>		<b>740,634</b>	<b>637,095</b>	<b>90,361</b>	<b>4,865</b>	<b>0</b>	<b>0</b>	<b>8,336</b>	<b>23.0</b>

MISSOURI-AMERICAN WATER COMPANY  
JOPLIN DISTRICT  
COST OF SERVICE FOR THE TWELVE MONTHS ENDED DECEMBER 31, 2002, FUNCTIONAL ALLOCATION  
Empire - Source MAWC Response to EDEC Data Request #1

			Base	Max Day	Max Hour	Meters	Services	Billing & Collecting	Fire Service	
Super & Eng Maint P	6	25,015	14,244	9,811	528	0	0	0	434	2.5
Struct & Improve Maint P	6	928	528	364	20	0	0	0	16	0.1
Power Prod Equip Maint P	6	3,303	1,881	1,295	70	0	0	0	57	0.3
Pump Equip Maint P	6	15,640	8,906	6,134	330	0	0	0	271	1.6
Pump Equip Maint P	6	657	374	258	14	0	0	0	11	0.1
TOTAL PUMPING EXPENSES - MAINTENANCE		45,543	25,933	17,862	962	0	0	0	790	4.6
<b>TOTAL PUMPING EXPENSES</b>		786,177	663,029	108,222	5,827	0	0	0	9,126	27.6
<b>WATER TREATMENT</b>										
Super & Eng Oper WT	2	30,202	17,614	12,437	0	0	0	0	151	0.0
Chemicals	1	97,076	96,251	0	0	0	0	0	825	0.0
Labor & Exp Oper WT	2	93,636	54,609	38,559	0	0	0	0	488	0.0
Labor & Exp Oper WT	2	3,193	1,862	1,315	0	0	0	0	16	0.0
Misc Exp Oper WT	2	0	0	0	0	0	0	0	0	0.0
Misc Exp Oper WT	1	0	0	0	0	0	0	0	0	0.0
Misc Exp Oper WT	2	37,850	22,074	15,587	0	0	0	0	189	0.0
Rents Oper WT	2	58	34	24	0	0	0	0	0	0.0
TOTAL WT EXPENSE - OPERATION		262,015	192,443	67,922	0	0	0	0	1,650	0.0
Super & Eng Maint WT	2	26,232	15,299	10,802	0	0	0	0	131	0.0
Struct & Improve Maint WT	2	0	0	0	0	0	0	0	0	0.0
Struct & Improve Maint WT	2	0	0	0	0	0	0	0	0	0.0
WT Equip Maint WT	2	0	0	0	0	0	0	0	0	0.0
WT Equip Maint WT	2	23,766	13,860	9,787	0	0	0	0	119	0.0
TOTAL WT EXPENSE - MAINTENANCE		49,998	29,159	20,589	0	0	0	0	250	0.0
<b>TOTAL WT EXPENSE</b>		312,013	221,602	88,511	0	0	0	0	1,900	0.0
<b>TRANSMISSION AND DISTRIBUTION EXPENSES</b>										
Super & Eng Oper TD	11	95,684	10,382	1,923	11,616	57,563	7,636	0	6,564	0.0
Storage Facility Exp	5	0	0	0	0	0	0	0	0	0.0
Storage Facility Exp	5	1,864	575	0	870	0	0	0	419	0.0
TD Lines Exp	7	38,207	13,262	2,514	14,710	0	0	0	7,718	(3.8)
TD Lines Exp	7	30,017	10,419	1,975	11,557	0	0	0	6,063	(3.0)
Meter Expense	9	117,983	0	0	0	117,983	0	0	0	0.0
Meter Expense	9	16,534	0	0	0	16,534	0	0	0	0.0
Customer Install Exp	10	18,968	0	0	0	0	17,824	0	1,144	0.0
Customer Install Exp	10	23	0	0	0	0	22	0	1	0.0
Misc Exp Oper TD	11	24,173	2,623	486	2,935	14,542	1,929	0	1,658	0.0

MISSOURI-AMERICAN WATER COMPANY  
JOPLIN DISTRICT

COST OF SERVICE FOR THE TWELVE MONTHS ENDED DECEMBER 31, 2002, FUNCTIONAL ALLOCATION

Empire - Source MAWC Response to EDEC Data Request #1

			Base	Max Day	Max Hour	Meters	Services	Billing & Collecting	Fire Service	
Misc Exp Oper TD	11	0	0	0	0	0	0	0	0	0.0
Misc Exp Oper TD	11	18,626	2,021	374	2,261	11,205	1,486	0	1,278	0.0
Rents Oper TD	11	612	66	12	74	368	49	0	42	0.0
TOTAL T & D EXPENSE OPERATION		362,691	39,347	7,285	44,022	218,197	28,946	0	24,888	(6.8)
Super & Eng Maint TD	12	3,621	986	187	1,093	304	274	0	777	0.4
Struct & Improve Maint TD	12	0	0	0	0	0	0	0	0	0.0
Struct & Improve Maint TD	12	102	28	5	31	9	8	0	22	0.0
Dist Res Stand Maint TD	5	0	0	0	0	0	0	0	0	0.0
TD Main Maint TD	7	124,603	43,250	8,199	47,972	0	0	0	25,170	(12.5)
TD Main Maint TD	7	0	0	0	0	0	0	0	0	0.0
Fire Main Maint TD	8	0	0	0	0	0	0	0	0	0.0
Services Maint TD	10	12,786	0	0	0	0	12,015	0	771	0.0
Services Maint TD	10	0	0	0	0	0	0	0	0	0.0
Meters Maint TD	9	6,623	0	0	0	6,623	0	0	0	0.0
Meters Maint TD	9	6,719	0	0	0	6,719	0	0	0	0.0
Hydrants Maint TD	8	8,184	0	0	0	0	0	0	8,184	0.0
Hydrants Maint TD	8	0	0	0	0	0	0	0	0	0.0
Misc Plant Maint TD	12	1,966	535	101	594	165	149	0	422	0.2
Mat and Sup Maint TD	12	46,312	12,611	2,390	13,982	3,890	3,501	0	9,943	4.6
Misc Maint TD	12	112	30	6	34	9	8	0	24	0.0
Amort Def Maint TD	5	60,391	18,625	0	28,184	0	0	0	13,582	0.0
TOTAL T & D EXPENSE - MAINTENANCE		271,419	78,065	10,888	91,890	17,719	15,955	0	58,895	(7.2)
										0.0
TOTAL T & D EXPENSE		634,110	115,412	18,173	135,912	235,916	44,900	0	83,783	(14.1)
CUSTOMER ACCOUNTS										
Supervision CA	13	55,990	0	0	0	0	0	55,262	728	0.0
Meter Reading Exp CA	14	104,348	0	0	0	0	0	104,348	0	0.0
Meter Reading Exp CA	14	48	0	0	0	0	0	48	0	0.0
Meter Reading Exp CA	14	46	0	0	0	0	0	46	0	0.0
Cust Rec & Collection CA	13	10,420	0	0	0	0	0	10,285	135	0.0
Cust Rec & Collection CA	13	54,976	0	0	0	0	0	54,261	715	0.0
Uncollectible Accts	13	138,527	0	0	0	0	0	136,726	1,801	0.0
Misc Cust Accts Exp CA	13	12,321	0	0	0	0	0	12,181	160	0.0
Misc Cust Accts Exp CA	13	0	0	0	0	0	0	0	0	0.0
Misc Cust Accts Exp CA	13	15,880	0	0	0	0	0	15,674	206	0.0
Cust Serv & Info Exp CA	13	170	0	0	0	0	0	168	2	0.0
TOTAL CUSTOMER ACCOUNTING EXPENSE		392,726	0	0	0	0	0	388,978	3,748	0.0
ADMINISTRATIVE AND GENERAL EXPENSES										
Salaries AG	15	331,422	89,683	49,282	30,126	50,177	9,545	82,723	19,918	33.1
Other Supplies & Exp AG	15	57	15	8	5	9	2	14	3	0.0

MISSOURI-AMERICAN WATER COMPANY  
JOPLIN DISTRICT

COST OF SERVICE FOR THE TWELVE MONTHS ENDED DECEMBER 31, 2002, FUNCTIONAL ALLOCATION

Empire - Source MAWC Response to EDEC Data Request #1

			Base	Max Day	Max Hour	Meters	Services	Billing & Collecting	Fire Service	
Other Supplies & Exp AG	15	99,323	26,877	14,769	9,028	15,038	2,861	24,791	5,969	9.9
Other Supplies & Exp AG	15	109,710	29,688	16,314	9,973	16,610	3,160	27,384	6,594	11.0
Mgmt Fees-Corporate/Shared Service Center	15	249,304	67,462	37,072	22,662	37,745	7,180	62,226	14,983	24.9
Mgmt Fees-Call Center	13	205,614	0	0	0	0	0	202,941	2,673	0.0
Mgmt Fees-Belleville Lab	2	37,262	21,731	15,344	0	0	0	0	186	0.0
Mgmt Fees- Financial ITS	15	21,672	5,864	3,223	1,970	3,281	624	5,409	1,302	2.2
Mgmt Fees- Customer Billings ITS	13	122,356	0	0	0	0	0	120,765	1,591	0.0
Mgmt Fees-Other ITS	15	1,377	373	205	125	208	40	344	83	0.1
Outside Services AG	15	78,041	21,118	11,605	7,094	11,815	2,248	19,479	4,690	7.8
Outside Services AG	15	(201)	(54)	(30)	(18)	(30)	(6)	(50)	(12)	(0.0)
Property Insurance	15	0	0	0	0	0	0	0	0	0.0
Ins Gen Liab Oper AG	15	45,059	12,193	6,700	4,096	6,822	1,298	11,247	2,708	4.5
Ins Work Comp AG	16	31,789	9,279	5,337	2,610	5,627	1,122	6,021	1,793	0.0
Ins Other Oper AG	15	41,451	11,217	6,164	3,768	6,276	1,194	10,346	2,491	4.1
Property Insurance	15	0	0	0	0	0	0	0	0	0.0
Injuries & Damages	16	1,119	327	188	92	198	40	212	63	0.0
Employee Pension & Benefits	16	321,653	93,891	54,006	26,408	56,933	11,354	60,921	18,141	0.0
Employee Pension & Benefits	16	226,275	66,050	37,992	18,577	40,051	7,988	42,856	12,762	0.0
Employee Pension & Benefits	16	52,223	15,244	8,768	4,288	9,243	1,843	9,891	2,945	0.0
Reg Commision Exp	15	14,057	3,804	2,090	1,278	2,128	405	3,509	845	1.4
Rents AG	15	85,847	23,230	12,765	7,803	12,997	2,472	21,427	5,159	8.6
Goodwill Advertising Exp	15	1,661	449	247	151	251	48	415	100	0.2
Misc Exp AG	15	34,533	9,345	5,135	3,139	5,228	995	8,619	2,075	3.5
Research & Development	15	0	0	0	0	0	0	0	0	0.0
TOTAL A & G OPERATIONS		2,111,604	507,784	287,185	153,174	280,607	54,410	721,491	107,065	111.3
General Plant Maint AG	15	0	0	0	0	0	0	0	0	0.0
General Plant Maint AG	15	8,768	2,373	1,304	797	1,327	253	2,188	527	0.9
TOTAL A & G EXPENSE - MAINTENANCE		8,768	2,373	1,304	797	1,327	253	2,188	527	0.9
TOTAL A & G EXPENSE		2,120,372	510,156	288,489	153,971	281,935	54,663	723,679	107,592	112.2
Total Operation & Maintenance Expenses		4,286,187	1,533,987	520,192	295,710	517,851	99,563	1,112,657	206,352	125.7

MISSOURI-AMERICAN WATER COMPANY  
JOPLIN DISTRICT

## COST OF SERVICE FOR THE TWELVE MONTHS ENDED DECEMBER 31, 2002, FUNCTIONAL ALLOCATION

## Empire - Source MAWC Response to EDEC Data Request #1

		Base	Max Day	Max Hour	Meters	Services	Billing & Collecting	Fire Service		
<b>DEPRECIATION EXPENSE</b>										
Struct & Imp SS	2	355	207	146	0	0	0	2		0.0
Struct & Imp P	6	10,887	6,199	4,270	230	0	0	189		1.1
Struct & Imp WT	2	10,698	6,239	4,405	0	0	0	53		0.0
Struct & Imp TD	7	11,888	4,126	782	4,577	0	0	2,401		(1.2)
Struct & Imp Offices	15	564	153	84	51	85	16	141	34	0.1
Struct & Imp Store, Shop, Gar	15	753	204	112	68	114	22	188	45	0.1
Struct & Imp Misc	15	2,084	564	310	189	316	60	520	125	0.2
Collect & Impounding	1	2,007	1,990	0	0	0	0	0	17	0.0
Lake, River & Other Intakes	2	50,500	29,452	20,796	0	0	0	0	253	0.0
Wells & Springs	2	55,541	32,392	22,872	0	0	0	0	278	0.0
Supply Mains	2	4,803	2,801	1,978	0	0	0	0	24	0.0
Power Generation Equip Othe	6	1,462	833	573	31	0	0	0	25	0.1
Boiler Plant Equipment P	6	27	15	11	1	0	0	0	0	0.0
Pump Equip Electric	6	77,767	44,283	30,500	1,642	0	0	0	1,350	7.8
Pump Equip Diesel	6	0	0	0	0	0	0	0	0	0.0
Pump Equip Other	6	0	0	0	0	0	0	0	0	0.0
WT Equip Non-Media	2	86,540	50,470	35,637	0	0	0	0	433	0.0
WT Equip Filter Media	2	104	61	43	0	0	0	0	1	0.0
Dist Reservoirs & Standpipe	5	53,214	16,411	0	24,835	0	0	0	11,968	0.0
Elevated Tanks & Standpipes	5	35,125	10,833	0	16,393	0	0	0	7,900	0.0
Ground Level Facilities	5	560	173	0	261	0	0	0	126	0.0
TD Mains 4 & Less	4	8,863	2,707	0	4,104	0	0	0	2,052	0.0
TD Mains 6 to 8"	4	96,369	29,431	0	44,628	0	0	0	22,309	0.0
TD Mains 10 to 16"	3	79,497	43,978	31,052	0	0	0	0	4,468	0.0
TD Mains 18 & Grtr	3	8,252	4,565	3,223	0	0	0	0	464	0.0
Services	10	120,330	0	0	0	113,074	0	0	7,256	0.0
Meters Bronze Case	9	46,702	0	0	0	46,702	0	0	0	0.0
Meters Plastic Case	9	0	0	0	0	0	0	0	0	0.0
Meters Other	9	9,693	0	0	0	9,693	0	0	0	0.0
Meters Other-Rem Rdr Unts	9	0	0	0	0	0	0	0	0	0.0
Meter Installations	9	114,881	0	0	0	114,881	0	0	0	0.0
Meter Installation Other	9	0	0	0	0	0	0	0	0	0.0
Hydrants	8	9,084	0	0	0	0	0	0	9,084	0.0
Utility Plant Acquisition Adjustment	17	1,395	487	267	164	125	208	10	134	0.0
Other P/E WT Res Hand Equip	2	248	145	102	0	0	0	0	1	0.0
Other P/E TD	7	0	0	0	0	0	0	0	0	0.0
Other P/E CPS	15	0	0	0	0	0	0	0	0	0.0
Office Furniture & Equip	15	3,986	1,079	593	362	603	115	995	240	0.4
Comp & Periph Equip	15	23,988	6,491	3,567	2,181	3,632	691	5,987	1,442	2.4
Computer Software	15	7,613	2,060	1,132	692	1,153	219	1,900	458	0.8
Comp Software Personal	15	2,345	635	349	213	355	68	585	141	0.2
Data Handling Equipment	15	0	0	0	0	0	0	0	0	0.0
Other Office Equipment	15	2,562	693	381	233	388	74	639	154	0.3



MISSOURI-AMERICAN WATER COMPANY  
JOPLIN DISTRICT  
COST OF SERVICE FOR THE TWELVE MONTHS ENDED DECEMBER 31, 2002, FUNCTIONAL ALLOCATION  
Empire - Source MAWC Response to EDEC Data Request #1

			Base	Max Day	Max Hour	Meters	Services	Billing & Collecting	Fire Service	
Trans Equip Lt Duty Trks	15	14,655	3,966	2,179	1,332	2,219	422	3,658	881	1.5
Trans Equip Hvy Duty Trks	15	3,750	1,015	558	341	568	108	936	225	0.4
Trans Equip Autos	15	7,988	2,162	1,188	726	1,209	230	1,994	480	0.8
Trans Equip Other	15	0	0	0	0	0	0	0	0	0.0
Stores Equipment	15	303	82	45	28	46	9	76	18	0.0
Tools,Shop,Garage Equip	15	16,571	4,484	2,464	1,506	2,509	477	4,136	996	1.7
Tools,Shop,Garage Equip Oth	15	0	0	0	0	0	0	0	0	0.0
Laboratory Equipment	2	7,800	4,549	3,212	0	0	0	0	39	0.0
Laboratory Equip Other	2	0	0	0	0	0	0	0	0	0.0
Power Operated Equipment	15	7,755	2,099	1,153	705	1,174	223	1,936	466	0.8
Comm Equip Non-Telephone	15	2,616	708	389	238	396	75	653	157	0.3
Comm Equip Telephone	15	0	0	0	0	0	0	0	0	0.0
Misc Equipment	15	3,992	1,080	594	363	604	115	996	240	0.4
Total Depreciation Expense		1,006,117	319,818	174,966	106,095	186,772	116,206	25,351	76,927	
Amort-Other UP	18	0	0	0	0	0	0	0	0	0.0
Taxes Other Than Income										
Utility Reg Assessment Fee	19	35,292	12,320	5,463	3,247	4,126	2,905	4,764	2,467	0.0
Property Taxes	18	341,340	119,059	65,128	40,073	30,652	50,689	3,038	32,735	34.1
FUTA	16	1,770	517	297	145	313	62	335	100	0.0
FICA	16	103,626	30,248	17,399	8,508	18,342	3,658	19,627	5,845	0.0
SUTA	16	19	6	3	2	3	1	4	1	0.0
Other Taxes & Licenses	15	13,655	3,695	2,030	1,241	2,067	393	3,408	821	1.4
Gross Receipts Tax	19	0	0	0	0	0	0	0	0	0.0
Total Taxes, Other Than Income		495,702	165,846	90,321	53,216	55,504	57,708	31,176	41,967	35.5
Income Taxes	18	810,868	282,831	154,714	95,196	72,816	120,414	7,217	77,762	81.1
Utility Income Available for Return	18	2,248,240	784,186	428,964	263,943	201,892	333,864	20,009	215,606	224.8
Total Cost of Service		8,847,115	3,086,667	1,369,156	814,161	1,034,834	727,755	1,196,410	618,616	485.1
Less: Other Water Revenues	19	165,846	57,897	25,673	15,258	19,387	13,649	22,389	11,593	0.0
Billing and Collecting Services	19	0	0	0	0	0	0	0	0	0.0
Total Other Water Revenues		165,846	57,897	25,673	15,258	19,387	13,649	22,389	11,593	0.0
Total Cost of Service Related to Sales of Water		8,681,269	3,028,771	1,343,483	798,903	1,015,447	714,106	1,174,021	607,023	485.1
Reallocation of Public Fire	20	0	0	0	0	0	0	0	0	0.0
Total		\$ 8,681,269	\$ 3,028,771	\$ 1,343,483	\$ 798,903	\$ 1,015,447	\$ 714,106	#####	\$ 607,023	
			4,161,815			28,284	23,817	277,320		

MISSOURI-AMERICAN WATER COMPANY  
JOPLIN DISTRICT  
COST OF SERVICE FOR THE TWELVE MONTHS ENDED DECEMBER 31, 2002, FUNCTIONAL ALLOCATION  
Empire - Source MAWC Response to EDEC Data Request #1

Base	Max Day	Max Hour	Meters	Services	Billing & Collecting	Fire Service
0.728			35.90 2.99	29.98 2.50	4.23 9.72	

MISSOURI-AMERICAN WATER COMPANY  
JOPLIN DISTRICT

**COST OF SERVICE FOR THE TWELVE MONTHS ENDED DECEMBER 31, 2002, FUNCTIONAL ALLOCATION**

## Empire - Source MAWC Response to EDEC Data Request #1

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MISSOURI-AMERICAN WATER COMPANY  
JOPLIN DISTRICT

COST OF SERVICE FOR THE TWELVE MONTHS ENDED DECEMBER 31, 2002, FUNCTIONAL ALLOCATION

Empire - Source MAWC Response to EDEC Data Request #1

			Base	Max Day	Max Hour	Meters	Services	Billing & Collecting	Fire Service	
Pump Equip Other	6	118,995	67,759	46,670	2,513	0	0	0	2,065	11.9
WT Equip Non-Media	2	1,517,822	885,194	625,039	0	0	0	0	7,589	0.0
WT Equip Non-Med North (STL)	2	0	0	0	0	0	0	0	0	0.0
WT Equip Non Media Ctrl 1 &	2	0	0	0	0	0	0	0	0	0.0
WT Equip Non Media Ctrl 3 (	2	0	0	0	0	0	0	0	0	0.0
WT Equip Non Media Sth (STL	2	0	0	0	0	0	0	0	0	0.0
WT Equip Non Media Mer (STL	2	0	0	0	0	0	0	0	0	0.0
WT Equip Filter Media	2	3,073	1,792	1,265	0	0	0	0	15	0.0
Dist Reservoirs & Standpipe	5	1,882,054	580,425	0	878,355	0	0	0	423,274	0.0
Elevated Tanks & Standpipes	5	1,734,517	534,925	0	809,499	0	0	0	390,093	0.0
Ground Level Facilities	5	27,887	8,600	0	13,015	0	0	0	6,272	0.0
TD Mains Not Classified by	7	(3,461,798)	(1,201,590)	(227,786)	(1,332,792)	0	0	0	(699,283)	346.2
TD Mains 4 & Less "	4	628,790	192,032	0	291,193	0	0	0	145,565	0.0
TD Mains 6 to 8" "	4	5,321,863	1,625,297	0	2,464,555	0	0	0	1,232,011	0.0
TD Mains 10 to 16" "	3	5,670,761	3,137,065	2,214,999	0	0	0	0	318,697	0.0
TD Mains 18 & Grtr "	3	585,443	323,867	228,674	0	0	0	0	32,902	0.0
TD Mains AC 4 (STL) "	4	0	0	0	0	0	0	0	0	0.0
TD Mains CI <10 1900-28 (S"	4	0	0	0	0	0	0	0	0	0.0
TD Mains CI <10 1929-56 (S"	4	0	0	0	0	0	0	0	0	0.0
TD Mains CI <10 1957-93 (S"	4	0	0	0	0	0	0	0	0	0.0
TD Mains CI 12 (STL) "	3	0	0	0	0	0	0	0	0	0.0
TD Mains CI 16 (STL) "	3	0	0	0	0	0	0	0	0	0.0
TD Mains DI 6-8 (STL) "	4	0	0	0	0	0	0	0	0	0.0
TD Mains DI 12 (STL) "	3	0	0	0	0	0	0	0	0	0.0
TD Mains DI 16 & >(STL) "	3	0	0	0	0	0	0	0	0	0.0
TD Mains Galve 1 (STL) "	4	0	0	0	0	0	0	0	0	0.0
TD Mains LJ 20 (STL) "	3	0	0	0	0	0	0	0	0	0.0
Fire Mains	8	0	0	0	0	0	0	0	0	0.0
Services	10	4,542,953	0	0	0	0	4,269,013	0	273,940	0.0
Meters Bronze Case	9	812,135	0	0	0	812,135	0	0	0	0.0
Meters Plastic Case	9	13,269	0	0	0	13,269	0	0	0	0.0
Meters Other	9	48,731	0	0	0	48,731	0	0	0	0.0
Meters Other-Rem Rdr Urns	9	0	0	0	0	0	0	0	0	0.0
Meter Installations	9	1,583,293	0	0	0	1,583,293	0	0	0	0.0
Meter Installation Other	9	0	0	0	0	0	0	0	0	0.0
Hydrants	8	453,650	0	0	0	0	0	0	453,650	0.0
Other P/E Intangible	15	0	0	0	0	0	0	0	0	0.0
Other P/E WT Res Hand Equip	2	8,217	4,792	3,384	0	0	0	0	41	0.0
Other P/E TD	7	(868)	(301)	(57)	(334)	0	0	0	(175)	0.1
Other P/E CPS	15	(63,124)	(17,081)	(9,387)	(5,738)	(9,557)	(1,818)	(15,756)	(3,794)	(6.3)
Office Furniture & Equip	15	338,996	91,732	50,409	30,815	51,324	9,763	84,613	20,374	33.9
Comp & Periph Equip	15	82,160	22,232	12,217	7,468	12,439	2,366	20,507	4,938	8.2
Computer Software	15	(25,729)	(6,962)	(3,826)	(2,339)	(3,895)	(741)	(6,422)	(1,546)	(2.6)
Comp Software Personal	15	(2,267)	(613)	(337)	(206)	(343)	(65)	(566)	(136)	(0.2)

MISSOURI-AMERICAN WATER COMPANY  
JOPLIN DISTRICT

## COST OF SERVICE FOR THE TWELVE MONTHS ENDED DECEMBER 31, 2002, FUNCTIONAL ALLOCATION

## Empire - Source MAWC Response to EDEC Data Request #1

			Base	Max Day	Max Hour	Meters	Services	Billing & Collecting	Fire Service	
Data Handling Equipment	15	0	0	0	0	0	0	0	0	0.0
Other Office Equipment	15	24,273	6,568	3,609	2,206	3,675	699	6,059	1,459	2.4
Trans Equip Lt Duty Trks	15	(14,295)	(3,868)	(2,126)	(1,299)	(2,164)	(412)	(3,568)	(859)	(1.4)
Trans Equip Hvy Duty Trks	15	12,700	3,437	1,888	1,154	1,923	366	3,170	763	1.3
Trans Equip Autos	15	31,409	8,499	4,671	2,855	4,755	905	7,840	1,888	3.1
Trans Equip Other	15	56,926	15,404	8,465	5,175	8,619	1,639	14,209	3,421	5.7
Stores Equipment	15	(1,339)	(362)	(199)	(122)	(203)	(39)	(334)	(80)	(0.1)
Tools,Shop,Garage Equip	15	144,510	39,104	21,489	13,136	21,879	4,162	36,070	8,685	14.5
Tools,Shop,Garage Equip Oth	15	0	0	0	0	0	0	0	0	0.0
Laboratory Equipment	2	82,563	48,151	33,999	0	0	0	0	413	0.0
Laboratory Equip Other	2	0	0	0	0	0	0	0	0	0.0
Power Operated Equipment	15	92,273	24,969	13,721	8,388	13,970	2,657	23,031	5,546	9.2
Comm Equip Non-Telephone	15	43,289	11,714	6,437	3,935	6,554	1,247	10,805	2,602	4.3
Comm Equip Telephone	15	(33,295)	(9,010)	(4,951)	(3,027)	(5,041)	(959)	(8,310)	(2,001)	(3.3)
Misc Equipment	15	34,633	9,372	5,150	3,148	5,243	997	8,644	2,081	3.5
Other Tangible Property	17	0	0	0	0	0	0	0	0	0.0
Total Utility Plant in Service		28,838,342	10,076,260	5,513,731	3,387,163	2,586,758	4,299,820	206,604	2,768,598	592
Other Rate Base Items										
Add:										
Other Utility Plant Adjustments	17	54,752	19,125	10,469	6,433	4,911	8,164	394	5,256	0.0
Cash Working Capital	15	136,000	36,802	20,223	12,362	20,590	3,917	33,946	8,174	13.6
Materials and Supplies	15	211,110	57,126	31,392	19,190	31,962	6,080	52,693	12,688	21.1
Prepayments	15	26,700	7,225	3,970	2,427	4,042	769	6,664	1,605	2.7
OPEB's Contributed to External Fund	16	239,634	69,949	40,235	19,674	42,415	8,459	45,387	13,515	0.0
Premature Retirement	17	0	0	0	0	0	0	0	0	0.0
Regulatory Deferrals	17	335,702	117,261	64,186	39,445	30,112	50,053	2,417	32,227	0.0
Less:										
Accumulated Deferred ITC (3%)	17	(13,433)	(4,692)	(2,568)	(1,578)	(1,205)	(2,003)	(97)	(1,290)	0.0
Deferred Income Taxes	17	(2,185,203)	(763,291)	(417,811)	(256,761)	(196,013)	(325,814)	(15,733)	(209,779)	0.0
Pensions	16	(485,082)	(141,595)	(81,445)	(39,825)	(85,860)	(17,123)	(91,875)	(27,359)	0.0
Total Other Rate Base Elements		(1,679,820)	(602,091)	(331,350)	(198,633)	(149,043)	(267,499)	33,796	(164,963)	37.4
Total Original Cost Measure of Value		#####	\$ 9,474,168	\$ 5,182,382	\$ 3,188,529	\$ 2,437,715	#####	\$ 240,401	#####	629.5
T&D OP BASIS FOR FACTOR 11		223,596	24,255	4,489	27,136	134,517	17,846	0	15,346	(6.8)
FACTOR 11			0.1085	0.0201	0.1214	0.6016	0.0798	0.0000	0.0686	1.0000
T&D Mnt BASIS FOR FACTOR 12		158,915	43,250	8,199	47,972	13,342	12,015	0	34,125	(12.5)
FACTOR 12			0.2723	0.0516	0.3019	0.0840	0.0756	0.0000	0.2147	1.0001
A&G BASIS FOR FACTOR 15		1,558,499	421,677	231,703	141,739	235,916	44,900	388,978	93,599	13.5

MISSOURI-AMERICAN WATER COMPANY  
JOPLIN DISTRICT  
COST OF SERVICE FOR THE TWELVE MONTHS ENDED DECEMBER 31, 2002, FUNCTIONAL ALLOCATION  
Empire - Source MAWC Response to EDEC Data Request #1

		Base	Max Day	Max Hour	Meters	Services	Billing & Collecting	Fire Service	
FACTOR 15		0.2706	0.1487	0.0909	0.1514	0.0288	0.2496	0.0601	1.0001
LABOR BASIS FOR FACTOR 16	1,397,776	408,072	234,695	114,721	247,359	49,371	264,778	78,823	44.3
FACTOR 16		0.2919	0.1679	0.0821	0.1770	0.0353	0.1894	0.0564	1.0000
UPIS BASIS FOR FACTOR 17	28,791,347	10,059,844	5,504,746	3,381,641	2,582,543	4,292,813	206,266	2,764,087	592.1
FACTOR 17		0.3493	0.1912	0.1175	0.0897	0.1491	0.0072	0.0960	1.0000
RATE BASE BASIS FOR FACTOR 18	27,158,522	9,474,168	5,182,382	3,188,529	2,437,715	4,032,321	240,401	2,603,635	629.5
FACTOR 18		0.3488	0.1908	0.1174	0.0898	0.1485	0.0089	0.0959	1.0001
TOTAL COS BASIS FOR FACTOR 19	8,797,766	3,070,543	1,361,603	809,636	1,028,560	724,445	1,188,137	615,304	483.7
FACTOR 19		0.3491	0.1548	0.0920	0.1169	0.0823	0.1350	0.0699	1.0000

	2	4	6	8	10	12	14	
	Base	Max Day	Max Hour	Meters	Services	Billing & Collecting	Fire Service	
1	0.9915	-	-	-	-	-	0.0085	1.0000
2	0.5832	0.4118	-	-	-	-	0.0050	1.0000
3	0.5532	0.3906	-	-	-	-	0.0562	1.0000
4	0.3054	-	0.4631	-	-	-	0.2315	1.0000
5	0.3084	-	0.4667	-	-	-	0.2249	1.0000
6	0.5694	0.3922	0.0211	-	-	-	0.0174	1.0001
7	0.3471	0.0658	0.3850	-	-	-	0.2020	0.9999
8	-	-	-	-	-	-	1.0000	1.0000
9	-	-	-	1.0000	-	-	-	1.0000
10	-	-	-	-	0.9397	-	0.0603	1.0000
11	0.1085	0.0201	0.1214	0.6016	0.0798	-	0.0686	1.0000
12	0.2723	0.0516	0.3019	0.0840	0.0756	-	0.2147	1.0001
13	-	-	-	-	-	0.9870	0.0130	1.0000
14	-	-	-	-	-	1.0000	-	1.0000
15	0.2706	0.1487	0.0909	0.1514	0.0288	0.2496	0.0601	1.0001
16	0.2919	0.1679	0.0821	0.1770	0.0353	0.1894	0.0564	1.0000
17	0.3493	0.1912	0.1175	0.0897	0.1491	0.0072	0.0960	1.0000
18	0.3488	0.1908	0.1174	0.0898	0.1485	0.0089	0.0959	1.0001
19	0.3491	0.1548	0.0920	0.1169	0.0823	0.1350	0.0699	1.0000
20								-

MISSOURI-AMERICAN WATER COMPANY  
JOPLIN DISTRICT

COST OF SERVICE FOR THE TWELVE MONTHS ENDED DECEMBER 31, 2002, FUNCTIONAL ALLOCATION

Empire Adjusted Base Cost For Lg. Industrials

		Base	Max Day	Max Hour	Meters	Services	Billing & Collecting	Fire Service	
<b>OPERATION AND MAINTENANCE EXPENSES</b>									
<b>SOURCE OF SUPPLY EXPENSES</b>									
Super & Eng Oper SS	2	0	0	0	0	0	0	0	0.0
Labor & Exp Oper SS	2	0	0	0	0	0	0	0	0.0
Labor & Exp Oper SS	2	14,834	8,651	6,109	0	0	0	74	0.0
Purchased Water	1	0	0	0	0	0	0	0	0.0
<b>TOTAL SS EXPENSE - OPERATION</b>		<b>14,834</b>	<b>8,651</b>	<b>6,109</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>74</b>	<b>0.0</b>
Misc Exp Oper SS	2	0	0	0	0	0	0	0	0.0
Misc Exp Oper SS	2	3,378	1,970	1,391	0	0	0	17	0.0
Rents Oper SS	2	0	0	0	0	0	0	0	0.0
Super & Eng Maint SS	2	0	0	0	0	0	0	0	0.0
Struct & Improve Maint SS	2	0	0	0	0	0	0	0	0.0
Struct & Improve Maint SS	2	129	75	53	0	0	0	1	0.0
Collect & Impound Maint SS	2	0	0	0	0	0	0	0	0.0
Lake, River & Oth Maint SS	2	0	0	0	0	0	0	0	0.0
Lake, River & Oth Maint SS	2	0	0	0	0	0	0	0	0.0
Wells & Springs Maint SS	2	0	0	0	0	0	0	0	0.0
Wells & Springs Maint SS	2	0	0	0	0	0	0	0	0.0
Infiltr Gall & Tunnels Maint SS	2	0	0	0	0	0	0	0	0.0
Supply Mains Maint SS	2	0	0	0	0	0	0	0	0.0
Misc Plant Maint SS	2	11,644	6,791	4,795	0	0	0	58	0.0
Misc Plant Maint SS	2	10,804	6,301	4,449	0	0	0	54	0.0
<b>TOTAL SS EXPENSE - MAINTENANCE</b>		<b>25,955</b>	<b>15,137</b>	<b>10,688</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>130</b>	<b>0.0</b>
<b>TOTAL SS EXPENSE</b>		<b>40,789</b>	<b>23,788</b>	<b>16,797</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>204</b>	<b>0.0</b>
<b>POWER AND PUMPING EXPENSES</b>									
Super & Eng Oper P	6	40,968	23,328	16,068	865	0	0	711	4.1
Fuel for Power Prod	1	0	0	0	0	0	0	0	0.0
Labor & Exp Oper Pwr Prod	6	0	0	0	0	0	0	0	0.0
Labor & Exp Oper Pwr Prod	6	0	0	0	0	0	0	0	0.0
Purch Fuel/Power for Pump	1	510,240	505,903	0	0	0	0	4,337	0.0
Labor & Exp Oper Pump	6	182,909	104,153	71,737	3,863	0	0	3,175	18.3
Labor & Exp Oper Pump	6	141	80	55	3	0	0	2	0.0
Expenses Transferred	6	0	0	0	0	0	0	0	0.0
Misc Exp Oper P	6	6,376	3,631	2,501	135	0	0	111	0.6
Rents Oper P	6	0	0	0	0	0	0	0	0.0
<b>TOTAL PUMPING EXPENSE - OPERATION</b>		<b>740,634</b>	<b>637,095</b>	<b>90,361</b>	<b>4,865</b>	<b>0</b>	<b>0</b>	<b>8,336</b>	<b>23.0</b>

MISSOURI-AMERICAN WATER COMPANY  
JOPLIN DISTRICT

## COST OF SERVICE FOR THE TWELVE MONTHS ENDED DECEMBER 31, 2002, FUNCTIONAL ALLOCATION

## Empire Adjusted Base Cost For Lg. Industrials

			Base	Max Day	Max Hour	Meters	Services	Billing & Collecting	Fire Service	
Super & Eng Maint P	6	25,015	14,244	9,811	528	0	0	0	434	2.5
Struct & Improve Maint P	6	928	528	364	20	0	0	0	16	0.1
Power Prod Equip Maint P	6	3,303	1,881	1,295	70	0	0	0	57	0.3
Pump Equip Maint P	6	15,640	8,906	6,134	330	0	0	0	271	1.6
Pump Equip Maint P	6	657	374	258	14	0	0	0	11	0.1
TOTAL PUMPING EXPENSES - MAINTENANCE		45,543	25,933	17,862	962	0	0	0	790	4.6
<b>TOTAL PUMPING EXPENSES</b>		<b>786,177</b>	<b>663,029</b>	<b>108,222</b>	<b>5,827</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>9,126</b>	<b>27.6</b>
<b>WATER TREATMENT</b>										
Super & Eng Oper WT	2	30,202	17,614	12,437	0	0	0	0	151	0.0
Chemicals	1	97,076	96,251	0	0	0	0	0	825	0.0
Labor & Exp Oper WT	2	93,636	54,609	38,559	0	0	0	0	468	0.0
Labor & Exp Oper WT	2	3,193	1,862	1,315	0	0	0	0	16	0.0
Misc Exp Oper WT	2	0	0	0	0	0	0	0	0	0.0
Misc Exp Oper WT	1	0	0	0	0	0	0	0	0	0.0
Misc Exp Oper WT	2	37,850	22,074	15,587	0	0	0	0	189	0.0
Rents Oper WT	2	58	34	24	0	0	0	0	0	0.0
TOTAL WT EXPENSE - OPERATION		262,015	192,443	67,922	0	0	0	0	1,650	0.0
Super & Eng Maint WT	2	26,232	15,299	10,802	0	0	0	0	131	0.0
Struct & Improve Maint WT	2	0	0	0	0	0	0	0	0	0.0
Struct & Improve Maint WT	2	0	0	0	0	0	0	0	0	0.0
WT Equip Maint WT	2	0	0	0	0	0	0	0	0	0.0
WT Equip Maint WT	2	23,766	13,860	9,787	0	0	0	0	119	0.0
TOTAL WT EXPENSE - MAINTENANCE		49,998	29,159	20,589	0	0	0	0	250	0.0
<b>TOTAL WT EXPENSE</b>		<b>312,013</b>	<b>221,602</b>	<b>88,511</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1,900</b>	<b>0.0</b>
<b>TRANSMISSION AND DISTRIBUTION EXPENSES</b>										
Super & Eng Oper TD	11	95,684	10,382	1,923	11,616	57,563	7,636	0	6,564	0.0
Storage Facility Exp	5	0	0	0	0	0	0	0	0	0.0
Storage Facility Exp	5	1,884	575	0	870	0	0	0	419	0.0
TD Lines Exp	7	38,207	13,262	2,514	14,710	0	0	0	7,718	(3.8)
TD Lines Exp	7	30,017	10,419	1,975	11,557	0	0	0	6,063	(3.0)
Meter Expense	9	117,983	0	0	0	117,983	0	0	0	0.0
Meter Expense	9	18,534	0	0	0	18,534	0	0	0	0.0
Customer Install Exp	10	18,968	0	0	0	0	17,824	0	1,144	0.0
Customer Install Exp	10	23	0	0	0	0	22	0	1	0.0
Misc Exp Oper TD	11	24,173	2,623	486	2,935	14,542	1,929	0	1,858	0.0



MISSOURI-AMERICAN WATER COMPANY  
JOPLIN DISTRICT

COST OF SERVICE FOR THE TWELVE MONTHS ENDED DECEMBER 31, 2002, FUNCTIONAL ALLOCATION

Empire Adjusted Base Cost For Lg. Industrials

			Base	Max Day	Max Hour	Meters	Services	Billing & Collecting	Fire Service	
Misc Exp Oper TD	11	0	0	0	0	0	0	0	0	0.0
Misc Exp Oper TD	11	18,626	2,021	374	2,261	11,205	1,486	0	1,278	0.0
Rents Oper TD	11	612	66	12	74	368	49	0	42	0.0
<b>TOTAL T &amp; D EXPENSE OPERATION</b>		<b>362,691</b>	<b>39,347</b>	<b>7,285</b>	<b>44,022</b>	<b>218,197</b>	<b>28,946</b>	<b>0</b>	<b>24,888</b>	<b>(6.8)</b>
Super & Eng Maint TD	12	3,621	986	187	1,093	304	274	0	777	0.4
Struct & Improve Maint TD	12	0	0	0	0	0	0	0	0	0.0
Struct & Improve Maint TD	12	102	28	5	31	9	8	0	22	0.0
Dist Res Stand Maint TD	5	0	0	0	0	0	0	0	0	0.0
TD Main Maint TD	7	124,603	43,250	8,199	47,972	0	0	0	25,170	(12.5)
TD Main Maint TD	7	0	0	0	0	0	0	0	0	0.0
Fire Main Maint TD	8	0	0	0	0	0	0	0	0	0.0
Services Maint TD	10	12,786	0	0	0	0	12,015	0	771	0.0
Services Maint TD	10	0	0	0	0	0	0	0	0	0.0
Meters Maint TD	9	6,623	0	0	0	6,623	0	0	0	0.0
Meters Maint TD	9	6,719	0	0	0	6,719	0	0	0	0.0
Hydrants Maint TD	8	8,184	0	0	0	0	0	0	8,184	0.0
Hydrants Maint TD	8	0	0	0	0	0	0	0	0	0.0
Misc Plant Maint TD	12	1,966	535	101	594	165	149	0	422	0.2
Mat and Sup Maint TD	12	46,312	12,611	2,390	13,982	3,890	3,501	0	9,943	4.6
Misc Maint TD	12	112	30	6	34	9	8	0	24	0.0
Amort Def Maint TD	5	60,391	18,625	0	28,184	0	0	0	13,582	0.0
<b>TOTAL T &amp; D EXPENSE - MAINTENANCE</b>		<b>271,419</b>	<b>76,065</b>	<b>10,888</b>	<b>91,890</b>	<b>17,719</b>	<b>15,955</b>	<b>0</b>	<b>58,895</b>	<b>(7.2)</b>
										<b>0.0</b>
<b>TOTAL T &amp; D EXPENSE</b>		<b>634,110</b>	<b>115,412</b>	<b>18,173</b>	<b>135,912</b>	<b>235,916</b>	<b>44,900</b>	<b>0</b>	<b>83,783</b>	<b>(14.1)</b>
<b>CUSTOMER ACCOUNTS</b>										
Supervision CA	13	55,990	0	0	0	0	0	55,262	728	0.0
Meter Reading Exp CA	14	104,348	0	0	0	0	0	104,348	0	0.0
Meter Reading Exp CA	14	48	0	0	0	0	0	48	0	0.0
Meter Reading Exp CA	14	46	0	0	0	0	0	46	0	0.0
Cust Rec & Collection CA	13	10,420	0	0	0	0	0	10,285	135	0.0
Cust Rec & Collection CA	13	54,976	0	0	0	0	0	54,261	715	0.0
Uncollectible Accts	13	138,527	0	0	0	0	0	136,726	1,801	0.0
Misc Cust Accts Exp CA	13	12,321	0	0	0	0	0	12,161	160	0.0
Misc Cust Accts Exp CA	13	0	0	0	0	0	0	0	0	0.0
Misc Cust Accts Exp CA	13	15,880	0	0	0	0	0	15,674	206	0.0
Cust Serv & Info Exp CA	13	170	0	0	0	0	0	168	2	0.0
<b>TOTAL CUSTOMER ACCOUNTING EXPENSE</b>		<b>392,726</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>388,978</b>	<b>3,748</b>	<b>0.0</b>
<b>ADMINISTRATIVE AND GENERAL EXPENSES</b>										
Salaries AG	15	331,422	89,683	49,282	30,126	50,177	9,545	82,723	19,918	33.1
Other Supplies & Exp AG	15	57	15	8	5	9	2	14	3	0.0

MISSOURI-AMERICAN WATER COMPANY  
JOPLIN DISTRICT

## COST OF SERVICE FOR THE TWELVE MONTHS ENDED DECEMBER 31, 2002, FUNCTIONAL ALLOCATION

## Empire Adjusted Base Cost For Lg. Industrials

			Base	Max Day	Max Hour	Meters	Services	Billing & Collecting	Fire Service	
Other Supplies & Exp AG	15	99,323	26,877	14,769	9,028	15,038	2,861	24,791	5,969	9.9
Other Supplies & Exp AG	15	109,710	29,688	16,314	9,973	16,610	3,160	27,384	6,594	11.0
Mgmt Fees-Corporate/Shared Service Center	15	249,304	67,462	37,072	22,662	37,745	7,180	62,226	14,983	24.9
Mgmt Fees-Call Center	13	205,614	0	0	0	0	0	202,941	2,673	0.0
Mgmt Fees-Belleville Lab	2	37,262	21,731	15,344	0	0	0	0	186	0.0
Mgmt Fees- Financial ITS	15	21,672	5,864	3,223	1,970	3,281	624	5,409	1,302	2.2
Mgmt Fees- Customer Billings ITS	13	122,356	0	0	0	0	0	120,765	1,591	0.0
Mgmt Fees-Other ITS	15	1,377	373	205	125	208	40	344	83	0.1
Outside Services AG	15	78,041	21,118	11,605	7,094	11,815	2,248	19,479	4,690	7.8
Outside Services AG	15	(201)	(54)	(30)	(18)	(30)	(6)	(50)	(12)	(0.0)
Property Insurance	15	0	0	0	0	0	0	0	0	0.0
Ins Gen Liab Oper AG	15	45,059	12,193	6,700	4,096	6,822	1,298	11,247	2,708	4.5
Ins Work Comp AG	16	31,789	9,279	5,337	2,610	5,627	1,122	6,021	1,793	0.0
Ins Other Oper AG	15	41,451	11,217	6,164	3,768	6,276	1,194	10,346	2,491	4.1
Property Insurance	15	0	0	0	0	0	0	0	0	0.0
Injuries & Damages	16	1,119	327	188	92	198	40	212	63	0.0
Employee Pension & Benefits	16	321,653	93,891	54,006	26,408	56,933	11,354	60,921	18,141	0.0
Employee Pension & Benefits	16	226,275	66,050	37,992	18,577	40,051	7,988	42,856	12,762	0.0
Employee Pension & Benefits	16	52,223	15,244	8,768	4,288	9,243	1,843	9,891	2,945	0.0
Reg Commision Exp	15	14,057	3,804	2,090	1,278	2,128	405	3,509	845	1.4
Rents AG	15	85,847	23,230	12,765	7,803	12,997	2,472	21,427	5,159	8.6
Goodwill Advertising Exp	15	1,661	449	247	151	251	48	415	100	0.2
Misc Exp AG	15	34,533	9,345	5,135	3,139	5,228	985	8,619	2,075	3.5
Research & Development	15	0	0	0	0	0	0	0	0	0.0
TOTAL A & G OPERATIONS		2,111,604	507,784	287,185	153,174	280,607	54,410	721,491	107,065	111.3
General Plant Maint AG	15	0	0	0	0	0	0	0	0	0.0
General Plant Maint AG	15	8,768	2,373	1,304	797	1,327	253	2,188	527	0.9
TOTAL A & G EXPENSE - MAINTENANCE		8,768	2,373	1,304	797	1,327	253	2,188	527	0.9
TOTAL A & G EXPENSE		2,120,372	510,156	288,489	153,971	281,935	54,663	723,679	107,592	112.2
										0.0
Total Operation & Maintenance Expenses		4,286,187	1,533,987	520,192	295,710	517,851	99,563	1,112,657	208,352	125.7

MISSOURI-AMERICAN WATER COMPANY  
JOPLIN DISTRICT

COST OF SERVICE FOR THE TWELVE MONTHS ENDED DECEMBER 31, 2002, FUNCTIONAL ALLOCATION

Empire Adjusted Base Cost For Lg. Industrials

		Base	Max Day	Max Hour	Meters	Services	Billing & Collecting	Fire Service	
<b>DEPRECIATION EXPENSE</b>									
Struct & Imp SS	2	355	207	146	0	0	0	2	0.0
Struct & Imp P	6	10,887	6,199	4,270	230	0	0	189	1.1
Struct & Imp WT	2	10,698	6,239	4,405	0	0	0	53	0.0
Struct & Imp TD	7	11,888	4,126	782	4,577	0	0	2,401	(1.2)
Struct & Imp Offices	15	564	153	84	51	85	141	34	0.1
Struct & Imp Store,Shop,Gar	15	753	204	112	68	114	188	45	0.1
Struct & Imp Misc	15	2,084	564	310	189	316	520	125	0.2
Collect & Impounding	1	2,007	1,990	0	0	0	0	17	0.0
Lake, River & Other Intakes	2	50,500	29,452	20,796	0	0	0	253	0.0
Wells & Springs	2	55,541	32,392	22,872	0	0	0	278	0.0
Supply Mains	2	4,803	2,801	1,978	0	0	0	24	0.0
Power Generation Equip Othe	6	1,462	833	573	31	0	0	25	0.1
Boiler Plant Equipment P	6	27	15	11	1	0	0	0	0.0
Pump Equip Electric	6	77,767	44,283	30,500	1,642	0	0	1,350	7.8
Pump Equip Diesel	6	0	0	0	0	0	0	0	0.0
Pump Equip Other	6	0	0	0	0	0	0	0	0.0
WT Equip Non-Media	2	86,540	50,470	35,637	0	0	0	433	0.0
WT Equip Filter Media	2	104	61	43	0	0	0	1	0.0
Dist Reservoirs & Standpipe	5	53,214	16,411	0	24,835	0	0	11,968	0.0
Elevated Tanks & Standpipes	5	35,125	10,833	0	16,393	0	0	7,900	0.0
Ground Level Facilities	5	560	173	0	261	0	0	126	0.0
TD Mains 4 & Less	4	8,863	2,707	0	4,104	0	0	2,052	0.0
TD Mains 6 to 8"	4	96,369	29,431	0	44,628	0	0	22,309	0.0
TD Mains 10 to 16"	3	79,497	43,978	31,052	0	0	0	4,468	0.0
TD Mains 18 & Grtr	3	8,252	4,565	3,223	0	0	0	464	0.0
Services	10	120,330	0	0	0	113,074	0	7,256	0.0
Meters Bronze Case	9	46,702	0	0	0	46,702	0	0	0.0
Meters Plastic Case	9	0	0	0	0	0	0	0	0.0
Meters Other	9	9,693	0	0	0	9,693	0	0	0.0
Meters Other-Rem Rdr Unts	9	0	0	0	0	0	0	0	0.0
Meter Installations	9	114,881	0	0	0	114,881	0	0	0.0
Meter Installation Other	9	0	0	0	0	0	0	0	0.0
Hydrants	8	9,084	0	0	0	0	0	9,084	0.0
Utility Plant Acquisition Adjustment	17	1,395	487	267	164	125	208	134	0.0
Other P/E WT Res Hand Equip	2	248	145	102	0	0	0	1	0.0
Other P/E TD	7	0	0	0	0	0	0	0	0.0
Other P/E CPS	15	0	0	0	0	0	0	0	0.0
Office Furniture & Equip	15	3,986	1,079	593	362	603	995	240	0.4
Comp & Periph Equip	15	23,988	6,491	3,567	2,181	3,632	691	5,987	2.4
Computer Software	15	7,613	2,060	1,132	692	1,153	219	1,900	0.8
Comp Software Personal	15	2,345	635	349	213	355	68	585	0.2
Data Handling Equipment	15	0	0	0	0	0	0	0	0.0
Other Office Equipment	15	2,562	693	381	233	388	74	639	0.3

MISSOURI-AMERICAN WATER COMPANY  
JOPLIN DISTRICT  
COST OF SERVICE FOR THE TWELVE MONTHS ENDED DECEMBER 31, 2002, FUNCTIONAL ALLOCATION  
**Empire Adjusted Base Cost For Lg. Industrials**

			Base	Max Day	Max Hour	Meters	Services	Billing & Collecting	Fire Service	
Trans Equip Lt Duty Trks	15	14,655	3,966	2,179	1,332	2,219	422	3,658	881	1.5
Trans Equip Hvy Duty Trks	15	3,750	1,015	558	341	568	108	936	225	0.4
Trans Equip Autos	15	7,988	2,162	1,188	726	1,209	230	1,994	480	0.8
Trans Equip Other	15	0	0	0	0	0	0	0	0	0.0
Stores Equipment	15	303	82	45	28	46	9	76	18	0.0
Tools,Shop,Garage Equip	15	16,571	4,484	2,464	1,508	2,509	477	4,136	996	1.7
Tools,Shop,Garage Equip Oth	15	0	0	0	0	0	0	0	0	0.0
Laboratory Equipment	2	7,800	4,549	3,212	0	0	0	0	39	0.0
Laboratory Equip Other	2	0	0	0	0	0	0	0	0	0.0
Power Operated Equipment	15	7,755	2,099	1,153	705	1,174	223	1,936	466	0.8
Comm Equip Non-Telephone	15	2,616	708	389	238	396	75	653	157	0.3
Comm Equip Telephone	15	0	0	0	0	0	0	0	0	0.0
Misc Equipment	15	3,992	1,080	594	363	604	115	996	240	0.4
<b>Total Depreciation Expense</b>		<u>1,006,117</u>	<u>319,818</u>	<u>174,966</u>	<u>106,095</u>	<u>186,772</u>	<u>116,206</u>	<u>25,351</u>	<u>76,927</u>	
Amort-Other UP	18	0	0	0	0	0	0	0	0	0.0
<b>Taxes Other Than income</b>										
Utility Reg Assessment Fee	19	35,292	12,320	5,463	3,247	4,126	2,905	4,764	2,467	0.0
Property Taxes	18	341,340	119,059	65,128	40,073	30,652	50,689	3,038	32,735	34.1
FUTA	16	1,770	517	297	145	313	62	335	100	0.0
FICA	18	103,626	30,248	17,399	8,508	18,342	3,658	19,627	5,845	0.0
SUTA	16	19	6	3	2	3	1	4	1	0.0
Other Taxes & Licenses	15	13,655	3,695	2,030	1,241	2,067	393	3,408	821	1.4
Gross Receipts Tax	19	0	0	0	0	0	0	0	0	0.0
<b>Total Taxes, Other Than Income</b>		<u>495,702</u>	<u>165,846</u>	<u>90,321</u>	<u>53,216</u>	<u>55,504</u>	<u>57,708</u>	<u>31,176</u>	<u>41,967</u>	<u>35.5</u>
<b>Income Taxes</b>	18	<u>810,868</u>	<u>282,831</u>	<u>154,714</u>	<u>95,196</u>	<u>72,816</u>	<u>120,414</u>	<u>7,217</u>	<u>77,762</u>	<u>81.1</u>
<b>Utility Income Available for Return</b>	18	<u>2,248,240</u>	<u>784,186</u>	<u>428,964</u>	<u>263,943</u>	<u>201,892</u>	<u>333,864</u>	<u>20,009</u>	<u>215,606</u>	<u>224.8</u>
<b>Total Cost of Service</b>		<u>8,847,115</u>	<u>3,086,667</u>	<u>1,369,156</u>	<u>814,161</u>	<u>1,034,834</u>	<u>727,755</u>	<u>1,196,410</u>	<u>618,616</u>	<u>485.1</u>
<b>Less: Other Water Revenues</b>	19	<u>165,846</u>	<u>57,897</u>	<u>25,673</u>	<u>15,258</u>	<u>19,387</u>	<u>13,649</u>	<u>22,389</u>	<u>11,593</u>	<u>0.0</u>
Billing and Collecting Services	19	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0.0</u>
<b>Total Other Water Revenues</b>		<u>165,846</u>	<u>57,897</u>	<u>25,673</u>	<u>15,258</u>	<u>19,387</u>	<u>13,649</u>	<u>22,389</u>	<u>11,593</u>	<u>0.0</u>
<b>Total Cost of Service Related to Sales of Water</b>		<u>8,681,269</u>	<u>3,028,771</u>	<u>1,343,483</u>	<u>798,903</u>	<u>1,015,447</u>	<u>714,106</u>	<u>1,174,021</u>	<u>607,023</u>	<u>485.1</u>
Reallocation of Public Fire	20	0	0	0	0	0	0	0	0	0.0
<b>Total</b>		<u>\$ 8,681,269</u>	<u>\$ 3,028,771</u>	<u>\$ 1,343,483</u>	<u>\$ 798,903</u>	<u>\$ 1,015,447</u>	<u>\$ 714,106</u>	<u>#####</u>	<u>\$ 607,023</u>	
			4,161,815			28,284	23,817	277,320		

MISSOURI-AMERICAN WATER COMPANY  
JOPLIN DISTRICT

COST OF SERVICE FOR THE TWELVE MONTHS ENDED DECEMBER 31, 2002, FUNCTIONAL ALLOCATION  
**Empire Adjusted Base Cost For Lg. Industrials**

	Base	Max Day	Max Hour	Meters	Services	Billing & Collecting	Fire Service
	0.728			35.90	28.98		
				2.99	2.50	4.23	
<b>Total Cost of Service</b>	<b>\$3,028,771</b>						
<b>Remove Sm Mains</b>	<b>32,138</b>					9.72	
<b>Remove Income Taxes/Net Income on Small Mains Per Below</b>	<b>204,676</b>						
<b>Empire Adjusted Base Cost</b>	<b>\$2,791,958</b>						
<b>Total Sales</b>	<b>4,161,815</b>						
<b>Base Cost of Water for Lg. Industrials</b>	<b>0.671</b>						

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MISSOURI-AMERICAN WATER COMPANY  
JOPLIN DISTRICT

COST OF SERVICE FOR THE TWELVE MONTHS ENDED DECEMBER 31, 2002, FUNCTIONAL ALLOCATION

Empire Adjusted Base Cost For Lg. Industrials

			Base	Max Day	Max Hour	Meters	Services	Billing & Collecting	Fire Service	
Pump Equip Other	6	118,995	67,759	46,670	2,513	0	0	0	2,065	11.9
WT Equip Non-Media	2	1,517,822	885,194	625,039	0	0	0	0	7,589	0.0
WT Equip Non-Med North (STL)	2	0	0	0	0	0	0	0	0	0.0
WT Equip Non Media Ctrl 1 &	2	0	0	0	0	0	0	0	0	0.0
WT Equip Non Media Ctrl 3 (	2	0	0	0	0	0	0	0	0	0.0
WT Equip Non Media Sth (STL)	2	0	0	0	0	0	0	0	0	0.0
WT Equip Non Media Mer (STL)	2	0	0	0	0	0	0	0	0	0.0
WT Equip Filter Media	2	3,073	1,792	1,265	0	0	0	0	15	0.0
Dist Reservoirs & Standpipe	5	1,882,054	580,425	0	878,355	0	0	0	423,274	0.0
Elevated Tanks & Standpipes	5	1,734,517	534,925	0	809,499	0	0	0	390,093	0.0
Ground Level Facilities	5	27,887	8,600	0	13,015	0	0	0	6,272	0.0
TD Mains Not Classified by	7	(3,461,798)	(1,201,590)	(227,786)	(1,332,792)	0	0	0	(699,283)	346.2
TD Mains 4 & Less "	4	628,790	192,032	0	291,193	0	0	0	145,565	0.0
TD Mains 6 to 8" "	4	5,321,863	1,625,297	0	2,464,555	0	0	0	1,232,011	0.0
TD Mains 10 to 16" "	3	5,670,761	3,137,065	2,214,999	0	0	0	0	318,697	0.0
TD Mains 18 & Grtr "	3	585,443	323,867	228,674	0	0	0	0	32,902	0.0
TD Mains AC 4 (STL) "	4	0	0	0	0	0	0	0	0	0.0
TD Mains CI <10 1900-28 (S"	4	0	0	0	0	0	0	0	0	0.0
TD Mains CI <10 1929-56 (S"	4	0	0	0	0	0	0	0	0	0.0
TD Mains CI <10 1957-93 (S"	4	0	0	0	0	0	0	0	0	0.0
TD Mains CI 12 (STL) "	3	0	0	0	0	0	0	0	0	0.0
TD Mains CI 16 (STL) "	3	0	0	0	0	0	0	0	0	0.0
TD Mains DI 6-8 (STL) "	4	0	0	0	0	0	0	0	0	0.0
TD Mains DI 12 (STL) "	3	0	0	0	0	0	0	0	0	0.0
TD Mains DI 16 & >(STL) "	3	0	0	0	0	0	0	0	0	0.0
TD Mains Galve 1 (STL) "	4	0	0	0	0	0	0	0	0	0.0
TD Mains LJ 20 (STL) "	3	0	0	0	0	0	0	0	0	0.0
Fire Mains	8	0	0	0	0	0	0	0	0	0.0
Services	10	4,542,953	0	0	0	0	4,269,013	0	273,940	0.0
Meters Bronze Case	9	812,135	0	0	0	812,135	0	0	0	0.0
Meters Plastic Case	9	13,269	0	0	0	13,269	0	0	0	0.0
Meters Other	9	48,731	0	0	0	48,731	0	0	0	0.0
Meters Other-Rem Rdr Unts	9	0	0	0	0	0	0	0	0	0.0
Meter Installations	9	1,583,293	0	0	0	1,583,293	0	0	0	0.0
Meter Installation Other	9	0	0	0	0	0	0	0	0	0.0
Hydrants	8	453,650	0	0	0	0	0	0	453,650	0.0
Other P/E Intangible	15	0	0	0	0	0	0	0	0	0.0
Other P/E WT Res Hand Equip	2	8,217	4,792	3,384	0	0	0	0	41	0.0
Other P/E TD	7	(868)	(301)	(57)	(334)	0	0	0	(175)	0.1
Other P/E CPS	15	(63,124)	(17,081)	(9,387)	(5,738)	(9,557)	(1,818)	(15,756)	(3,794)	(6.3)
Office Furniture & Equip	15	338,996	91,732	50,409	30,815	51,324	9,763	84,613	20,374	33.9
Comp & Periph Equip	15	82,160	22,232	12,217	7,468	12,439	2,366	20,507	4,938	8.2
Computer Software	15	(25,729)	(6,962)	(3,826)	(2,339)	(3,895)	(741)	(6,422)	(1,546)	(2.6)
Comp Software Personal	15	(2,267)	(613)	(337)	(206)	(343)	(65)	(566)	(136)	(0.2)

MISSOURI-AMERICAN WATER COMPANY  
JOPLIN DISTRICT

COST OF SERVICE FOR THE TWELVE MONTHS ENDED DECEMBER 31, 2002, FUNCTIONAL ALLOCATION  
Empire Adjusted Base Cost For Lg. Industrials

			Base	Max Day	Max Hour	Meters	Services	Billing & Collecting	Fire Service	
Data Handling Equipment	15	0	0	0	0	0	0	0	0	0.0
Other Office Equipment	15	24,273	6,568	3,609	2,206	3,675	699	6,059	1,459	2.4
Trans Equip Lt Duty Trks	15	(14,295)	(3,868)	(2,126)	(1,299)	(2,164)	(412)	(3,568)	(859)	(1.4)
Trans Equip Hvy Duty Trks	15	12,700	3,437	1,888	1,154	1,923	366	3,170	763	1.3
Trans Equip Autos	15	31,409	8,499	4,671	2,855	4,755	905	7,840	1,888	3.1
Trans Equip Other	15	56,926	15,404	8,465	5,175	8,619	1,639	14,209	3,421	5.7
Stores Equipment	15	(1,339)	(362)	(199)	(122)	(203)	(39)	(334)	(80)	(0.1)
Tools,Shop,Garage Equip	15	144,510	39,104	21,489	13,136	21,879	4,162	36,070	8,685	14.5
Tools,Shop,Garage Equip Oth	15	0	0	0	0	0	0	0	0	0.0
Laboratory Equipment	2	82,563	48,151	33,999	0	0	0	0	413	0.0
Laboratory Equip Other	2	0	0	0	0	0	0	0	0	0.0
Power Operated Equipment	15	92,273	24,969	13,721	8,388	13,970	2,657	23,031	5,546	9.2
Comm Equip Non-Telephone	15	43,289	11,714	6,437	3,935	6,554	1,247	10,805	2,602	4.3
Comm Equip Telephone	15	(33,295)	(9,010)	(4,951)	(3,027)	(5,041)	(959)	(8,310)	(2,001)	(3.3)
Misc Equipment	15	34,633	9,372	5,150	3,148	5,243	997	8,644	2,081	3.5
Other Tangible Property	17	0	0	0	0	0	0	0	0	0.0
Total Utility Plant in Service		<u>28,838,342</u>	<u>10,076,260</u>	<u>5,513,731</u>	<u>3,387,163</u>	<u>2,586,758</u>	<u>4,299,820</u>	<u>206,604</u>	<u>2,768,598</u>	<u>592</u>
Other Rate Base Items										
Add:										
Other Utility Plant Adjustments	17	54,752	19,125	10,469	6,433	4,911	8,164	394	5,256	0.0
Cash Working Capital	15	136,000	36,802	20,223	12,362	20,590	3,917	33,946	8,174	13.6
Materials and Supplies	15	211,110	57,126	31,392	19,190	31,962	6,080	52,693	12,688	21.1
Prepayments	15	26,700	7,225	3,970	2,427	4,042	769	6,664	1,606	2.7
OPEB's Contributed to External Fund	16	239,634	69,949	40,235	19,674	42,415	8,459	45,387	13,515	0.0
Premature Retirement	17	0	0	0	0	0	0	0	0	0.0
Regulatory Deferrals	17	335,702	117,261	64,186	39,445	30,112	50,053	2,417	32,227	0.0
Less:										
Accumulated Deferred ITC (3%)	17	(13,433)	(4,692)	(2,568)	(1,578)	(1,205)	(2,003)	(97)	(1,290)	0.0
Deferred Income Taxes	17	(2,185,203)	(763,291)	(417,811)	(256,761)	(196,013)	(325,814)	(15,733)	(209,779)	0.0
Pensions	16	(485,082)	(141,595)	(81,445)	(39,825)	(85,860)	(17,123)	(91,875)	(27,359)	0.0
Total Other Rate Base Elements		<u>(1,679,820)</u>	<u>(602,091)</u>	<u>(331,350)</u>	<u>(198,633)</u>	<u>(149,043)</u>	<u>(267,499)</u>	<u>33,796</u>	<u>(164,963)</u>	<u>37.4</u>
Total Original Cost Measure of Value		<u>#####</u>	<u>\$ 9,474,168</u>	<u>\$ 5,182,382</u>	<u>\$ 3,188,529</u>	<u>\$ 2,437,715</u>	<u>#####</u>	<u>\$ 240,401</u>	<u>#####</u>	<u>629.5</u>
Income Taxes & Return										
Rate of Return Value			1,067,017							
Remove Small Mains Measure of Values			11%							
Reduction for Return on Small Mails			1,817,329							
			\$ 204,676							
T&D OP BASIS FOR FACTOR 11		223,596	24,255	4,489	27,136	134,517	17,846	0	15,346	(8.8)
FACTOR 11			0.1085	0.0201	0.1214	0.6016	0.0798	0.0000	0.0686	1.0000
T&D Mnt BASIS FOR FACTOR 12		158,915	43,250	8,199	47,972	13,342	12,015	0	34,125	(12.5)



MISSOURI-AMERICAN WATER COMPANY  
JOPLIN DISTRICT  
COST OF SERVICE FOR THE TWELVE MONTHS ENDED DECEMBER 31, 2002, FUNCTIONAL ALLOCATION  
**Empire Adjusted Base Cost For Lg. Industrials**

		Base	Max Day	Max Hour	Meters	Services	Billing & Collecting	Fire Service	
FACTOR 12		0.2723	0.0516	0.3019	0.0840	0.0756	0.0000	0.2147	1.0001
A&G BASIS FOR FACTOR 15	1,558,499	421,677	231,703	141,739	235,916	44,900	388,978	93,599	13.5
FACTOR 15		0.2706	0.1487	0.0909	0.1514	0.0288	0.2496	0.0601	1.0001
LABOR BASIS FOR FACTOR 16	1,397,776	408,072	234,695	114,721	247,359	49,371	264,778	78,823	44.3
FACTOR 16		0.2919	0.1679	0.0821	0.1770	0.0353	0.1894	0.0564	1.0000
UPIS BASIS FOR FACTOR 17	28,791,347	10,059,844	5,504,746	3,381,641	2,582,543	4,292,813	206,266	2,764,087	592.1
FACTOR 17		0.3493	0.1912	0.1175	0.0897	0.1491	0.0072	0.0960	1.0000
RATE BASE BASIS FOR FACTOR 18	27,158,522	9,474,168	5,182,382	3,188,529	2,437,715	4,032,321	240,401	2,603,635	629.5
FACTOR 18		0.3488	0.1908	0.1174	0.0898	0.1485	0.0089	0.0959	1.0001
TOTAL COS BASIS FOR FACTOR 19	8,797,766	3,070,543	1,361,603	809,636	1,028,580	724,445	1,188,137	615,304	483.7
FACTOR 19		0.3491	0.1548	0.0920	0.1169	0.0823	0.1350	0.0699	1.0000

	2	4	6	8	10	12	14	
	Base	Max Day	Max Hour	Meters	Services	Billing & Collecting	Fire Service	
1	0.9915	-	-	-	-	-	0.0085	1.0000
2	0.5832	0.4118	-	-	-	-	0.0050	1.0000
3	0.5532	0.3906	-	-	-	-	0.0562	1.0000
4	0.3054	-	0.4631	-	-	-	0.2315	1.0000
5	0.3084	-	0.4667	-	-	-	0.2249	1.0000
6	0.5694	0.3922	0.0211	-	-	-	0.0174	1.0001
7	0.3471	0.0658	0.3850	-	-	-	0.2020	0.9999
8	-	-	-	-	-	-	1.0000	1.0000
9	-	-	-	1.0000	-	-	-	1.0000
10	-	-	-	-	0.9397	-	0.0603	1.0000
11	0.1085	0.0201	0.1214	0.6016	0.0798	-	0.0686	1.0000
12	0.2723	0.0516	0.3019	0.0840	0.0756	-	0.2147	1.0001
13	-	-	-	-	-	0.9870	0.0130	1.0000
14	-	-	-	-	-	1.0000	-	1.0000
15	0.2706	0.1487	0.0909	0.1514	0.0288	0.2496	0.0601	1.0001
16	0.2919	0.1679	0.0821	0.1770	0.0353	0.1894	0.0564	1.0000
17	0.3493	0.1912	0.1175	0.0897	0.1491	0.0072	0.0960	1.0000
18	0.3488	0.1908	0.1174	0.0898	0.1485	0.0089	0.0959	1.0001
19	0.3491	0.1548	0.0920	0.1169	0.0823	0.1350	0.0699	1.0000
20								-

MISSOURI-AMERICAN WATER COMPANY  
JOPLIN DISTRICT  
COST OF SERVICE FOR THE TWELVE MONTHS ENDED DECEMBER 31, 2002, FUNCTIONAL ALLOCATION  
**Empire Adjusted Fully Loaded Production Cost of Water**

		Base	Max Day	Max Hour	Meters	Services	Billing & Collecting	Fire Service	
<b>OPERATION AND MAINTENANCE EXPENSES</b>									
<b>SOURCE OF SUPPLY EXPENSES</b>									
Super & Eng Oper SS	2	0	0	0	0	0	0	0	0.0
Labor & Exp Oper SS	2	0	0	0	0	0	0	0	0.0
Labor & Exp Oper SS	2	14,834	8,651	6,109	0	0	0	74	0.0
Purchased Water	1	0	0	0	0	0	0	0	0.0
<b>TOTAL SS EXPENSE - OPERATION</b>		<b>14,834</b>	<b>8,651</b>	<b>6,109</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>74</b>	<b>0.0</b>
Misc Exp Oper SS	2	0	0	0	0	0	0	0	0.0
Misc Exp Oper SS	2	3,378	1,970	1,391	0	0	0	17	0.0
Rents Oper SS	2	0	0	0	0	0	0	0	0.0
Super & Eng Maint SS	2	0	0	0	0	0	0	0	0.0
Struct & Improve Maint SS	2	0	0	0	0	0	0	0	0.0
Struct & Improve Maint SS	2	129	75	53	0	0	0	1	0.0
Collect & Impound Maint SS	2	0	0	0	0	0	0	0	0.0
Lake, River & Oth Maint SS	2	0	0	0	0	0	0	0	0.0
Lake, River & Oth Maint SS	2	0	0	0	0	0	0	0	0.0
Wells & Springs Maint SS	2	0	0	0	0	0	0	0	0.0
Wells & Springs Maint SS	2	0	0	0	0	0	0	0	0.0
Infiltr Gall & Tunnels Maint SS	2	0	0	0	0	0	0	0	0.0
Supply Mains Maint SS	2	0	0	0	0	0	0	0	0.0
Misc Plant Maint SS	2	11,644	6,791	4,795	0	0	0	58	0.0
Misc Plant Maint SS	2	10,804	6,301	4,449	0	0	0	54	0.0
<b>TOTAL SS EXPENSE - MAINTENANCE</b>		<b>25,955</b>	<b>15,137</b>	<b>10,688</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>130</b>	<b>0.0</b>
<b>TOTAL SS EXPENSE</b>		<b>40,789</b>	<b>23,788</b>	<b>16,797</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>204</b>	<b>0.0</b>
<b>POWER AND PUMPING EXPENSES</b>									
Super & Eng Oper P	6	40,968	23,328	16,068	865	0	0	711	4.1
Fuel for Power Prod	1	0	0	0	0	0	0	0	0.0
Labor & Exp Oper Pwr Prod	6	0	0	0	0	0	0	0	0.0
Labor & Exp Oper Pwr Prod	6	0	0	0	0	0	0	0	0.0
Purch Fuel/Power for Pump	1	510,240	505,903	0	0	0	0	4,337	0.0
Labor & Exp Oper Pump	6	182,909	104,153	71,737	3,863	0	0	3,175	18.3
Labor & Exp Oper Pump	6	141	80	55	3	0	0	2	0.0
Expenses Transferred	6	0	0	0	0	0	0	0	0.0
Misc Exp Oper P	6	6,376	3,631	2,501	135	0	0	111	0.6
Rents Oper P	6	0	0	0	0	0	0	0	0.0
<b>TOTAL PUMPING EXPENSE - OPERATION</b>		<b>740,634</b>	<b>637,095</b>	<b>90,361</b>	<b>4,865</b>	<b>0</b>	<b>0</b>	<b>8,336</b>	<b>23.0</b>

MISSOURI-AMERICAN WATER COMPANY  
JOPLIN DISTRICT  
COST OF SERVICE FOR THE TWELVE MONTHS ENDED DECEMBER 31, 2002, FUNCTIONAL ALLOCATION  
Empire Adjusted Fully Loaded Production Cost of Water

			Base	Max Day	Max Hour	Meters	Services	Billing & Collecting	Fire Service	
Super & Eng Maint P	6	25,015	14,244	9,811	528	0	0	0	434	2.5
Struct & Improve Maint P	6	928	528	364	20	0	0	0	16	0.1
Power Prod Equip Maint P	6	3,303	1,881	1,295	70	0	0	0	57	0.3
Pump Equip Maint P	6	15,640	8,906	6,134	330	0	0	0	271	1.6
Pump Equip Maint P	6	657	374	258	14	0	0	0	11	0.1
TOTAL PUMPING EXPENSES - MAINTENANCE		45,543	25,933	17,862	962	0	0	0	790	4.6
<b>TOTAL PUMPING EXPENSES</b>		<b>786,177</b>	<b>663,029</b>	<b>108,222</b>	<b>5,827</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>9,126</b>	<b>27.6</b>
<b>WATER TREATMENT</b>										
Super & Eng Oper WT	2	30,202	17,614	12,437	0	0	0	0	151	0.0
Chemicals	1	97,076	96,251	0	0	0	0	0	825	0.0
Labor & Exp Oper WT	2	93,636	54,609	38,559	0	0	0	0	468	0.0
Labor & Exp Oper WT	2	3,193	1,862	1,315	0	0	0	0	16	0.0
Misc Exp Oper WT	2	0	0	0	0	0	0	0	0	0.0
Misc Exp Oper WT	1	0	0	0	0	0	0	0	0	0.0
Misc Exp Oper WT	2	37,850	22,074	15,587	0	0	0	0	189	0.0
Rents Oper WT	2	58	34	24	0	0	0	0	0	0.0
TOTAL WT EXPENSE - OPERATION		262,015	192,443	67,922	0	0	0	0	1,650	0.0
Super & Eng Maint WT	2	26,232	15,299	10,802	0	0	0	0	131	0.0
Struct & Improve Maint WT	2	0	0	0	0	0	0	0	0	0.0
Struct & Improve Maint WT	2	0	0	0	0	0	0	0	0	0.0
WT Equip Maint WT	2	0	0	0	0	0	0	0	0	0.0
WT Equip Maint WT	2	23,766	13,860	9,787	0	0	0	0	119	0.0
TOTAL WT EXPENSE - MAINTENANCE		49,998	29,159	20,589	0	0	0	0	250	0.0
<b>TOTAL WT EXPENSE</b>		<b>312,013</b>	<b>221,602</b>	<b>88,511</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1,900</b>	<b>0.0</b>
<b>TRANSMISSION AND DISTRIBUTION EXPENSES</b>										
Super & Eng Oper TD	11	95,684	10,382	1,923	11,616	57,563	7,636	0	6,564	0.0
Storage Facility Exp	5	0	0	0	0	0	0	0	0	0.0
Storage Facility Exp	5	1,864	575	0	870	0	0	0	419	0.0
TD Lines Exp	7	38,207	13,262	2,514	14,710	0	0	0	7,718	(3.8)
TD Lines Exp	7	30,017	10,419	1,975	11,557	0	0	0	6,063	(3.0)
Meter Expense	9	117,983	0	0	0	117,983	0	0	0	0.0
Meter Expense	9	16,534	0	0	0	16,534	0	0	0	0.0
Customer Install Exp	10	18,968	0	0	0	0	17,824	0	1,144	0.0
Customer Install Exp	10	23	0	0	0	0	22	0	1	0.0
Misc Exp Oper TD	11	24,173	2,623	486	2,935	14,542	1,929	0	1,658	0.0

MISSOURI-AMERICAN WATER COMPANY  
JOPLIN DISTRICT

COST OF SERVICE FOR THE TWELVE MONTHS ENDED DECEMBER 31, 2002, FUNCTIONAL ALLOCATION

Empire Adjusted Fully Loaded Production Cost of Water

			Base	Max Day	Max Hour	Meters	Services	Billing & Collecting	Fire Service	
Misc Exp Oper TD	11	0	0	0	0	0	0	0	0	0.0
Misc Exp Oper TD	11	18,626	2,021	374	2,261	11,205	1,486	0	1,278	0.0
Rents Oper TD	11	612	66	12	74	368	49	0	42	0.0
<b>TOTAL T &amp; D EXPENSE OPERATION</b>		<b>362,691</b>	<b>39,347</b>	<b>7,285</b>	<b>44,022</b>	<b>218,197</b>	<b>28,946</b>	<b>0</b>	<b>24,888</b>	<b>(6.8)</b>
Super & Eng Maint TD	12	3,621	986	187	1,093	304	274	0	777	0.4
Struct & Improve Maint TD	12	0	0	0	0	0	0	0	0	0.0
Struct & Improve Maint TD	12	102	28	5	31	9	8	0	22	0.0
Dist Res Stand Maint TD	5	0	0	0	0	0	0	0	0	0.0
TD Main Maint TD	7	124,603	43,250	8,199	47,972	0	0	0	25,170	(12.5)
TD Main Maint TD	7	0	0	0	0	0	0	0	0	0.0
Fire Main Maint TD	8	0	0	0	0	0	0	0	0	0.0
Services Maint TD	10	12,786	0	0	0	0	12,015	0	771	0.0
Services Maint TD	10	0	0	0	0	0	0	0	0	0.0
Meters Maint TD	9	6,623	0	0	0	6,623	0	0	0	0.0
Meters Maint TD	9	6,719	0	0	0	6,719	0	0	0	0.0
Hydrants Maint TD	8	8,184	0	0	0	0	0	0	8,184	0.0
Hydrants Maint TD	8	0	0	0	0	0	0	0	0	0.0
Misc Plant Maint TD	12	1,966	535	101	594	165	149	0	422	0.2
Mat and Sup Maint TD	12	46,312	12,611	2,390	13,982	3,890	3,501	0	9,943	4.6
Misc Maint TD	12	112	30	6	34	9	8	0	24	0.0
Amort Def Maint TD	5	60,391	18,625	0	28,184	0	0	0	13,582	0.0
<b>TOTAL T &amp; D EXPENSE - MAINTENANCE</b>		<b>271,419</b>	<b>76,065</b>	<b>10,888</b>	<b>91,890</b>	<b>17,719</b>	<b>15,955</b>	<b>0</b>	<b>58,895</b>	<b>(7.2)</b>
										<b>0.0</b>
<b>TOTAL T &amp; D EXPENSE</b>		<b>634,110</b>	<b>115,412</b>	<b>18,173</b>	<b>135,912</b>	<b>235,916</b>	<b>44,900</b>	<b>0</b>	<b>83,783</b>	<b>(14.1)</b>
<b>CUSTOMER ACCOUNTS</b>										
Supervision CA	13	55,990	0	0	0	0	0	55,262	728	0.0
Meter Reading Exp CA	14	104,348	0	0	0	0	0	104,348	0	0.0
Meter Reading Exp CA	14	48	0	0	0	0	0	48	0	0.0
Meter Reading Exp CA	14	46	0	0	0	0	0	46	0	0.0
Cust Rec & Collection CA	13	10,420	0	0	0	0	0	10,285	135	0.0
Cust Rec & Collection CA	13	54,976	0	0	0	0	0	54,261	715	0.0
Uncollectible Accts	13	138,527	0	0	0	0	0	136,726	1,801	0.0
Misc Cust Accts Exp CA	13	12,321	0	0	0	0	0	12,161	160	0.0
Misc Cust Accts Exp CA	13	0	0	0	0	0	0	0	0	0.0
Misc Cust Accts Exp CA	13	15,880	0	0	0	0	0	15,674	206	0.0
Cust Serv & Info Exp CA	13	170	0	0	0	0	0	168	2	0.0
<b>TOTAL CUSTOMER ACCOUNTING EXPENSE</b>		<b>392,726</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>388,978</b>	<b>3,748</b>	<b>0.0</b>
<b>ADMINISTRATIVE AND GENERAL EXPENSES</b>										
Salaries AG	15	331,422	89,683	49,282	30,126	50,177	9,545	82,723	19,918	33.1
Other Supplies & Exp AG	15	57	15	8	5	9	2	14	3	0.0
Other Supplies & Exp AG	15	99,323	26,877	14,769	9,028	15,038	2,861	24,791	5,969	9.9

MISSOURI-AMERICAN WATER COMPANY  
JOPLIN DISTRICT

COST OF SERVICE FOR THE TWELVE MONTHS ENDED DECEMBER 31, 2002, FUNCTIONAL ALLOCATION

Empire Adjusted Fully Loaded Production Cost of Water

			Base	Max Day	Max Hour	Meters	Services	Billing & Collecting	Fire Service	
Other Supplies & Exp AG	15	109,710	29,688	18,314	9,973	16,610	3,160	27,384	8,594	11.0
Mgmt Fees-Corporate/Shared Service Center	15	249,304	67,462	37,072	22,662	37,745	7,180	62,226	14,983	24.9
Mgmt Fees-Cali Center	13	205,614	0	0	0	0	0	202,941	2,673	0.0
Mgmt Fees-Belleville Lab	2	37,262	21,731	15,344	0	0	0	0	186	0.0
Mgmt Fees- Financial ITS	15	21,672	5,864	3,223	1,970	3,281	624	5,409	1,302	2.2
Mgmt Fees- Customer Billings ITS	13	122,358	0	0	0	0	0	120,765	1,591	0.0
Mgmt Fees-Other ITS	15	1,377	373	205	125	208	40	344	83	0.1
Outside Services AG	15	78,041	21,118	11,605	7,094	11,815	2,248	19,479	4,690	7.8
Outside Services AG	15	(201)	(54)	(30)	(18)	(30)	(6)	(50)	(12)	(0.0)
Property Insurance	15	0	0	0	0	0	0	0	0	0.0
Ins Gen Liab Oper AG	15	45,059	12,193	6,700	4,096	6,822	1,298	11,247	2,708	4.5
Ins Work Comp AG	16	31,789	9,279	5,337	2,610	5,627	1,122	8,021	1,793	0.0
Ins Other Oper AG	15	41,451	11,217	6,164	3,768	6,276	1,194	10,346	2,491	4.1
Property Insurance	15	0	0	0	0	0	0	0	0	0.0
Injuries & Damages	16	1,119	327	188	92	198	40	212	63	0.0
Employee Pension & Benefits	16	321,653	93,891	54,006	26,408	56,933	11,354	60,921	18,141	0.0
Employee Pension & Benefits	16	226,275	66,050	37,992	18,577	40,051	7,988	42,856	12,762	0.0
Employee Pension & Benefits	16	52,223	15,244	8,768	4,288	9,243	1,843	9,891	2,945	0.0
Reg Commission Exp	15	14,057	3,804	2,090	1,278	2,128	405	3,509	845	1.4
Rents AG	15	85,847	23,230	12,765	7,803	12,997	2,472	21,427	5,159	8.6
Goodwill Advertising Exp	15	1,661	449	247	151	251	48	415	100	0.2
Misc Exp AG	15	34,533	9,345	5,135	3,139	5,228	995	8,619	2,075	3.5
Research & Development	15	0	0	0	0	0	0	0	0	0.0
TOTAL A & G OPERATIONS		2,111,604	507,784	287,185	153,174	280,607	54,410	721,491	107,065	111.3
General Plant Maint AG	15	0	0	0	0	0	0	0	0	0.0
General Plant Maint AG	15	8,768	2,373	1,304	797	1,327	253	2,188	527	0.9
TOTAL A & G EXPENSE - MAINTENANCE		8,768	2,373	1,304	797	1,327	253	2,188	527	0.9
<b>TOTAL A &amp; G EXPENSE</b>		<b>2,120,372</b>	<b>510,156</b>	<b>288,489</b>	<b>153,971</b>	<b>281,935</b>	<b>54,663</b>	<b>723,679</b>	<b>107,592</b>	<b>112.2</b>
<b>Total Operation &amp; Maintenance Expenses</b>		<b>4,286,187</b>	<b>1,533,987</b>	<b>520,192</b>	<b>295,710</b>	<b>517,851</b>	<b>99,563</b>	<b>1,112,657</b>	<b>206,352</b>	<b>125.7</b>

MISSOURI-AMERICAN WATER COMPANY  
JOPLIN DISTRICT  
COST OF SERVICE FOR THE TWELVE MONTHS ENDED DECEMBER 31, 2002, FUNCTIONAL ALLOCATION  
Empire Adjusted Fully Loaded Production Cost of Water

			Base	Max Day	Max Hour	Meters	Services	Billing & Collecting	Fire Service	
<b>DEPRECIATION EXPENSE</b>										
Struct & Imp SS	2	355	207	146	0	0	0	0	2	0.0
Struct & Imp P	6	10,887	6,199	4,270	230	0	0	0	189	1.1
Struct & Imp WT	2	10,698	6,239	4,405	0	0	0	0	53	0.0
Struct & Imp TD	7	11,888	4,126	782	4,577	0	0	0	2,401	(1.2)
Struct & Imp Offices	15	564	153	84	51	85	16	141	34	0.1
Struct & Imp Store,Shop,Gar	15	753	204	112	68	114	22	188	45	0.1
Struct & Imp Misc	15	2,084	564	310	189	316	60	520	125	0.2
Collect & Impounding	1	2,007	1,990	0	0	0	0	0	17	0.0
Lake, River & Other Intakes	2	50,500	29,452	20,796	0	0	0	0	253	0.0
Wells & Springs	2	55,541	32,392	22,872	0	0	0	0	278	0.0
Supply Mains	2	4,803	2,801	1,978	0	0	0	0	24	0.0
Power Generation Equip Othe	6	1,462	833	573	31	0	0	0	25	0.1
Boiler Plant Equipment P	6	27	15	11	1	0	0	0	0	0.0
Pump Equip Electric	6	77,767	44,283	30,500	1,642	0	0	0	1,350	7.8
Pump Equip Diesel	6	0	0	0	0	0	0	0	0	0.0
Pump Equip Other	6	0	0	0	0	0	0	0	0	0.0
WT Equip Non-Media	2	86,540	50,470	35,637	0	0	0	0	433	0.0
WT Equip Filter Media	2	104	61	43	0	0	0	0	1	0.0
Dist Reservoirs & Standpipe	5	53,214	16,411	0	24,835	0	0	0	11,968	0.0
Elevated Tanks & Standpipes	5	35,125	10,833	0	16,393	0	0	0	7,900	0.0
Ground Level Facilities	5	560	173	0	261	0	0	0	126	0.0
TD Mains 4 & Less	4	8,863	2,707	0	4,104	0	0	0	2,052	0.0
TD Mains 6 to 8"	4	96,369	29,431	0	44,628	0	0	0	22,309	0.0
TD Mains 10 to 16"	3	79,497	43,978	31,052	0	0	0	0	4,468	0.0
TD Mains 18 & Grtr	3	8,252	4,565	3,223	0	0	0	0	464	0.0
Services	10	120,330	0	0	0	0	113,074	0	7,256	0.0
Meters Bronze Case	9	46,702	0	0	0	46,702	0	0	0	0.0
Meters Plastic Case	9	0	0	0	0	0	0	0	0	0.0
Meters Other	9	9,693	0	0	0	9,693	0	0	0	0.0
Meters Other-Rem Rdr Unts	9	0	0	0	0	0	0	0	0	0.0
Meter Installations	9	114,881	0	0	0	114,881	0	0	0	0.0
Meter Installation Other	9	0	0	0	0	0	0	0	0	0.0
Hydrants	8	9,084	0	0	0	0	0	0	9,084	0.0
Utility Plant Acquisition Adjustment	17	1,395	487	267	164	125	208	10	134	0.0
Other P/E WT Res Hand Equip	2	248	145	102	0	0	0	0	1	0.0
Other P/E TD	7	0	0	0	0	0	0	0	0	0.0
Other P/E CPS	15	0	0	0	0	0	0	0	0	0.0
Office Furniture & Equip	15	3,986	1,079	593	362	603	115	995	240	0.4
Comp & Periph Equip	15	23,988	6,491	3,567	2,181	3,632	691	5,987	1,442	2.4
Computer Software	15	7,613	2,060	1,132	692	1,153	219	1,900	458	0.8
Comp Software Personal	15	2,345	635	349	213	355	68	585	141	0.2
Data Handling Equipment	15	0	0	0	0	0	0	0	0	0.0
Other Office Equipment	15	2,562	693	381	233	388	74	639	154	0.3
Trans Equip Lt Duty Trks	15	14,655	3,966	2,179	1,332	2,219	422	3,658	881	1.5

MISSOURI-AMERICAN WATER COMPANY  
JOPLIN DISTRICT  
COST OF SERVICE FOR THE TWELVE MONTHS ENDED DECEMBER 31, 2002, FUNCTIONAL ALLOCATION  
Empire Adjusted Fully Loaded Production Cost of Water

			Base	Max Day	Max Hour	Meters	Services	Billing & Collecting	Fire Service	
Trans Equip Hvy Duty Trks	15	3,750	1,015	558	341	568	108	936	225	0.4
Trans Equip Autos	15	7,988	2,162	1,188	726	1,209	230	1,994	480	0.8
Trans Equip Other	15	0	0	0	0	0	0	0	0	0.0
Stores Equipment	15	303	82	45	28	46	9	76	18	0.0
Tools,Shop,Garage Equip	15	16,571	4,484	2,464	1,506	2,509	477	4,136	996	1.7
Tools,Shop,Garage Equip Oth	15	0	0	0	0	0	0	0	0	0.0
Laboratory Equipment	2	7,800	4,549	3,212	0	0	0	0	39	0.0
Laboratory Equip Other	2	0	0	0	0	0	0	0	0	0.0
Power Operated Equipment	15	7,755	2,099	1,153	705	1,174	223	1,936	466	0.8
Comm Equip Non-Telephone	15	2,616	708	389	238	396	75	653	157	0.3
Comm Equip Telephone	15	0	0	0	0	0	0	0	0	0.0
Misc Equipment	15	3,992	1,080	594	363	604	115	996	240	0.4
Total Depreciation Expense		1,006,117	319,818	174,966	106,095	186,772	116,206	25,351	76,927	
Amort-Other UP	18	0	0	0	0	0	0	0	0	0.0
Taxes Other Than Income										
Utility Reg Assessment Fee	19	35,292	12,320	5,463	3,247	4,126	2,905	4,764	2,467	0.0
Property Taxes	18	341,340	119,059	65,128	40,073	30,652	50,689	3,038	32,735	34.1
FUTA	16	1,770	517	297	145	313	62	335	100	0.0
FICA	16	103,626	30,248	17,399	8,508	18,342	3,658	19,627	5,845	0.0
SUTA	16	19	6	3	2	3	1	4	1	0.0
Other Taxes & Licenses	15	13,655	3,695	2,030	1,241	2,067	393	3,408	821	1.4
Gross Receipts Tax	19	0	0	0	0	0	0	0	0	0.0
Total Taxes, Other Than Income		495,702	165,846	90,321	53,216	55,504	57,708	31,176	41,967	35.5
Income Taxes	18	810,868	282,831	154,714	95,196	72,816	120,414	7,217	77,762	81.1
Utility Income Available for Return	18	2,248,240	784,186	428,964	263,943	201,892	333,864	20,009	215,606	224.8
Total Cost of Service		8,847,115	3,086,667	1,369,156	814,161	1,034,834	727,755	1,196,410	618,616	485.1
Less: Other Water Revenues	19	165,846	57,897	25,673	15,258	19,387	13,649	22,389	11,593	0.0
Billing and Collecting Services	19	0	0	0	0	0	0	0	0	0.0
Total Other Water Revenues		165,846	57,897	25,673	15,258	19,387	13,649	22,389	11,593	0.0
Total Cost of Service Related to Sales of Water		8,681,269	3,028,771	1,343,483	798,903	1,015,447	714,106	1,174,021	607,023	485.1
Reallocation of Public Fire	20	0	0	0	0	0	0	0	0	0.0
Total		\$ 8,681,269	\$ 3,028,771	\$ 1,343,483	\$ 798,903	\$ 1,015,447	\$ 714,106	#####	\$ 607,023	
			4,161,815			28,284	23,817	277,320		
			0.728			35.90	29.98			

MISSOURI-AMERICAN WATER COMPANY  
JOPLIN DISTRICT

COST OF SERVICE FOR THE TWELVE MONTHS ENDED DECEMBER 31, 2002, FUNCTIONAL ALLOCATION

Empire Adjusted Fully Loaded Production Cost of Water

	Base	Max Day	Max Hour	Meters	Services	Billing & Collecting	Fire Service
Total Cost Per Above	\$3,028,771			2.99	2.50	4.23	
Remove T&D	115,412					9.72	
Remove Cust. Accts.	0						
Remove A&G	510,156						
Remove Depr Exp Non-SS, WT, PwrPmp	139,830						
Remove Other Taxes	165,846						
Remove Income Tax/Net Income per below	613,619						
Empire Fully Loaded Production Cost of Water	\$1,483,907						
Volumes Per Above	4,161,816						
Empire Fully Loaded Production Cost of Water Rate	0.357						



MISSOURI-AMERICAN WATER COMPANY  
JOPLIN DISTRICT  
COST OF SERVICE FOR THE TWELVE MONTHS ENDED DECEMBER 31, 2002, FUNCTIONAL ALLOCATION  
**Empire Adjusted Fully Loaded Production Cost of Water**

			Base	Max Day	Max Hour	Meters	Services	Billing & Collecting	Fire Service	
<b>RATE BASE</b>										
Organization	17	26,255	9,171	5,020	3,085	2,355	3,915	189	2,520	0.0
Franchises	17	20,740	7,244	3,965	2,437	1,860	3,092	149	1,991	0.0
Land & Ld Rights SS	2	96,342	56,187	39,674	0	0	0	0	482	0.0
Land & Ld Rights P	6	12,561	7,153	4,926	265	0	0	0	218	1.3
Land & Ld Rights WT	2	11,715	6,832	4,824	0	0	0	0	59	0.0
Land & Ld Rights TD	7	27,039	9,385	1,779	10,410	0	0	0	5,462	(2.7)
Land & Land Rights AG	15	717	194	107	65	109	21	179	43	0.1
Struct & Imp SS	2	17,008	9,919	7,004	0	0	0	0	85	0.0
Struct & Imp P	6	332,709	189,453	130,488	7,026	0	0	0	5,775	33.3
Struct & Imp Pumps (STL)	6	0	0	0	0	0	0	0	0	0.0
Struct & Imp Pump Boosters	6	0	0	0	0	0	0	0	0	0.0
Struct & Imp WT	2	445,528	259,832	183,468	0	0	0	0	2,228	0.0
Struct & Imp WT Nth Pit (ST)	2	0	0	0	0	0	0	0	0	0.0
Struct & Imp WT Ctrl Pit 1	2	0	0	0	0	0	0	0	0	0.0
Struct & Imp WT Ctrl Pit 3	2	0	0	0	0	0	0	0	0	0.0
Struct & Imp WT Sth Pit (ST)	2	0	0	0	0	0	0	0	0	0.0
Struct & Imp WT Meramec (ST)	2	0	0	0	0	0	0	0	0	0.0
Struct & Imp TD	7	338,794	117,595	22,293	130,436	0	0	0	68,436	(33.9)
Struct & Imp TD Spec Cross	7	0	0	0	0	0	0	0	0	0.0
Struct & Imp Offices	15	(3,228)	(873)	(480)	(293)	(489)	(93)	(806)	(194)	(0.3)
Struct & Imp Leasehold	15	0	0	0	0	0	0	0	0	0.0
Struct & Imp Leasehold	15	0	0	0	0	0	0	0	0	0.0
Struct & Imp Store,Shop,Gar	15	28,598	7,739	4,253	2,600	4,330	824	7,138	1,719	2.9
Struct & Imp Misc	15	79,179	21,426	11,774	7,197	11,988	2,280	19,763	4,759	7.9
Collect & Impounding	1	31,542	31,274	0	0	0	0	0	268	0.0
Lake, River & Other Intakes	2	18,912	11,029	7,788	0	0	0	0	95	0.0
Wells & Springs	2	3,415,139	1,991,709	1,406,354	0	0	0	0	17,076	0.0
Supply Mains	2	110,839	64,641	45,644	0	0	0	0	554	0.0
Supply Mains Nth Pit (STL)	2	0	0	0	0	0	0	0	0	0.0
Supply Mains Ctrl Pit (STL)	2	0	0	0	0	0	0	0	0	0.0
Supply Mains Sth Pit (STL)	2	0	0	0	0	0	0	0	0	0.0
Supply Mains Meramec Pit (S	2	0	0	0	0	0	0	0	0	0.0
Power Generation Equip Othe	6	64,557	36,760	25,319	1,363	0	0	0	1,120	6.5
Boiler Plant Equipment P	6	348	198	136	7	0	0	0	6	0.0
Pump Equip Steam	6	6,907	3,833	2,709	146	0	0	0	120	0.7
Pump Equip Electric	6	1,359,231	773,982	533,090	28,703	0	0	0	23,591	135.9
Pump Equip Elec Pre46 (STL)	6	0	0	0	0	0	0	0	0	0.0
Pump Equip Elec Post46 (STL)	6	0	0	0	0	0	0	0	0	0.0
Pump Equip Elec Boosters Po	6	0	0	0	0	0	0	0	0	0.0
Pump Equip Diesel	6	102,440	58,332	40,177	2,163	0	0	0	1,778	10.2
Pump Equip Diesel Stratman\	6	0	0	0	0	0	0	0	0	0.0
Pump Equip Diesel Ctrl Pit	6	0	0	0	0	0	0	0	0	0.0
Pump Equip Hydraulic	6	0	0	0	0	0	0	0	0	0.0
Pump Equip Other	6	118,995	67,759	46,670	2,513	0	0	0	2,065	11.9

MISSOURI-AMERICAN WATER COMPANY  
JOPLIN DISTRICT

COST OF SERVICE FOR THE TWELVE MONTHS ENDED DECEMBER 31, 2002, FUNCTIONAL ALLOCATION

Empire Adjusted Fully Loaded Production Cost of Water

			Base	Max Day	Max Hour	Meters	Services	Billing & Collecting	Fire Service	
WT Equip Non-Media	2	1,517,822	885,194	625,039	0	0	0	0	7,589	0.0
WT Equip Non-Med North (STL)	2	0	0	0	0	0	0	0	0	0.0
WT Equip Non Media Ctrl 1 &	2	0	0	0	0	0	0	0	0	0.0
WT Equip Non Media Ctrl 3 (	2	0	0	0	0	0	0	0	0	0.0
WT Equip Non Media Sth (STL)	2	0	0	0	0	0	0	0	0	0.0
WT Equip Non Media Mer (STL)	2	0	0	0	0	0	0	0	0	0.0
WT Equip Filter Media	2	3,073	1,792	1,265	0	0	0	0	15	0.0
Dist Reservoirs & Standpipe	5	1,882,054	580,425	0	878,355	0	0	0	423,274	0.0
Elevated Tanks & Standpipes	5	1,734,517	534,925	0	809,499	0	0	0	390,093	0.0
Ground Level Facilities	5	27,887	8,600	0	13,015	0	0	0	6,272	0.0
TD Mains Not Classified by	7	(3,461,798)	(1,201,590)	(227,786)	(1,332,792)	0	0	0	(699,283)	346.2
TD Mains 4 & Less "	4	628,790	192,032	0	291,193	0	0	0	145,565	0.0
TD Mains 6 to 8" "	4	5,321,863	1,625,297	0	2,464,555	0	0	0	1,232,011	0.0
TD Mains 10 to 16" "	3	5,670,761	3,137,065	2,214,999	0	0	0	0	318,697	0.0
TD Mains 18 & Grtr "	3	585,443	323,867	228,674	0	0	0	0	32,902	0.0
TD Mains AC 4 (STL) "	4	0	0	0	0	0	0	0	0	0.0
TD Mains CI <10 1900-28 (S"	4	0	0	0	0	0	0	0	0	0.0
TD Mains CI <10 1929-56 (S"	4	0	0	0	0	0	0	0	0	0.0
TD Mains CI <10 1957-93 (S"	4	0	0	0	0	0	0	0	0	0.0
TD Mains CI 12 (STL) "	3	0	0	0	0	0	0	0	0	0.0
TD Mains CI 16 (STL) "	3	0	0	0	0	0	0	0	0	0.0
TD Mains DI 6-8 (STL) "	4	0	0	0	0	0	0	0	0	0.0
TD Mains DI 12 (STL) "	3	0	0	0	0	0	0	0	0	0.0
TD Mains DI 16 & >(STL)	3	0	0	0	0	0	0	0	0	0.0
TD Mains Galve 1 (STL) "	4	0	0	0	0	0	0	0	0	0.0
TD Mains LJ 20 (STL) "	3	0	0	0	0	0	0	0	0	0.0
Fire Mains	8	0	0	0	0	0	0	0	0	0.0
Services	10	4,542,953	0	0	0	0	4,269,013	0	273,940	0.0
Meters Bronze Case	9	812,135	0	0	0	812,135	0	0	0	0.0
Meters Plastic Case	9	13,269	0	0	0	13,269	0	0	0	0.0
Meters Other	9	48,731	0	0	0	48,731	0	0	0	0.0
Meters Other-Rem Rdr Unts	9	0	0	0	0	0	0	0	0	0.0
Meter Installations	9	1,583,293	0	0	0	1,583,293	0	0	0	0.0
Meter Installation Other	9	0	0	0	0	0	0	0	0	0.0
Hydrants	8	453,650	0	0	0	0	0	0	453,650	0.0
Other P/E Intangible	15	0	0	0	0	0	0	0	0	0.0
Other P/E WT Res Hand Equip	2	8,217	4,792	3,384	0	0	0	0	41	0.0
Other P/E TD	7	(868)	(301)	(57)	(334)	0	0	0	(175)	0.1
Other P/E CPS	15	(63,124)	(17,081)	(9,387)	(5,738)	(9,557)	(1,818)	(15,756)	(3,794)	(6.3)
Office Furniture & Equip	15	338,996	91,732	50,409	30,815	51,324	9,763	84,613	20,374	33.9
Comp & Periph Equip	15	82,160	22,232	12,217	7,468	12,439	2,366	20,507	4,938	8.2
Computer Software	15	(25,729)	(6,962)	(3,826)	(2,339)	(3,895)	(741)	(6,422)	(1,548)	(2.6)
Comp Software Personal	15	(2,267)	(613)	(337)	(206)	(343)	(65)	(566)	(136)	(0.2)
Data Handling Equipment	15	0	0	0	0	0	0	0	0	0.0
Other Office Equipment	15	24,273	6,568	3,609	2,206	3,675	699	6,059	1,459	2.4

MISSOURI-AMERICAN WATER COMPANY  
JOPLIN DISTRICT

## COST OF SERVICE FOR THE TWELVE MONTHS ENDED DECEMBER 31, 2002, FUNCTIONAL ALLOCATION

## Empire Adjusted Fully Loaded Production Cost of Water

			Base	Max Day	Max Hour	Meters	Services	Billing & Collecting	Fire Service	
Trans Equip Lt Duty Trks	15	(14,295)	(3,868)	(2,126)	(1,299)	(2,164)	(412)	(3,568)	(859)	(1.4)
Trans Equip Hvy Duty Trks	15	12,700	3,437	1,888	1,154	1,923	366	3,170	763	1.3
Trans Equip Autos	15	31,409	8,499	4,671	2,855	4,755	905	7,840	1,888	3.1
Trans Equip Other	15	56,926	15,404	8,465	5,175	8,619	1,639	14,209	3,421	5.7
Stores Equipment	15	(1,339)	(362)	(199)	(122)	(203)	(39)	(334)	(80)	(0.1)
Tools,Shop,Garage Equip	15	144,510	39,104	21,489	13,136	21,879	4,162	36,070	8,685	14.5
Tools,Shop,Garage Equip Oth	15	0	0	0	0	0	0	0	0	0.0
Laboratory Equipment	2	82,563	48,151	33,999	0	0	0	0	413	0.0
Laboratory Equip Other	2	0	0	0	0	0	0	0	0	0.0
Power Operated Equipment	15	92,273	24,969	13,721	8,388	13,970	2,657	23,031	5,546	9.2
Comm Equip Non-Telephone	15	43,289	11,714	6,437	3,935	6,554	1,247	10,805	2,602	4.3
Comm Equip Telephone	15	(33,295)	(9,010)	(4,951)	(3,027)	(5,041)	(959)	(8,310)	(2,001)	(3.3)
Misc Equipment	15	34,633	9,372	5,150	3,148	5,243	997	8,644	2,081	3.5
Other Tangible Property	17	0	0	0	0	0	0	0	0	0.0
Total Utility Plant in Service		<u>28,838,342</u>	<u>10,076,260</u>	<u>5,513,731</u>	<u>3,387,163</u>	<u>2,586,758</u>	<u>4,299,820</u>	<u>206,604</u>	<u>2,768,598</u>	<u>592</u>
Other Rate Base Items										
Add:										
Other Utility Plant Adjustments	17	54,752	19,125	10,469	6,433	4,911	8,164	394	5,256	0.0
Cash Working Capital	15	136,000	36,802	20,223	12,362	20,590	3,917	33,946	8,174	13.6
Materials and Supplies	15	211,110	57,126	31,392	19,190	31,962	6,080	52,693	12,688	21.1
Prepayments	15	26,700	7,225	3,970	2,427	4,042	769	6,664	1,605	2.7
OPEB's Contributed to External Fund	16	239,634	69,949	40,235	19,674	42,415	8,459	45,387	13,515	0.0
Premature Retirement	17	0	0	0	0	0	0	0	0	0.0
Regulatory Deferrals	17	335,702	117,261	64,186	39,445	30,112	50,053	2,417	32,227	0.0
Less:										
Accumulated Deferred ITC (3%)	17	(13,433)	(4,692)	(2,568)	(1,578)	(1,205)	(2,003)	(97)	(1,290)	0.0
Deferred Income Taxes	17	(2,185,203)	(763,291)	(417,811)	(256,761)	(196,013)	(325,814)	(15,733)	(209,779)	0.0
Pensions	16	(485,082)	(141,595)	(81,445)	(39,825)	(85,860)	(17,123)	(91,875)	(27,359)	0.0
Total Other Rate Base Elements		<u>(1,679,820)</u>	<u>(602,091)</u>	<u>(331,350)</u>	<u>(198,633)</u>	<u>(149,043)</u>	<u>(267,499)</u>	<u>33,796</u>	<u>(164,963)</u>	<u>37.4</u>
Total Original Cost Measure of Value		<u>#####</u>	<u>\$ 9,474,168</u>	<u>\$ 5,182,382</u>	<u>\$ 3,188,529</u>	<u>\$ 2,437,715</u>	<u>#####</u>	<u>\$ 240,401</u>	<u>#####</u>	<u>629.5</u>
Income Taxes + Income Available For Return			1,067,017							
Return (From Above/Total Orig Cost. Measu of Value)			11%							
Remove Rate Base			5,448,399							
Remove Income Taxes/NetIncome Value			\$ 613,619							
T&D OP BASIS FOR FACTOR 11		223,596	24,255	4,489	27,136	134,517	17,846	0	15,346	(6.8)
FACTOR 11			0.1085	0.0201	0.1214	0.6016	0.0798	0.0000	0.0686	1.0000

MISSOURI-AMERICAN WATER COMPANY  
JOPLIN DISTRICT  
COST OF SERVICE FOR THE TWELVE MONTHS ENDED DECEMBER 31, 2002, FUNCTIONAL ALLOCATION  
**Empire Adjusted Fully Loaded Production Cost of Water**

		Base	Max Day	Max Hour	Meters	Services	Billing & Collecting	Fire Service	
T&D Mnt BASIS FOR FACTOR 12	158,915	43,250	8,199	47,972	13,342	12,015	0	34,125	(12.5)
FACTOR 12		0.2723	0.0516	0.3019	0.0840	0.0756	0.0000	0.2147	1.0001
A&G BASIS FOR FACTOR 15	1,558,499	421,677	231,703	141,739	235,916	44,900	388,978	93,599	13.5
FACTOR 15		0.2708	0.1487	0.0909	0.1514	0.0288	0.2496	0.0601	1.0001
LABOR BASIS FOR FACTOR 16	1,397,776	408,072	234,695	114,721	247,359	49,371	264,778	78,823	44.3
FACTOR 16		0.2919	0.1679	0.0821	0.1770	0.0353	0.1894	0.0564	1.0000
UPIS BASIS FOR FACTOR 17	28,791,347	10,059,844	5,504,746	3,381,641	2,582,543	4,292,813	206,266	2,764,087	592.1
FACTOR 17		0.3493	0.1912	0.1175	0.0897	0.1491	0.0072	0.0960	1.0000
RATE BASE BASIS FOR FACTOR 18	27,158,522	9,474,168	5,182,382	3,188,529	2,437,715	4,032,321	240,401	2,603,635	629.5
FACTOR 18		0.3488	0.1908	0.1174	0.0898	0.1485	0.0089	0.0959	1.0001
TOTAL COS BASIS FOR FACTOR 19	8,797,766	3,070,543	1,361,603	809,636	1,028,580	724,445	1,188,137	615,304	483.7
FACTOR 19		0.3491	0.1548	0.0920	0.1169	0.0823	0.1350	0.0699	1.0000

	2	4	6	8	10	12	14	
	Base	Max Day	Max Hour	Meters	Services	Billing & Collecting	Fire Service	
1	0.9915	-	-	-	-	-	0.0085	1.0000
2	0.5832	0.4118	-	-	-	-	0.0050	1.0000
3	0.5532	0.3906	-	-	-	-	0.0562	1.0000
4	0.3054	-	0.4631	-	-	-	0.2315	1.0000
5	0.3084	-	0.4667	-	-	-	0.2249	1.0000
6	0.5694	0.3922	0.0211	-	-	-	0.0174	1.0001
7	0.3471	0.0658	0.3850	-	-	-	0.2020	0.9999
8	-	-	-	-	-	-	1.0000	1.0000
9	-	-	-	1.0000	-	-	-	1.0000
10	-	-	-	-	0.9397	-	0.0603	1.0000
11	0.1085	0.0201	0.1214	0.6016	0.0798	-	0.0686	1.0000
12	0.2723	0.0516	0.3019	0.0840	0.0756	-	0.2147	1.0001
13	-	-	-	-	-	0.9870	0.0130	1.0000
14	-	-	-	-	-	1.0000	-	1.0000
15	0.2706	0.1487	0.0909	0.1514	0.0288	0.2496	0.0601	1.0001
16	0.2919	0.1679	0.0821	0.1770	0.0353	0.1894	0.0564	1.0000
17	0.3493	0.1912	0.1175	0.0897	0.1491	0.0072	0.0960	1.0000
18	0.3488	0.1908	0.1174	0.0898	0.1485	0.0089	0.0959	1.0001
19	0.3491	0.1548	0.0920	0.1169	0.0823	0.1350	0.0699	1.0000
20								-

STATE OF MISSOURI, PUBLIC SERVICE COMMISSION  
MISSOURI-AMERICAN WATER COMPANY

For: JOPLIN DISTRICT

ELECTRIC GENERATION INTERRUPTIBLE SERVICE  
RIDER EGIR

**APPLICABILITY:** Throughout the territory served under this Rider.

**AVAILABILITY:** This Rider available to electric generating facilities of a customer that:

1. is engaged in business of generating electric power for sale to the public or to public utilities;
2. enters into a Service Agreement for a term of not less than 10 years;
3. agrees to purchase at least 15 million gallons per month each and every month during the term of the Service Agreement;
4. in lieu of minimum volumes agrees to a minimum annual charge during the term of the Service Agreement;
5. has a viable alternative to supplement service from the Company;
6. does not require the Company to maintain minimum pressure requirement;
7. has fully operational water storage capability, available for use during periods of curtailment or interruption.

**RATE:**

**Service Charge**

The Service Charges under this rate schedule will be the same as those set forth on the Schedule of Rates Applicable to the District for Industrial Rate Class.

**Consumption Charges**

The Consumption Charges for the Electric Generation Interruptible Service Rates shall be the rate set forth in the Service Agreement, provided, however, that such rate(s): (1) shall not exceed the Maximum Rate; (2) shall not be less than the Minimum Rate; and (3) shall be subject to an Escalation Clause, as hereafter defined.

**Maximum Rate:** The Maximum Rate shall be the charges specified in the Company's Rate Schedule for the last block rate of service under the Industrial Rate Class.

**Minimum Rate:** the Minimum Rate shall be the agreed upon minimum annual service charge under the service agreement.

**Escalation Clause:** The rate set forth in the Service Agreement shall be subject to an Escalation Clause, during the original and any renewal terms of the Service Agreement, based upon changes in published price indices and/or changes in the Company's cost of service, as the Company and the qualifying customer shall agree.

**Filing with the Missouri Public Service Commission/Confidentiality:** Service agreements entered into between the company and qualifying customers under this rider shall be filed with the Commission on a confidential basis within ten (10) days of their execution and shall not be subject to disclosure except by Petition made to and granted by the Commission.