

# EXHIBIT

Exhibit No.:

Issue(s):

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Sponsoring Party:

Case No.:

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Rate Design Update  
Meisenheimer/Rebuttal  
Public Counsel  
WR-2003-0500

## REBUTTAL TESTIMONY OF BARBARA A. MEISENHEIMER

Submitted on Behalf of the Office of the Public Counsel

FILED

JAN 23 2004

Missouri Public  
Service Commission

Missouri-American Water Company

Case No. WR-2003-0500

November 10, 2003

Exhibit No. ~~55~~ 55  
Case No(s) WR-2003-0500  
Date 12/16/03 Rptr SKM

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

In the Matter of Missouri-American Water )  
Company for Authority to File Tariffs )  
Reflecting Increased Rates for Water ) Case No. WR-2003-0500  
and Sewer Service. )

**AFFIDAVIT OF BARBARA A. MEISENHEIMER**

STATE OF MISSOURI )  
 ) ss  
COUNTY OF COLE )

Barbara A. Meisenheimer, of lawful age and being first duly sworn, deposes and states:

1. My name is Barbara A. Meisenheimer. I am Chief Utility Economist for the Office of the Public Counsel.
2. Attached hereto and made a part hereof for all purposes is my rebuttal testimony consisting of pages 1 through 11 and Schedules BAM REB-1 through BAM REB-3.
3. I hereby swear and affirm that my statements contained in the attached testimony are true and correct to the best of my knowledge and belief.

  
Barbara A. Meisenheimer

Subscribed and sworn to me this 10th day of November, 2003.

KATHLEEN HARRISON  
Notary Public - State of Missouri  
County of Cole  
My Commission Expires Jan. 31, 2006

  
Kathleen Harrison  
Notary Public

My Commission expires January 31, 2006.

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**REBUTTAL TESTIMONY**  
**OF**  
**BARBARA A. MEISENHEIMER**

**MISSOURI-AMERICAN WATER COMPANY**

**CASE NO. WR-2003-0500**

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

2       A.    Barbara Meisenheimer, Chief Economist, Office of the Public Counsel, P. O. Box  
3       7800, Jefferson City, Missouri 65102.

4       **Q.    HAVE YOU TESTIFIED PREVIOUSLY IN THIS CASE?**

5       A.    Yes, I submitted direct testimony on the issues of rate design for the Missouri  
6       American Water Company (MAWC) and each of its districts on October 10,  
7       2003.

8       **Q.    WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY?**

9       A.    The purpose of my rebuttal testimony is: (1) to update Office of the Public  
10      Counsel (OPC)'s rate design recommendation based on the revised and updated  
11      Class Cost of Service (CCOS) study prepared by James Busch; and (2) to present  
12      OPC's response to the CCOS study filed by MAWC, and the Public Service  
13      Commission Staff (Staff).

1 **I. Updated Rate Design**

2 **Q. PLEASE EXPLAIN THE PURPOSE OF YOUR UPDATE TO THE RATE DESIGN**  
3 **RECOMMENDATION.**

4 A. The OPC CCOS study that was filed in the direct testimony was based on Staff  
5 provided accounting data and billing determinants. After the filing of OPC's  
6 direct testimony, updated Staff's accounting data and billing determinants became  
7 available. James Busch has revised OPC's CCOS study with the updated Staff  
8 information and my schedules reflect adjustments based on his revised study.

9 **Q. HOW HAVE THE TABLES AND SCHEDULES CONTAINED IN YOUR DIRECT**  
10 **TESTIMONY CHANGED?**

11 A. The revised and updated cost study information produced somewhat different  
12 class revenue requirements for the Company as well as for each of the individual  
13 districts. In most cases, the changes to the OPC study caused only minimal  
14 change in the class cost allocation percentages and my rate design  
15 recommendation. There is a rate design correction for the Private Fire Service  
16 rate for St. Joseph which substantially reduces the recommended class revenue  
17 responsibility based on OPC's proposed revenue requirement. I have also  
18 included recommended class revenue requirements for Jefferson City based on  
19 updated Staff accounting data. Finally, I deleted the total company costs that were  
20 based on an estimated division of St. Louis County costs for rate group "A and  
21 Others" and changed the titles and presentation of the information for the St.  
22 Louis County district to match the data with the class titles used in the OPC  
23 CCOS study. A summary of the resulting rate revenue by district, a summary of

1            OPC's CCOS study results and the workpapers for individual districts are  
2            provided in Schedule BAM REB-1, Schedules BAM REB-2.1 through 2.2, and  
3            Schedules BAM REB 3.11 through BAM REB-3.9.2 respectively.

4  
5            **II. Responses to other parties**

6            **Q.     PLEASE COMPARE THE RESULTS OF THE CCOS STUDIES FILED BY OPC, THE**  
7            **STAFF AND THE COMPANY.**

8            **A.     Table R1 summarizes the parties' CCOS results.**  
9

Table R1 - Summary: Class Cost Of Service by District by Class

			RESIDENTIAL	COMMERCIAL	INDUSTRIAL	OTHER PUBLIC AUTHORITY	SALES FOR RESALE	PRIVATE FIRE SERVICE
		District Cost	Class Cost Of Service As A Percentage Of District Cost					
Jefferson City	OPC	4,062,653	52.8	39.4	5.5	1.2	0.0	1.0
	Staff	3,840,091	62.1	31.0	4.5	1.3	0.0	1.1
	Company	4,469,947	53.6	34.0	4.6	0.9	0.0	1.0
Brunswick	OPC	442,583	49.1	12.8	0.4	1.9	34.5	1.3
	Staff	410,927	53.7	13.7	0.3	1.7	29.4	1.4
	Company	195,401	48.9	12.4	0.2	1.5	28.1	1.1
The Company's cost of service reflects cost reductions associated with support from other districts.								
Joplin	OPC	7,499,843	47.7	20.6	21.8	2.7	5.9	1.3
	Staff	6,734,492	52.8	19.8	18.0	2.2	5.0	2.0
	Company	8,681,269	50.9	19.4	15.7	2.3	4.7	1.8
Mexico	OPC	2,859,614	46.5	14.1	15.7	9.0	13.8	1.0
	Staff	2,702,890	52.8	13.5	10.4	7.1	14.0	2.2
	Company	3,026,717	49.2	12.9	12.6	7.2	10.7	2.0
Parkville	OPC	3,041,390	70.3	15.3	0.7	3.7	9.0	1.1
	Staff	2,715,348	73.6	13.3	0.5	3.0	7.8	1.8
	Company	3,225,808	69.8	13.3	0.5	2.6	6.3	1.1
St. Charles	OPC	7,624,969	86.9	10.3	0.0	1.7	0.0	1.0
	Staff	6,850,984	87.2	9.7	0.0	1.4	0.0	1.7
	Company	9,008,859	80.1	7.6	0.0	1.2	0.0	1.4
St. Joseph	OPC	15,920,010	44.6	19.2	17.4	4.5	12.6	1.7
	Staff	14,971,944	49.1	18.2	17.0	3.8	11.1	0.9
	Company	18,441,443	47.4	18.7	14.4	4.1	10.1	0.7
Warrensburg	OPC	2,320,265	53.1	17.6	3.6	15.3	9.4	1.1
	Staff	2,146,818	55.1	15.7	2.7	17.4	7.5	1.5
	Company	2,638,868	52.2	15.3	2.7	12.3	6.9	1.2
			Rate A and others		Rate B	Rate J & D	PRIVATE FIRE SERVICE	PUBLIC FIRE SERVICE
St. Louis	OPC	102,743,839	78.6		3.0	11.6	0.5	6.3
	Staff	97,012,554	88.1		2.7	8.4		0.6
	Company	130,776,393	84.7		1.7	6.2	0.7	6.7

1       **Q.     PLEASE COMMENT ON THE CCOS RESULTS.**

2       A.     The Company's CCOS studies produce the highest overall district costs with the  
3             exception of the Brunswick district. The Company adjusted district and class  
4             costs for a number of districts by way of a revenue adjustment to the cost of  
5             service calculations. The net impacts on district specific costs are as follows;  
6             Brunswick -\$213,779, Jefferson City \$0, Joplin \$0, Mexico -\$110,001, Parkville -  
7             \$66,835, St. Charles \$0, St Joseph -\$459,748, St. Louis +\$880,000, Warrensburg -  
8             \$29,637. The Staff's CCOS study generally produced the highest class cost of  
9             service for Residential while the OPC study tended to produce higher costs for the  
10            Industrial, Commercial and Private Fire classes. For four of the nine districts the  
11            Company's CCOS produced a lower class CCOS for residential than either OPC  
12            or the Staff.

13       **Q.     PLEASE COMPARE THE RESULTS OF THE CLASS REVENUE**  
14       **RECOMMENDATIONS FILED BY OPC, THE STAFF AND THE COMPANY.**

15       A.     Table R2 summarizes the parties' Class Revenue results.  
16

1

Table R2 - Summary: Class Revenue by District by Class

			RESIDENTIAL	COMMERCIAL	INDUSTRIAL	OTHER PUBLIC AUTHORITY	SALES FOR RESALE	PRIVATE FIRE SERVICE	
		District Revenue	Proposed Class Revenues As A Percentage Of District Revenue						
Jefferson City	OPC	4,062,653	53	39	5	1	(0)	2	
	Staff	3,840,090	62.2	31.0	4.5	1.3	0.0	1.1	
	Company	4,470,032	50.1	36.8	4.4	1.0	0.0	1.8	
	Current	4,088,580	52.6	38.8	4.5	1.3	(0.0)	2.8	
Brunswick	OPC	442,583	45.9	12.6	0.4	2.2	37.9	1.1	
	OPC recommends that since the district increase would exceed 15% the revenue should be capped at 15% over current revenue or \$240,497 with support provided by districts receiving the largest rate reductions.								
	Staff	410,927	53.7	13.7	0.3	1.7	29.4	1.4	
	Staff recommends that the customer charge and commodity rates be set at the related rate for the second highest district.								
	Company	195,444	48.4	12.6	0.3	1.6	26.7	2.6	
	Current	209,128	50.0	12.6	0.4	1.8	33.0	2.3	
Joplin	OPC	7,499,843	49.6	20.8	19.3	2.7	5.6	1.9	
	Staff	6,734,493	52.8	19.9	18.0	2.2	5.0	1.9	
	Company	8,681,237	50.4	19.5	15.7	2.3	4.7	2.2	
	Current	8,092,618	50.9	20.8	17.9	2.6	5.3	2.5	
Mexico	OPC	2,859,614	47.1	13.9	13.8	8.3	14.2	2.7	
	Staff	2,702,890	52.8	13.5	10.4	7.1	14.0	2.2	
	Company	3,026,541	47.8	13.7	12.6	7.2	10.7	2.6	
	Current	2,525,294	48.1	14.0	12.2	7.8	14.8	3.1	
Parkville	OPC	3,041,390	70.7	14.4	0.6	3.5	8.5	2.2	
	Staff	2,715,347	73.6	13.3	0.5	3.0	7.8	1.8	
	Company	3,225,801	68.2	14.1	0.5	2.6	6.3	1.9	
	Current	2,822,325	71.5	13.9	0.5	3.5	8.3	2.4	
St. Charles	OPC	7,624,969	86.2	10.8	0.1	1.8	0.0	1.2	
	Staff	6,850,983	87.2	9.6	0.0	1.4	0.0	1.7	
	Company	9,008,072	78.3	9.1	0.0	1.6	0.0	1.3	
	Current	8,681,712	85.5	11.2	0.1	1.9	0.0	1.4	
St. Joseph	OPC	15,920,010	45.7	19.4	17.0	4.2	12.7	1.0	
	Staff	14,971,946	49.2	18.2	17.0	3.8	11.1	0.9	
	Company	18,441,480	47.3	18.7	14.4	4.1	10.1	0.8	
	Current	16,320,303	46.2	19.5	16.6	4.1	12.7	1.0	
Warrensburg	OPC	2,320,265	51.9	18.3	3.4	15.9	9.0	1.6	
	Staff	2,146,819	55.1	15.7	2.7	17.4	7.5	1.5	
	Company	2,638,779	50.4	16.2	2.7	12.4	6.9	2.0	
	Current	2,524,743	50.7	19.0	3.1	16.5	8.5	2.1	
			Rate A and others		Rate B	Rate J & D	PRIVATE FIRE SERVICE	PUBLIC FIRE SERVICE	
St. Louis	OPC	102,743,839	82.8		2.2	8.4	0.8	5.8	
	Staff	97,012,554	88.2		2.7	8.4		0.6	
	Company	130,776,258	84.5		1.7	6.2	0.9	6.7	
	Current	118,944,029	84.7		0.8	8.3	1.0	5.1	

WR-2003-0500  
Rebuttal Testimony of  
Barbara A. Meisenheimer

1

1       **Q.   PLEASE COMMENT ON THE PROPOSED DISTRICT AND CLASS REVENUE**  
2       **REQUIREMENTS.**

3       A.   With the exception of the Brunswick district, the Company is proposing the  
4       highest revenue requirement for each district. The Company's adjustment to  
5       reflect adjustments to the district and class costs also impact the revenue  
6       requirement that would otherwise have resulted from its study. In addition to  
7       these adjustments, the company has made other minor adjustments to its class  
8       revenue requirements that produce differences from class and district cost of  
9       service. The Staff's district and class revenue requirements are almost identical  
10      to the Staff's cost results with the exception of Brunswick. Staff indicates that an  
11      adjustment to reduce the class rates and revenue requirement for Brunswick would  
12      be appropriate. Staff proposes that the customer charge and commodity charges  
13      for Brunswick be set at the level of the related rate in the second highest district.  
14      OPC's required revenues differ from cost of service consistent with the proposed  
15      rate design described in my direct testimony. The result of OPC's rate design  
16      combines measured movement toward class cost of service while mitigating  
17      potentially detrimental rate shock.

18      **Q.   ARE THERE ADDITIONAL REASONS YOU BELIEVE THE OPC RATE DESIGN**  
19      **PROPOSAL IS PREFERABLE TO THE THOSE OF THE OTHER PARTIES?**

1 A. Yes. In addition to producing movement toward cost of service and mitigating  
2 potential rate shock, I believe that it is the most appropriate when considering the  
3 substantial disparity of total company revenue requirements proposed in this case  
4 as well as the inter and intra-district issues that the Commission will decide.  
5 Staff's proposal will help to limit potential impacts on Brunswick but allows for  
6 significant rate volatility within and between districts. If the Commission adopts  
7 revenue requirements higher than those the Staff proposes, the Staff's current  
8 recommendation that takes rates other than Brunswick's to full cost of service  
9 could produced unacceptable rate increases. This is especially true for customers  
10 who recently experienced substantial increases in their water rates and/or face  
11 potential increases for other necessary services, such as natural gas. The  
12 Company's proposal also seems uniquely tailored to only its own overall revenue  
13 requirement. Additionally, it seeks to support even greater rate reductions for  
14 some customers than would otherwise occur based on the cost of providing  
15 service to those customers. For example, under the Company's proposal, St.  
16 Louis is to receive more than a 13% increase. This is more than is necessary to  
17 bring St. Louis rates to the St. Louis specific cost. A portion of the 13% the  
18 Company proposes to collect will further enhance the revenue reduction the  
19 Company's CCOS study suggests for most of the customer classes in  
20 Warrensburg.

21 **Q. DO YOU SUPPORT AN INCREASE IN THE CUSTOMER CHARGE?**

22 A. No. James Busch's CCOS indicates that the current customer charge is adequate.

1       **Q.    DO YOU SUPPORT CREATING A NEW LINE ITEM TO COLLECT FOR PUBLIC FIRE**  
2       **COSTS?**

3       A.    Absolutely not.  As I have testified on numerous occasions with respect to  
4       telecommunications issues, surcharges are disliked and confusing to customers,  
5       and are unnecessary to ensure cost recovery or that cost recovery occurs in an  
6       efficient manner.

7       **Q.    PLEASE DESCRIBE THE STAFF AND COMPANY PROPOSED COMMODITY RATE**  
8       **DESIGN PROPOSALS.**

9       A.    The Staff proposes a single block commodity rate by district, and by class.  The  
10       Company's proposal recommends a combination of single block and declining  
11       block rates based on customer class and district.

12       **Q.    DO YOU RECOMMEND EITHER OF THESE METHODS FOR ESTABLISHING THE**  
13       **COMMODITY RATE?**

14       A.    No.  Generally, where no unusual circumstances exist, I would recommend an  
15       equal percentage increase in the blocks for each class rate if the Commission  
16       approves a net increase in district revenue.  This is consistent with OPC's rate  
17       design recommendation and can be implemented without creating "winners and  
18       losers" within a district's rate class.  The converse would also generally hold true.  
19       However, within the past few years many of the Company's customers have  
20       experienced substantial rate changes and before committing to a final rate  
21       recommendation OPC would like the benefit of hearing from customers at the  
22       remaining public hearings and from interveners representing MAWC customers.

1 Q. DOES THIS CONCLUDE YOUR REBUTTAL TESTIMONY?

2 A. Yes.

**Office of the Public Counsel**  
**Example of Class Cost Allocation**  
**WR-2003-0500**

Table 1 - Example At OPC COS Study Level: % increase in Rate Revenue by District by Class

	TOTAL	RESIDENTIAL	COMMERCIAL	INDUSTRIAL	OTHER PUBLIC AUTHORITY	SALES FOR RESALE	PRIVATE FIRE SERVICE
Jefferson City	-1%	0%	0%	0%	-2%	0%	-18%
Brunswick	112%	94%	112%	146%	155%	143%	0%
Joplin	-7%	-10%	-7%	0%	-5%	-2%	-27%
Mexico	13%	11%	13%	27%	21%	9%	0%
Parkville	8%	7%	12%	23%	10%	11%	0%
St. Charles	-12%	-11%	-15%	-13%	-16%	0%	-24%
St. Joseph	-2%	-4%	-2%	0%	0%	-3%	0%
Warrensburg	-8%	-6%	-11%	-2%	-12%	-3%	-31%
		Rate A and others		Rate B	Rate J & D	PRIVATE FIRE SERVICE	PUBLIC FIRE SERVICE
St Louis	-13.6%	-15.5%		0.0%	0.0%	-33.3%	-2.1%

**Office of the Public Counsel**  
**Example of Class Cost Allocation**  
**WR-2003-0500**

Table 1.1 - Example At OPC COS Study Level: Resulting Rate Revenue % by District by Class

	TOTAL	RESIDENTIAL	COMMERCIAL	INDUSTRIAL	OTHER PUBLIC AUTHORITY	SALES FOR RESALE	PRIVATE FIRE SERVICE
Jefferson City	2.77%	1.46%	1.08%	0.13%	0.04%	0.00%	0.06%
Brunswick	0.30%	0.14%	0.04%	0.00%	0.01%	0.11%	0.00%
Joplin	5.12%	2.54%	1.06%	0.99%	0.14%	0.29%	0.10%
Mexico	1.95%	0.92%	0.27%	0.27%	0.16%	0.28%	0.05%
Parkville	2.08%	1.47%	0.30%	0.01%	0.07%	0.18%	0.05%
St. Charles	5.20%	4.48%	0.56%	0.00%	0.09%	0.00%	0.06%
St. Joseph	10.87%	4.96%	2.11%	1.85%	0.45%	1.38%	0.11%
Warrensburg	1.58%	0.82%	0.29%	0.05%	0.25%	0.14%	0.03%
		Rate A and others		Rate B	Rate J & D	PRIVATE FIRE SERVICE	PUBLIC FIRE SERVICE
St Louis	70.13%	58.08%		1.53%	5.86%	0.56%	4.09%

**Office of the Public Counsel**  
**Summary of Cost of Service Results**  
**WR-2003-0500**

Table 1 - Summary: Cost of Service by District by Class

	TOTAL	RESIDENTIAL	COMMERCIAL	INDUSTRIAL	OTHER PUBLIC AUTHORITY	SALES FOR RESALE	PRIVATE FIRE SERVICE
Jefferson City	4,062,653 100%	2,146,585 53%	1,600,953 39%	224,127 6%	50,121 1%	- 0%	40,868 1%
Brunswick	442,583 100%	217,321 49%	56,672 13%	1,659 0%	8,565 2%	152,816 35%	5,550 1%
Joplin	7,499,843 100%	3,575,969 48%	1,545,304 21%	1,633,540 22%	204,918 3%	442,844 6%	97,268 1%
Mexico	2,859,614 100%	1,330,029 47%	402,148 14%	449,176 16%	256,825 9%	394,041 14%	27,394 1%
Parkville	3,041,390 100%	2,138,885 70%	464,752 15%	21,331 1%	111,067 4%	272,985 9%	32,370 1%
St. Charles	7,624,969 100%	6,629,350 87%	788,494 10%	3,787 0%	128,877 2%	- 0%	74,460 1%
St. Joseph	15,920,010 100%	7,093,218 45%	3,061,485 19%	2,774,628 17%	715,895 4%	1,999,276 13%	275,508 2%
Warrensburg	2,320,265 100%	1,233,121 53%	407,862 18%	82,555 4%	354,008 15%	217,950 9%	24,769 1%
						PRIVATE FIRE SERVICE	PUBLIC FIRE SERVICE
		Rate A and others		Rate B	Rate J & D		
St. Louis	102,743,839 100%		80,792,187 79%	3,033,395 3%	11,949,018 12%	501,441 0%	6,467,798 6%

Office of the Public Counsel  
 Summary of Cost of Service Results  
 WR-2003-0500

Table 1.1 - Summary: Cost of Service by District by Class (as a percentage of total cost of service)

	TOTAL	RESIDENTIAL	COMMERCIAL	INDUSTRIAL	OTHER PUBLIC AUTHORITY	SALES FOR RESALE	PRIVATE FIRE
Company**	146,515,167						
Jefferson City	2.77%	1.47%	1.09%	0.15%	0.03%	0.00%	0.03%
Brunswick	0.30%	0.15%	0.04%	0.00%	0.01%	0.10%	0.00%
Joplin	5.12%	2.44%	1.05%	1.11%	0.14%	0.30%	0.07%
Mexico	1.95%	0.91%	0.27%	0.31%	0.18%	0.27%	0.02%
Parkville	2.08%	1.46%	0.32%	0.01%	0.08%	0.19%	0.02%
St. Charles	5.20%	4.52%	0.54%	0.00%	0.09%	0.00%	0.05%
St. Joseph	10.87%	4.84%	2.09%	1.89%	0.49%	1.36%	0.19%
Warrensburg	1.58%	0.84%	0.28%	0.06%	0.24%	0.15%	0.02%
						PRIVATE FIRE SERVICE	PUBLIC FIRE SERVICE
		Rate A and others		Rate B	Rate J & D		
St Louis	70.13%	55.14%		2.07%	8.16%	0.34%	4.41%

**Office of the Public Counsel  
MAWC Class Cost of Service Summary**

**Brunswick District**

<b>CLASS COST OF SERVICE SUMMARY:</b>		<b>TOTAL</b>	<b>RESIDENTIAL</b>	<b>COMMERCIAL</b>	<b>INDUSTRIAL</b>	<b>OTHER PUBLIC AUTHORITY</b>	<b>SALES FOR RESALE</b>	<b>PRIVATE FIRE SERVICE</b>	<b>PUBLIC FIRE SERVICE</b>
1	O & M Expenses	290,561	131,605	37,379	1,265	6,682	114,427	187	(983)
2	Depreciation Expenses	39,694	18,423	4,826	96	637	12,888	293	2,530
3	Taxes	(42,884)	(20,237)	(5,134)	(86)	(607)	(12,644)	(436)	(3,740)
4	TOTAL Expenses and Taxes	287,371	129,791	37,071	1,275	6,711	114,672	44	(2,193)
5									
6	Spread public fire expenses & taxes to others	15 (2,193)	(1,795)	(360)	(10)	(29)	0	0	2,193
7	TOTAL Expenses and Taxes after Spread	287,371	127,996	36,711	1,266	6,682	114,672	44	-
8									
9	Current Revenue								
10	Rate Revenue	199,534	100,464	25,039	744	3,552	64,974	4,761	0
11	Other Revenue	25 9,594	4,136	1,222	48	242	3,972	(26)	0
12	TOTAL Current Revenues	209,128	104,600	26,261	792	3,794	68,946	4,735	0
13	Current Revenue Percentage	100.00%	50.02%	12.56%	0.38%	1.81%	32.97%	2.26%	0.00%
14									
15	OPERATING INCOME	(78,243)	(23,396)	(10,450)	(474)	(2,888)	(45,726)	4,691	0
16									
17	TOTAL Rate Base	780,696	363,087	94,766	1,949	12,596	250,056	6,163	52,078
18									
19	Spread public fire rate base to others	15 52,078	42,620	8,547	228	684	0	0	(52,078)
20	TOTAL Rate Base after Spread	780,696	405,707	103,313	2,177	13,280	250,056	6,163	-
21									
22	Implicit Rate of Return (ROR)	-10.02%	-5.77%	-10.11%	-21.75%	-21.75%	-18.29%	76.11%	
23									
24	Operating Income with Equalized ROR	(78,243)	(40,661)	(10,354)	(218)	(1,331)	(25,061)	(618)	
25									
26	Class COS with Equalized ROR	209,128	87,335	26,356	1,047	5,351	89,611	(573)	
27	Class COS Percentage	100.00%	41.76%	12.60%	0.50%	2.56%	42.85%	-0.27%	
28									
29	OPC Recommended ROR	7.45%	7.45%	7.45%	7.45%	7.45%	7.45%	7.45%	
30									
31	Operating Income with Recommended ROR	58,162	30,225	7,697	162	989	18,629	459	
32	True-up plus add'l taxes	25 97,050	41,836	12,360	487	2,450	40,179	(262)	
33	Class COS with Recommended ROR	442,583	217,321	56,672	1,659	8,565	152,816	5,550	
34	Class COS Percentage	100.00%	49.10%	12.80%	0.37%	1.94%	34.53%	1.25%	
		233,455	129,986	30,316	612	3,213	63,205	6,123	

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MAWC Class Cost of Service Summary

	TOTAL	RESIDENTIAL	COMMERCIAL	INDUSTRIAL	OPA	SIR	PRIVATE FIRE	
1 Current Rate Revenue	209,128	104,600	26,261	792	3,794	68,946	4,735	
2 Class Percentage	100.00%	50.02%	12.56%	0.38%	1.81%	32.97%	2.26%	
3								
4 Class COS with Equalized ROR	209,128	87,335	26,356	1,047	5,351	89,611	(573)	
5 Class COS Percentage	100.00%	41.76%	12.60%	0.50%	2.56%	42.85%	-0.27%	
6								
7 Margin Revenue Required to Equalize ROR	209,128	87,335	26,356	1,047	5,351	89,611	(573)	
8 Revenue Neutral Shift to Equalize Class ROR	(0)	(17,264)	95	255	1,557	20,665	(5,308)	
9 Revenue Increase/Decrease Percentage	0.00%	-16.51%	0.36%	32.23%	41.04%	29.97%	-112.11%	
10								
11 1/2 of Revenue Neutral Shift	(0)	(8,632)	48	128	779	10,332	(2,654)	
12 Revenue Increase/Decrease Percentage	0.00%	-8.25%	0.18%	16.12%	20.52%	14.99%	-56.05%	
13								
14 Recommended Margin Revenue	209,128	95,968	26,309	920	4,573	79,278	2,081	
15 Recommended Class Revenue Percentage	100.00%	45.89%	12.58%	0.44%	2.19%	37.91%	1.00%	
16								
17 Spread of Revenue Increase								
18 Example: Revenue At OPC Study COS Level	233,455	107,131	29,369	1,027	5,105	88,501	2,323	
19 Example: Revenue Increase of Additional 10% Above OPC	277,714	127,441	34,937	1,221	6,073	105,278	2,763	
20 Example: Revenue Increase of Additional 50% Above OPC	454,747	208,680	57,208	2,000	9,944	172,390	4,525	
21								
22 Combining Revenue Neutral Shift and Revenue Increase								
23 Example: Revenue At OPC Study COS Level	233,455	98,499	29,417	1,154	5,883	98,833	(331)	233,455
24 Example: Revenue Increase of Additional 10% Above OPC	277,714	118,809	34,984	1,349	6,851	115,611	109	277,714
25 Example: Revenue Increase of Additional 50% Above OPC	454,747	200,048	57,256	2,128	10,722	182,723	1,871	454,747
26								
27 Adjust to eliminate negative increase								
28 Example: Revenue At OPC Study COS Level	233,455	98,359	29,375	1,153	5,875	98,693	-	233,455
29 Example: Revenue Increase of Additional 10% Above OPC	277,714	118,809	34,984	1,349	6,851	115,611	109	277,714
30 Example: Revenue Increase of Additional 50% Above OPC	454,747	200,048	57,256	2,128	10,722	182,723	1,871	454,747
31								
32 Percentage of Net Revenue Increase								
33 Example: Revenue At OPC Study COS Level	111.63%	94.03%	111.86%	145.53%	154.84%	143.15%	0.00%	
34 Example: Revenue Increase of Additional 10% Above OPC	132.80%	113.58%	133.22%	170.32%	180.57%	167.68%	2.31%	
35 Example: Revenue Increase of Additional 50% Above OPC	217.45%	191.25%	218.03%	268.61%	282.59%	265.02%	39.51%	
36								
37 Class Revenue								
38 Example: Revenue At OPC Study COS Level	442,583	202,959	55,636	1,945	9,669	167,639	4,735	442,583
39 Example: Revenue Increase of Additional 10% Above OPC	486,842	223,409	61,245	2,141	10,645	184,557	4,844	486,842
40 Example: Revenue Increase of Additional 50% Above OPC	663,875	304,648	83,516	2,920	14,516	251,669	6,606	663,875
41								
42 Percentage of Class Revenue								
43 Example: Revenue At OPC Study COS Level	100.00%	45.86%	12.57%	0.44%	2.18%	37.88%	1.07%	
44 Example: Revenue Increase of Additional 10% Above OPC	100.00%	45.89%	12.58%	0.44%	2.19%	37.91%	1.00%	
45 Example: Revenue Increase of Additional 50% Above OPC	100.00%	45.89%	12.58%	0.44%	2.19%	37.91%	1.00%	

Office Of Public Counsel  
MAWC Class Cost of Service Summary

Jefferson City District

CLASS COST OF SERVICE SUMMARY:		TOTAL	RESIDENTIAL	COMMERCIAL	INDUSTRIAL	OTHER PUBLIC AUTHORITY	SALES FOR RESALE	PRIVATE FIRE SERVICE
1	O & M Expenses	2,439,006	1,278,658	928,148	130,868	32,587	0	20,067
2	Depreciation Expenses	353,567	159,020	141,007	20,170	3,690	0	4,522
3	Taxes	534,079	243,196	212,059	30,529	5,605	0	6,872
4	TOTAL Expenses and Taxes	3,326,651	1,680,874	1,281,214	181,566	41,882	-	31,461
5								
6	Spread public fire expenses & taxes to others	15 109,653	91,440	17,634	145	434	0	0
7	TOTAL Expenses and Taxes after Spread	3,326,651	1,772,314	1,298,848	181,711	42,317	-	31,461
8								
9	Current Revenue							
10	Rate Revenue	4,061,909	2,136,076	1,576,356	183,869	53,218	(103)	112,493
11	Other Revenue	25 26,671	13,756	10,768	1,530	338	0	280
12	TOTAL Current Revenues	4,088,580	2,149,832	1,587,124	185,399	53,556	(103)	112,773
13	Current Revenue Percentage	100.00%	52.58%	38.82%	4.53%	1.31%	0.00%	2.76%
14								
15	OPERATING INCOME	761,929	377,518	288,275	3,688	11,239	(103)	81,312
16								
17	TOTAL Rate Base	9,437,081	4,249,142	3,771,173	543,107	96,562	-	121,617
18								
19	Spread public fire rate base to others	15 655,480	546,604	105,413	866	2,597	0	0
20	TOTAL Rate Base after Spread	9,437,081	4,795,746	3,876,587	543,973	99,159	-	121,617
21								
22	Implicit Rate of Return (ROR)	8.07%	7.87%	7.44%	0.68%	11.33%	#DIV/0!	66.86%
23								
24	Operating Income with Equalized ROR	761,929	387,198	312,987	43,919	8,006	-	9,819
25								
26	Class COS with Equalized ROR	4,088,580	2,159,512	1,611,836	225,630	50,323	-	41,280
27	Class COS Percentage	100.00%	52.82%	39.42%	5.52%	1.23%	0.00%	1.01%
28								
29	OPC Recommended ROR	7.45%	7.45%	7.45%	7.45%	7.45%	7.45%	7.45%
30								
31	Operating Income with Recommended ROR	703,063	357,283	288,806	40,526	7,387	-	9,060
32	True-up plus add'l taxes	32,940	16,988	13,298	1,890	417	0	346
33	Class COS with Recommended ROR	4,062,653	2,146,585	1,600,953	224,127	50,121	-	40,868
34	Class COS Percentage	100.00%	52.84%	39.41%	5.52%	1.23%	0.00%	1.01%
		(25,927)	(12,927)	(10,883)	(1,504)	(202)	-	(412)
		TOTAL	RESIDENTIAL	COMMERCIAL	INDUSTRIAL	OPA	SIR	PRIVATE FIRE
1	Current Rate Revenue	4,088,580	2,149,832	1,587,124	185,399	53,556	(103)	112,773
2	Class Percentage	100.00%	52.58%	38.82%	4.53%	1.31%	0.00%	2.76%
3								
4	Class COS with Equalized ROR	4,088,580	2,159,512	1,611,836	225,630	50,323	-	41,280
5	Class COS Percentage	100.00%	52.82%	39.42%	5.52%	1.23%	0.00%	1.01%
6								
7	Margin Revenue Required to Equalized ROR	4,088,580	2,159,512	1,611,836	225,630	50,323	-	41,280
8	Revenue Neutral Shift to Equalize Class ROR	(0)	9,680	24,712	40,231	(3,233)	103	(71,493)

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MAWC Class Cost of Service Summary

9	Revenue Increase/Decrease Percentage	0.00%	0.45%	1.56%	21.70%	-6.04%	-100.00%	-63.40%
10								
11	1/2 of Revenue Neutral Shift	(0)	4,840	12,356	20,116	(1,617)	52	(35,747)
12	Revenue Increase/Decrease Percentage	0.00%	0.23%	0.78%	10.85%	-3.02%	-50.00%	-31.70%
13								
14	Recommended Margin Revenue	4,088,580	2,154,672	1,599,480	205,515	51,939	(52)	77,027
15	Recommended Class Revenue Percentage	100.00%	52.70%	39.12%	5.03%	1.27%	0.00%	1.88%
16								
17	Spread of Revenue Increase							
18	Example: Revenue At OPC Study COS Level	(25,927)	(13,663)	(10,143)	(1,303)	(329)	0	(488)
19	Example: Revenue Increase of Additional 10% Above OPC	380,338	200,437	148,791	19,118	4,832	(5)	7,165
20	Example: Revenue Increase of Additional 50% Above OPC	2,005,400	1,056,841	784,526	100,802	25,476	(25)	37,781
21								
22	Combining Revenue Neutral Shift and Revenue Increase							
23	Example: Revenue At OPC Study COS Level	(25,927)	(8,823)	2,213	18,812	(1,946)	52	(36,235)
24	Example: Revenue Increase of Additional 10% Above OPC	380,338	205,278	161,147	39,233	3,215	47	(28,581)
25	Example: Revenue Increase of Additional 50% Above OPC	2,005,400	1,061,681	796,882	120,918	23,859	26	2,034
26								
27	Adjust to eliminate negative increase							
28	Example: Revenue At OPC Study COS Level	(25,927)	(4,867)	-	-	(1,073)	-	(19,987)
29	Example: Revenue Increase of Additional 10% Above OPC	380,338	190,930	149,884	36,491	2,990	43	-
30	Example: Revenue Increase of Additional 50% Above OPC	2,005,400	1,061,681	796,882	120,918	23,859	26	2,034
31								
32	Percentage of Net Revenue Increase							
33	Example: Revenue At OPC Study COS Level	-0.63%	-0.23%	0.00%	0.00%	-2.00%	0.00%	-17.72%
34	Example: Revenue Increase of Additional 10% Above OPC	9.30%	8.88%	9.44%	19.68%	5.58%	-42.18%	0.00%
35	Example: Revenue Increase of Additional 50% Above OPC	49.05%	49.38%	50.21%	65.22%	44.55%	-25.48%	1.80%
36								
37	Class Revenue							
38	Example: Revenue At OPC Study COS Level	4,062,653	2,144,965	1,587,124	185,399	52,482	(103)	92,787
39	Example: Revenue Increase of Additional 10% Above OPC	4,468,919	2,340,761	1,737,007	221,890	56,546	(60)	112,773
40	Example: Revenue Increase of Additional 50% Above OPC	6,093,980	3,211,512	2,384,005	306,317	77,415	(77)	114,808
41								
42	Percentage of Class Revenue							
43	Example: Revenue At OPC Study COS Level	100.00%	52.80%	39.07%	4.56%	1.29%	0.00%	2.28%
44	Example: Revenue Increase of Additional 10% Above OPC	100.00%	52.38%	38.87%	4.97%	1.27%	0.00%	2.52%
45	Example: Revenue Increase of Additional 50% Above OPC	100.00%	52.70%	39.12%	5.03%	1.27%	0.00%	1.88%

**Office of the Public Counsel  
MAWC Class Cost of Service Summary**

**Joplin District**

<b>CLASS COST OF SERVICE SUMMARY:</b>		<b>TOTAL</b>	<b>RESIDENTIAL</b>	<b>COMMERCIAL</b>	<b>INDUSTRIAL</b>	<b>OTHER PUBLIC AUTHORITY</b>	<b>SALES FOR RESALE</b>	<b>PRIVATE FIRE SERVICE</b>	<b>PUBLIC FIRE SERVICE</b>
1	O & M Expenses	3,985,307	1,843,528	815,716	859,150	118,579	229,958	32,545	85,831
2	Depreciation Expenses	740,156	337,731	146,602	155,438	17,709	42,756	14,265	25,655
3	Taxes	1,253,814	546,074	250,501	279,177	30,598	76,768	22,323	48,373
4	TOTAL Expenses and Taxes	5,979,277	2,727,334	1,212,820	1,293,764	166,885	349,482	69,133	159,859
5									
6	Spread public fire expenses & taxes to others	159,859	136,960	21,230	624	1,045	0	0	(159,859)
7	TOTAL Expenses and Taxes after Spread	5,979,277	2,864,293	1,234,050	1,294,389	167,930	349,482	69,133	-
8									
9	Current Revenue								
10	Rate Revenue	7,921,626	4,040,879	1,645,100	1,411,576	207,254	420,287	196,530	0
11	Other Revenue	170,992	79,402	35,604	38,444	4,744	10,441	2,357	0
12	TOTAL Current Revenues	8,092,618	4,120,281	1,680,704	1,450,020	211,998	430,728	198,887	0
13	Current Revenue Percentage	100.00%	50.91%	20.77%	17.92%	2.62%	5.32%	2.46%	0.00%
14									
15	OPERATING INCOME	2,113,341	1,255,987	446,654	155,631	44,067	81,246	129,754	0
16									
17	TOTAL Rate Base	20,195,579	8,759,850	4,025,755	4,500,943	485,236	1,240,065	374,699	809,031
18									
19	Spread public fire rate base to others	809,031	693,141	107,443	3,159	5,289	0	0	(809,031)
20	TOTAL Rate Base after Spread	20,195,579	9,452,991	4,133,198	4,504,102	490,525	1,240,065	374,699	-
21									
22	Implicit Rate of Return (ROR)	10.46%	13.29%	10.81%	3.46%	8.98%	6.55%	34.63%	
23									
24	Operating Income with Equalized ROR	2,113,341	989,196	432,513	471,326	51,330	129,765	39,210	
25									
26	Class COS with Equalized ROR	8,092,618	3,853,490	1,666,563	1,765,715	219,261	479,247	108,343	
27	Class COS Percentage	100.00%	47.62%	20.59%	21.82%	2.71%	5.92%	1.34%	
28									
29	OPC Recommended ROR	7.45%	7.45%	7.45%	7.45%	7.45%	7.45%	7.45%	
30									
31	Operating Income with Recommended ROR	1,504,571	704,248	307,923	335,556	36,544	92,385	27,915	
32	True-up plus add'l taxes	15,995	7,428	3,331	3,596	444	977	220	
33	Class COS with Recommended ROR	7,499,843	3,575,969	1,545,304	1,633,540	204,918	442,844	97,268	
34	Class COS Percentage	100.00%	47.68%	20.60%	21.78%	2.73%	5.90%	1.30%	
		(592,775)	(277,521)	(121,259)	(132,174)	(14,343)	(36,404)	(11,074)	

Office of the Public Counsel  
MAWC Class Cost of Service Summary

	TOTAL	RESIDENTIAL	COMMERCIAL	INDUSTRIAL	OPA	SIR	PRIVATE FIRE	
1 Current Rate Revenue	8,092,618	4,120,281	1,680,704	1,450,020	211,998	430,728	198,887	
2 Class Percentage	100.00%	50.91%	20.77%	17.92%	2.62%	5.32%	2.46%	
3								
4 Class COS with Equalized ROR	8,092,618	3,853,490	1,666,563	1,765,715	219,261	479,247	108,343	
5 Class COS Percentage	100.00%	47.62%	20.59%	21.82%	2.71%	5.92%	1.34%	
6								
7 Margin Revenue Required to Equalized ROR	8,092,618	3,853,490	1,666,563	1,765,715	219,261	479,247	108,343	
8 Revenue Neutral Shift to Equalize Class ROR	(0)	(266,791)	(14,141)	315,695	7,263	48,519	(90,544)	
9 Revenue Increase/Decrease Percentage	0.00%	-6.48%	-0.84%	21.77%	3.43%	11.26%	-45.53%	
10								
11 1/2 of Revenue Neutral Shift	(0)	(133,396)	(7,071)	157,847	3,631	24,260	(45,272)	
12 Revenue Increase/Decrease Percentage	0.00%	-3.24%	-0.42%	10.89%	1.71%	5.63%	-22.76%	
13								
14 Recommended Margin Revenue	8,092,618	3,986,885	1,673,634	1,607,867	215,629	454,987	153,615	
15 Recommended Class Revenue Percentage	100.00%	49.27%	20.68%	19.87%	2.66%	5.62%	1.90%	
16								
17 Spread of Revenue Increase								
18 Example: Revenue At OPC Study COS Level	(592,775)	(292,035)	(122,592)	(117,774)	(15,795)	(33,327)	(11,252)	
19 Example: Revenue Increase of Additional 10% Above OPC	157,210	77,450	32,512	31,235	4,189	8,839	2,984	
20 Example: Revenue Increase of Additional 50% Above OPC	3,157,147	1,555,391	652,929	627,272	84,123	177,503	59,929	
21								
22 Combining Revenue Neutral Shift and Revenue Increase								
23 Example: Revenue At OPC Study COS Level	(592,775)	(425,430)	(129,662)	40,073	(12,163)	(9,068)	(56,524)	
24 Example: Revenue Increase of Additional 10% Above OPC	157,210	(55,945)	25,442	189,082	7,820	33,098	(42,288)	
25 Example: Revenue Increase of Additional 50% Above OPC	3,157,147	1,421,995	645,859	785,119	87,754	201,762	14,657	
26								
27 Adjust to eliminate negative increase								
28 Example: Revenue At OPC Study COS Level	(592,775)	(398,491)	(121,452)		(11,393)	(8,494)	(52,945)	(592,775)
29 Example: Revenue Increase of Additional 10% Above OPC	157,210	15,658	116,369		4,813	20,370	-	157,210
30 Example: Revenue Increase of Additional 50% Above OPC	3,157,147	1,421,995	645,859	785,119	87,754	201,762	14,657	3,157,147
31								
32 Percentage of Net Revenue Increase								
33 Example: Revenue At OPC Study COS Level	-7.32%	-9.67%	-7.23%	0.00%	-5.37%	-1.97%	-26.62%	
34 Example: Revenue Increase of Additional 10% Above OPC	1.94%	0.00%	0.93%	8.03%	2.27%	4.73%	0.00%	
35 Example: Revenue Increase of Additional 50% Above OPC	39.01%	34.51%	38.43%	54.15%	41.39%	46.84%	7.37%	
36								
37 Class Revenue								
38 Example: Revenue At OPC Study COS Level	7,499,843	3,721,789	1,559,253	1,450,020	200,605	422,234	145,942	7499843
39 Example: Revenue Increase of Additional 10% Above OPC	8,249,827	4,120,281	1,696,362	1,566,389	216,811	451,098	198,887	8249827
40 Example: Revenue Increase of Additional 50% Above OPC	11,249,765	5,542,276	2,326,563	2,235,139	299,752	632,490	213,544	11249765
41								
42 Percentage of Class Revenue								
43 Example: Revenue At OPC Study COS Level	100.00%	49.62%	20.79%	19.33%	2.67%	5.63%	1.95%	
44 Example: Revenue Increase of Additional 10% Above OPC	100.00%	49.94%	20.56%	18.99%	2.63%	5.47%	2.41%	
45 Example: Revenue Increase of Additional 50% Above OPC	100.00%	49.27%	20.68%	19.87%	2.66%	5.62%	1.90%	

**Office of the Public Counsel  
MAWC Class Cost of Service Summary**

**Mexico District**

<b>CLASS COST OF SERVICE SUMMARY:</b>		<b>TOTAL</b>	<b>RESIDENTIAL</b>	<b>COMMERCIAL</b>	<b>INDUSTRIAL</b>	<b>OTHER PUBLIC AUTHORITY</b>	<b>SALES FOR RESALE</b>	<b>PRIVATE FIRE SERVICE</b>	<b>PUBLIC FIRE SERVICE</b>
1	O & M Expenses	1,270,132	570,166	175,030	195,373	120,482	170,553	8,467	30,061
2	Depreciation Expenses	369,759	161,935	50,709	57,624	30,721	50,521	4,765	13,484
3	Taxes	295,206	126,689	40,595	47,179	25,096	41,681	3,455	10,512
4	TOTAL Expenses and Taxes	1,935,097	858,790	266,333	300,176	176,299	262,756	16,686	54,056
5									
6	Spread public fire expenses & taxes to others	15 54,056	47,487	5,244	245	1,080	0	0	(54,056)
7	TOTAL Expenses and Taxes after Spread	1,935,097	906,277	271,578	300,421	177,379	262,756	16,686	-
8									
9	Current Revenue								
10	Rate Revenue	2,489,592	1,197,432	349,161	303,511	192,976	368,933	77,579	0
11	Other Revenue	25 35,702	16,199	5,064	5,753	3,293	5,048	345	0
12	TOTAL Current Revenues	2,525,294	1,213,631	354,225	309,264	196,269	373,981	77,924	0
13	Current Revenue Percentage	100.00%	48.06%	14.03%	12.25%	7.77%	14.81%	3.09%	0.00%
14									
15	OPERATING INCOME	590,197	307,354	82,647	8,843	18,889	111,226	61,238	0
16									
17	TOTAL Rate Base	10,704,032	4,592,884	1,475,233	1,720,223	901,793	1,521,059	127,238	365,602
18									
19	Spread public fire rate base to others	15 365,602	321,172	35,468	1,657	7,305	0	0	(365,602)
20	TOTAL Rate Base after Spread	10,704,032	4,914,056	1,510,702	1,721,880	909,097	1,521,059	127,238	-
21									
22	Implicit Rate of Return (ROR)	5.51%	6.25%	5.47%	0.51%	2.08%	7.31%	48.13%	
23									
24	Operating Income with Equalized ROR	590,197	270,950	83,297	94,941	50,126	83,868	7,016	
25									
26	Class COS with Equalized ROR	2,525,294	1,177,227	354,874	395,362	227,505	346,623	23,702	
27	Class COS Percentage	100.00%	46.62%	14.05%	15.66%	9.01%	13.73%	0.94%	
28									
29	OPC Recommended ROR	7.45%	7.45%	7.45%	7.45%	7.45%	7.45%	7.45%	
30									
31	Operating Income with Recommended ROR	797,450	366,097	112,547	128,280	67,728	113,319	9,479	
32	True-up plus add'l taxes	25 127,067	57,655	18,023	20,475	11,719	17,967	1,228	
33	Class COS with Recommended ROR	2,859,614	1,330,029	402,148	449,176	256,825	394,041	27,394	
34	Class COS Percentage	100.00%	46.51%	14.06%	15.71%	8.98%	13.78%	0.96%	
		334,320	152,802	47,274	53,815	29,321	47,418	3,692	

**Office of the Public Counsel  
MAWC Class Cost of Service Summary**

	TOTAL	RESIDENTIAL	COMMERCIAL	INDUSTRIAL	OPA	SIR	PRIVATE FIRE	
1 Current Rate Revenue	2,525,294	1,213,631	354,225	309,264	196,269	373,981	77,924	
2 Class Percentage	100.00%	48.06%	14.03%	12.25%	7.77%	14.81%	3.09%	
3								
4 Class COS with Equalized ROR	2,525,294	1,177,227	354,874	395,362	227,505	346,623	23,702	
5 Class COS Percentage	100.00%	46.62%	14.05%	15.66%	9.01%	13.73%	0.94%	
6								
7 Margin Revenue Required to Equalized ROR	2,525,294	1,177,227	354,874	395,362	227,505	346,623	23,702	
8 Revenue Neutral Shift to Equalize Class ROR	0	(36,404)	649	86,098	31,236	(27,358)	(54,222)	
9 Revenue Increase/Decrease Percentage	0.00%	-3.00%	0.18%	27.84%	15.92%	-7.32%	-69.58%	
10								
11 1/2 of Revenue Neutral Shift	0	(18,202)	325	43,049	15,618	(13,679)	(27,111)	
12 Revenue Increase/Decrease Percentage	0.00%	-1.50%	0.09%	13.92%	7.96%	-3.66%	-34.79%	
13								
14 Recommended Margin Revenue	2,525,294	1,195,429	354,550	352,313	211,887	360,302	50,813	
15 Recommended Class Revenue Percentage	100.00%	47.34%	14.04%	13.95%	8.39%	14.27%	2.01%	
16								
17 Spread of Revenue Increase								
18 Example: Revenue At OPC Study COS Level	334,320	158,261	46,938	46,642	28,051	47,700	6,727	
19 Example: Revenue Increase of Additional 10% Above OPC	620,281	293,630	87,087	86,538	52,045	88,500	12,481	
20 Example: Revenue Increase of Additional 50% Above OPC	1,764,127	835,106	247,682	246,120	148,020	251,701	35,497	
21								
22 Combining Revenue Neutral Shift and Revenue Increase								
23 Example: Revenue At OPC Study COS Level	334,320	140,059	47,263	89,691	43,670	34,021	(20,384)	
24 Example: Revenue Increase of Additional 10% Above OPC	620,281	275,428	87,412	129,587	67,663	74,821	(14,630)	
25 Example: Revenue Increase of Additional 50% Above OPC	1,764,127	816,904	248,007	289,169	163,639	238,022	8,386	
26								
27 Adjust to eliminate negative increase								
28 Example: Revenue At OPC Study COS Level	334,320	132,010	44,547	84,537	41,160	32,066	-	
29 Example: Revenue Increase of Additional 10% Above OPC	620,281	269,082	85,398	126,601	66,104	73,097	-	
30 Example: Revenue Increase of Additional 50% Above OPC	1,764,127	816,904	248,007	289,169	163,639	238,022	8,386	
31								
32 Percentage of Net Revenue Increase								
33 Example: Revenue At OPC Study COS Level	13.24%	10.88%	12.58%	27.33%	20.97%	8.57%	0.00%	
34 Example: Revenue Increase of Additional 10% Above OPC	24.56%	22.17%	24.11%	40.94%	33.68%	19.55%	0.00%	
35 Example: Revenue Increase of Additional 50% Above OPC	69.86%	67.31%	70.01%	93.50%	83.37%	63.65%	10.76%	
36								
37 Class Revenue								
38 Example: Revenue At OPC Study COS Level	2,859,614	1,345,642	398,772	393,801	237,428	406,047	77,924	2859614
39 Example: Revenue Increase of Additional 10% Above OPC	3,145,575	1,482,713	439,623	435,865	262,373	447,078	77,924	3145575
40 Example: Revenue Increase of Additional 50% Above OPC	4,289,421	2,030,536	602,232	598,433	359,907	612,003	86,310	4289421
41								
42 Percentage of Class Revenue								
43 Example: Revenue At OPC Study COS Level	100.00%	47.06%	13.94%	13.77%	8.30%	14.20%	2.72%	
44 Example: Revenue Increase of Additional 10% Above OPC	100.00%	47.14%	13.98%	13.86%	8.34%	14.21%	2.48%	
45 Example: Revenue Increase of Additional 50% Above OPC	100.00%	47.34%	14.04%	13.95%	8.39%	14.27%	2.01%	

Office of the Public Counsel  
MAWC Class Cost of Service Summary

Parkville District

CLASS COST OF SERVICE SUMMARY:		TOTAL	RESIDENTIAL	COMMERCIAL	INDUSTRIAL	OTHER PUBLIC AUTHORITY	SALES FOR RESALE	PRIVATE FIRE SERVICE	PUBLIC FIRE SERVICE
1	O & M Expenses	1,266,253	862,758	188,105	10,094	51,062	111,326	7,680	35,228
2	Depreciation Expenses	283,069	181,466	41,579	1,660	8,989	24,333	4,257	20,785
3	Taxes	646,863	407,686	96,267	3,860	20,676	58,591	9,392	50,391
4	TOTAL Expenses and Taxes	2,196,184	1,451,909	325,951	15,613	80,727	194,250	21,329	106,404
5									
6	Spread public fire expenses & taxes to others	15 106,404	98,057	6,787	253	1,307	0	0	(106,404)
7	TOTAL Expenses and Taxes after Spread	2,196,184	1,549,966	332,738	15,866	82,034	194,250	21,329	-
8									
9	Current Revenue								
10	Rate Revenue	2,790,861	1,996,043	386,411	14,832	96,380	230,612	66,583	0
11	Other Revenue	25 31,464	21,771	4,953	228	1,187	2,972	353	0
12	TOTAL Current Revenues	2,822,325	2,017,814	391,364	15,060	97,567	233,584	66,936	0
13	Current Revenue Percentage	100.00%	71.49%	13.87%	0.53%	3.46%	8.28%	2.37%	0.00%
14									
15	OPERATING INCOME	626,141	467,847	58,626	(806)	15,534	39,334	45,607	0
16									
17	TOTAL Rate Base	8,534,966	5,369,711	1,287,544	50,864	273,147	790,454	118,061	645,184
18									
19	Spread public fire rate base to others	15 645,184	594,572	41,155	1,534	7,924	0	0	(645,184)
20	TOTAL Rate Base after Spread	8,534,966	5,964,282	1,328,699	52,398	281,071	790,454	118,061	-
21									
22	Implicit Rate of Return (ROR)	7.34%	7.84%	4.41%	-1.54%	5.53%	4.98%	38.63%	
23									
24	Operating Income with Equalized ROR	626,141	437,551	97,476	3,844	20,620	57,989	8,661	
25									
26	Class COS with Equalized ROR	2,822,325	1,987,518	430,214	19,710	102,654	252,239	29,991	
27	Class COS Percentage	100.00%	70.42%	15.24%	0.70%	3.64%	8.94%	1.06%	
28									
29	OPC Recommended ROR	6.98%	6.98%	6.98%	6.98%	6.98%	6.98%	6.98%	
30									
31	Operating Income with Recommended ROR	595,741	416,307	92,743	3,657	19,619	55,174	8,241	
32	True-up plus add'l taxes	25 249,465	172,611	39,271	1,807	9,414	23,562	2,799	
33	Class COS with Recommended ROR	3,041,390	2,138,885	464,752	21,331	111,067	272,985	32,370	
34	Class COS Percentage	100.00%	70.33%	15.28%	0.70%	3.65%	8.98%	1.06%	
		219,065	151,367	34,538	1,621	8,413	20,746	2,379	

**Office of the Public Counsel  
MAWC Class Cost of Service Summary**

	TOTAL	RESIDENTIAL	COMMERCIAL	INDUSTRIAL	OPA	SIR	PRIVATE FIRE	
1 Current Rate Revenue	2,822,325	2,017,814	391,364	15,060	97,567	233,584	66,936	
2 Class Percentage	100.00%	71.49%	13.87%	0.53%	3.46%	8.28%	2.37%	
3								
4 Class COS with Equalized ROR	2,822,325	1,987,518	430,214	19,710	102,654	252,239	29,991	
5 Class COS Percentage	100.00%	70.42%	15.24%	0.70%	3.64%	8.94%	1.06%	
6								
7 Margin Revenue Required to Equalized ROR	2,822,325	1,987,518	430,214	19,710	102,654	252,239	29,991	
8 Revenue Neutral Shift to Equalize Class ROR	0	(30,296)	38,850	4,650	5,086	18,655	(36,945)	
9 Revenue Increase/Decrease Percentage	0.00%	-1.50%	9.93%	30.88%	5.21%	7.99%	-55.20%	
10								
11 1/2 of Revenue Neutral Shift	0	(15,148)	19,425	2,325	2,543	9,328	(18,473)	
12 Revenue Increase/Decrease Percentage	0.00%	-0.75%	4.96%	15.44%	2.61%	3.99%	-27.60%	
13								
14 Recommended Margin Revenue	2,822,325	2,002,666	410,789	17,385	100,110	242,911	48,463	
15 Recommended Class Revenue Percentage	100.00%	70.96%	14.55%	0.62%	3.55%	8.61%	1.72%	
16								
17 Spread of Revenue Increase								
18 Example: Revenue At OPC Study COS Level	219,065	155,444	31,885	1,349	7,770	18,854	3,762	
19 Example: Revenue Increase of Additional 10% Above OPC	523,203	371,255	76,152	3,223	18,559	45,031	8,984	
20 Example: Revenue Increase of Additional 50% Above OPC	1,739,759	1,234,499	253,222	10,717	61,711	149,737	29,874	
21								
22 Combining Revenue Neutral Shift and Revenue Increase								
23 Example: Revenue At OPC Study COS Level	219,065	140,296	51,310	3,674	10,313	28,182	(14,711)	
24 Example: Revenue Increase of Additional 10% Above OPC	523,203	356,107	95,577	5,548	21,102	54,359	(9,489)	
25 Example: Revenue Increase of Additional 50% Above OPC	1,739,759	1,219,350	272,647	13,042	64,254	159,065	11,401	
26								
27 Adjust to eliminate negative increase								
28 Example: Revenue At OPC Study COS Level	219,065	131,467	48,081	3,443	9,664	26,409	-	
29 Example: Revenue Increase of Additional 10% Above OPC	523,203	349,763	93,875	5,449	20,726	53,390	-	
30 Example: Revenue Increase of Additional 50% Above OPC	1,739,759	1,219,350	272,647	13,042	64,254	159,065	11,401	
31								
32 Percentage of Net Revenue Increase								
33 Example: Revenue At OPC Study COS Level	7.76%	6.52%	12.29%	22.86%	9.91%	11.31%	0.00%	
34 Example: Revenue Increase of Additional 10% Above OPC	18.54%	17.33%	23.99%	36.18%	21.24%	22.86%	0.00%	
35 Example: Revenue Increase of Additional 50% Above OPC	61.64%	60.43%	69.67%	86.60%	65.86%	68.10%	17.03%	
36								
37 Class Revenue								
38 Example: Revenue At OPC Study COS Level	3,041,390	2,149,281	439,445	18,503	107,232	259,992	66,936	3041390
39 Example: Revenue Increase of Additional 10% Above OPC	3,345,529	2,367,577	485,239	20,509	118,293	286,974	66,936	3345529
40 Example: Revenue Increase of Additional 50% Above OPC	4,562,084	3,237,164	664,011	28,102	161,821	392,649	78,338	4562084
41								
42 Percentage of Class Revenue								
43 Example: Revenue At OPC Study COS Level	100.00%	70.67%	14.45%	0.61%	3.53%	8.55%	2.20%	
44 Example: Revenue Increase of Additional 10% Above OPC	100.00%	70.77%	14.50%	0.61%	3.54%	8.58%	2.00%	
45 Example: Revenue Increase of Additional 50% Above OPC	100.00%	70.96%	14.55%	0.62%	3.55%	8.61%	1.72%	

Office of the Public Counsel  
MAWC Class Cost of Service Summary

St Charles District

CLASS COST OF SERVICE SUMMARY:		TOTAL	RESIDENTIAL	COMMERCIAL	INDUSTRIAL	OTHER PUBLIC AUTHORITY	SALES FOR RESALE	PRIVATE FIRE SERVICE	PUBLIC FIRE SERVICE
1	O & M Expenses	2,582,064	2,176,043	250,361	1,398	45,915		15,268	93,078
2	Depreciation Expenses	883,173	687,143	87,895	391	14,252		11,074	82,417
3	Taxes	2,027,747	1,567,305	209,659	955	32,930		23,654	193,243
4	TOTAL Expenses and Taxes	5,492,985	4,430,491	547,916	2,745	93,098		49,996	368,739
5									
6	Spread public fire expenses & taxes to others	15 368,739	356,075	11,803	26	835		0	(368,739)
7	TOTAL Expenses and Taxes after Spread	5,492,985	4,786,566	559,719	2,771	93,932		49,996	-
8									
9	Current Revenue								
10	Rate Revenue	8,532,537	7,293,020	959,095	4,301	159,115		117,006	0
11	Other Revenue	25 149,175	128,388	16,398	79	2,704		1,606	0
12	TOTAL Current Revenues	8,681,712	7,421,408	975,493	4,380	161,819		118,612	0
13	Current Revenue Percentage	100.00%	85.48%	11.24%	0.05%	1.86%		1.37%	0.00%
14									
15	OPERATING INCOME	3,188,728	2,634,842	415,774	1,609	67,886		68,616	0
16									
17	TOTAL Rate Base	31,838,271	24,626,472	3,329,375	15,135	520,689		363,058	2,983,543
18									
19	Spread public fire rate base to others	15 2,983,543	2,881,076	95,500	214	6,753		0	(2,983,543)
20	TOTAL Rate Base after Spread	31,838,271	27,507,548	3,424,875	15,349	527,441		363,058	-
21									
22	Implicit Rate of Return (ROR)	10.02%	9.58%	12.14%	10.48%	12.87%		18.90%	
23									
24	Operating Income with Equalized ROR	3,188,728	2,754,989	343,015	1,537	52,825		36,362	
25									
26	Class COS with Equalized ROR	8,681,712	7,541,555	902,733	4,309	146,758		86,358	
27	Class COS Percentage	100.00%	86.87%	10.40%	0.05%	1.69%		0.99%	
28									
29	OPC Recommended ROR	7.45%	7.45%	7.45%	7.45%	7.45%		7.45%	
30									
31	Operating Income with Recommended ROR	2,371,951	2,049,312	255,153	1,143	39,294		27,048	
32	True-up plus add'l taxes	25 (239,967)	(206,528)	(26,378)	(128)	(4,349)		(2,584)	
33	Class COS with Recommended ROR	7,624,969	6,629,350	788,494	3,787	128,877		74,460	
34	Class COS Percentage	100.00%	86.94%	10.34%	0.05%	1.69%		0.98%	
		(1,056,743)	(912,205)	(114,239)	(521)	(17,880)		(11,898)	

**Office of the Public Counsel  
MAWC Class Cost of Service Summary**

	TOTAL	RESIDENTIAL	COMMERCIAL	INDUSTRIAL	OPA	PRIVATE FIRE	
1 Current Rate Revenue	8,681,712	7,421,408	975,493	4,380	161,819	118,612	
2 Class Percentage	100.00%	85.48%	11.24%	0.05%	1.86%	1.37%	
3							
4 Class COS with Equalized ROR	8,681,712	7,541,555	902,733	4,309	146,758	86,358	
5 Class COS Percentage	100.00%	86.87%	10.40%	0.05%	1.69%	0.99%	
6							
7 Margin Revenue Required to Equalized ROR	8,681,712	7,541,555	902,733	4,309	146,758	86,358	
8 Revenue Neutral Shift to Equalize Class ROR	(0)	120,147	(72,760)	(72)	(15,061)	(32,254)	
9 Revenue Increase/Decrease Percentage	0.00%	1.62%	-7.46%	-1.63%	-9.31%	-27.19%	
10							
11 1/2 of Revenue Neutral Shift	(0)	60,073	(36,380)	(36)	(7,531)	(16,127)	
12 Revenue Increase/Decrease Percentage	0.00%	0.81%	-3.73%	-0.82%	-4.65%	-13.60%	
13							
14 Recommended Margin Revenue	8,681,712	7,481,481	939,113	4,345	154,288	102,485	
15 Recommended Class Revenue Percentage	100.00%	86.18%	10.82%	0.05%	1.78%	1.18%	
16							
17 Spread of Revenue Increase							
18 Example: Revenue At OPC Study COS Level	(1,056,743)	(910,650)	(114,309)	(529)	(18,780)	(12,475)	-1056743
19 Example: Revenue Increase of Additional 10% Above OPC	(294,246)	(253,567)	(31,829)	(147)	(5,229)	(3,473)	-294246
20 Example: Revenue Increase of Additional 50% Above OPC	2,755,741	2,374,765	298,092	1,379	48,974	32,531	2755741
21							
22 Combining Revenue Neutral Shift and Revenue Increase							
23 Example: Revenue At OPC Study COS Level	(1,056,743)	(850,577)	(150,689)	(565)	(26,311)	(28,602)	
24 Example: Revenue Increase of Additional 10% Above OPC	(294,246)	(193,494)	(68,209)	(183)	(12,760)	(19,601)	
25 Example: Revenue Increase of Additional 50% Above OPC	2,755,741	2,434,839	261,713	1,343	41,443	16,404	
26							
27 Adjust to eliminate negative increase							
28 Example: Revenue At OPC Study COS Level	(1,056,743)	(850,577)	(150,689)	(565)	(26,311)	(28,602)	
29 Example: Revenue Increase of Additional 10% Above OPC	(294,246)	(193,494)	(68,209)	(183)	(12,760)	(19,601)	
30 Example: Revenue Increase of Additional 50% Above OPC	2,755,741	2,434,839	261,713	1,343	41,443	16,404	
31							
32 Percentage of Net Revenue Increase							
33 Example: Revenue At OPC Study COS Level	-12.17%	-11.46%	-15.45%	-12.89%	-16.26%	-24.11%	
34 Example: Revenue Increase of Additional 10% Above OPC	-3.39%	-2.61%	-6.99%	-4.18%	-7.89%	-16.53%	
35 Example: Revenue Increase of Additional 50% Above OPC	31.74%	32.81%	26.83%	30.67%	25.61%	13.83%	
36							
37 Class Revenue							
38 Example: Revenue At OPC Study COS Level	7,624,969	6,570,831	824,804	3,816	135,508	90,011	7624969
39 Example: Revenue Increase of Additional 10% Above OPC	8,387,466	7,227,914	907,284	4,197	149,059	99,012	8387466
40 Example: Revenue Increase of Additional 50% Above OPC	11,437,454	9,856,247	1,237,205	5,724	203,262	135,016	11437454
41							
42 Percentage of Class Revenue							
43 Example: Revenue At OPC Study COS Level	100.00%	86.18%	10.82%	0.05%	1.78%	1.18%	
44 Example: Revenue Increase of Additional 10% Above OPC	100.00%	86.18%	10.82%	0.05%	1.78%	1.18%	
45 Example: Revenue Increase of Additional 50% Above OPC	100.00%	86.18%	10.82%	0.05%	1.78%	1.18%	

**Office of the Public Counsel  
MAWC Class Cost of Service Summary**

St Joseph District

CLASS COST OF SERVICE SUMMARY:		TOTAL	RESIDENTIAL	COMMERCIAL	INDUSTRIAL	OTHER PUBLIC AUTHORITY	SALES FOR RESALE	PRIVATE FIRE SERVICE	PUBLIC FIRE SERVICE
1	O & M Expenses	5,665,101	2,644,533	1,033,722	884,245	252,194	622,454	113,867	114,086
2	Depreciation Expenses	1,674,679	669,096	317,878	297,830	73,491	216,708	41,859	57,817
3	Taxes	3,045,757	1,204,844	588,437	559,592	137,071	407,774	46,898	101,141
4	TOTAL Expenses and Taxes	10,385,537	4,518,472	1,940,037	1,741,667	462,757	1,246,937	202,624	273,043
5									
6	Spread public fire expenses & taxes to others	273,043	243,095	27,050	1,232	1,666	0	0	(273,043)
7	TOTAL Expenses and Taxes after Spread	10,385,537	4,761,567	1,967,087	1,742,900	464,423	1,246,937	202,624	-
8									
9	Current Revenue								
10	Rate Revenue	16,132,289	7,460,256	3,138,385	2,671,085	653,376	2,054,560	154,627	0
11	Other Revenue	188,014	81,274	36,679	33,723	8,670	24,321	3,348	0
12	TOTAL Current Revenues	16,320,303	7,541,530	3,175,064	2,704,808	662,046	2,078,881	157,975	0
13	Current Revenue Percentage	100.00%	46.21%	19.45%	16.57%	4.06%	12.74%	0.97%	0.00%
14									
15	OPERATING INCOME	5,934,766	2,779,963	1,207,977	961,909	197,623	831,944	(44,649)	0
16									
17	TOTAL Rate Base	76,869,343	30,237,921	14,951,404	14,300,632	3,479,589	10,432,393	1,024,278	2,443,125
18									
19	Spread public fire rate base to others	2,443,125	2,175,152	242,037	11,026	14,909	0	0	(2,443,125)
20	TOTAL Rate Base after Spread	76,869,343	32,413,074	15,193,442	14,311,658	3,494,498	10,432,393	1,024,278	-
21									
22	Implicit Rate of Return (ROR)	7.72%	8.58%	7.95%	6.72%	5.66%	7.97%	-4.36%	
23									
24	Operating Income with Equalized ROR	5,934,766	2,502,480	1,173,023	1,104,944	269,796	805,442	79,080	
25									
26	Class COS with Equalized ROR	16,320,303	7,264,047	3,140,110	2,847,844	734,219	2,052,379	281,704	
27	Class COS Percentage	100.00%	44.51%	19.24%	17.45%	4.50%	12.58%	1.73%	
28									
29	OPC Recommended ROR	7.45%	7.45%	7.45%	7.45%	7.45%	7.45%	7.45%	
30									
31	Operating Income with Recommended ROR	5,726,766	2,414,774	1,131,911	1,066,219	260,340	777,213	76,309	
32	True-up plus add'l taxes	(192,293)	(83,123)	(37,513)	(34,491)	(8,867)	(24,874)	(3,424)	
33	Class COS with Recommended ROR	15,920,010	7,093,218	3,061,485	2,774,628	715,895	1,999,276	275,508	
34	Class COS Percentage	100.00%	44.56%	19.23%	17.43%	4.50%	12.56%	1.73%	
		(400,293)	(170,830)	(78,625)	(73,216)	(18,323)	(53,103)	(6,196)	
		TOTAL	RESIDENTIAL	COMMERCIAL	INDUSTRIAL	OPA	S/R	PRIVATE FIRE	
1	Current Rate Revenue	16,320,303	7,541,530	3,175,064	2,704,808	662,046	2,078,881	157,975	
2	Class Percentage	100.00%	46.21%	19.45%	16.57%	4.06%	12.74%	0.97%	
3									
4	Class COS with Equalized ROR	16,320,303	7,264,047	3,140,110	2,847,844	734,219	2,052,379	281,704	
5	Class COS Percentage	100.00%	44.51%	19.24%	17.45%	4.50%	12.58%	1.73%	
6									
7	Margin Revenue Required to Equalize ROR	16,320,303	7,264,047	3,140,110	2,847,844	734,219	2,052,379	281,704	
8	Revenue Neutral Shift to Equalize Class ROR	0	(277,482)	(34,953)	143,036	72,172	(26,502)	123,729	
9	Revenue Increase/Decrease Percentage	0.00%	-3.68%	-1.10%	5.29%	10.90%	-1.27%	78.32%	
10									
11	1/2 of Revenue Neutral Shift	0	(138,741)	(17,477)	71,518	36,086	(13,251)	61,865	
12	Revenue Increase/Decrease Percentage	0.00%	-1.84%	-0.55%	2.64%	5.45%	-0.64%	39.16%	
13									
14	Recommended Margin Revenue	16,320,303	7,402,788	3,157,587	2,776,326	698,132	2,065,630	219,840	
15	Recommended Class Revenue Percentage	100.00%	45.36%	19.35%	17.01%	4.28%	12.66%	1.35%	
16									

**Office of the Public Counsel  
MAWC Class Cost of Service Summary**

18	Example: Revenue At OPC Study COS Level	(400,293)	(181,571)	(77,447)	(68,096)	(17,123)	(50,664)	(5,392)
19	Example: Revenue Increase of Additional 10% Above OPC	1,191,708	540,551	230,567	202,727	50,978	150,832	16,053
20	Example: Revenue Increase of Additional 50% Above OPC	7,559,712	3,429,038	1,462,623	1,286,019	323,381	956,818	101,832
21								
22	Combining Revenue Neutral Shift and Revenue Increase							
23	Example: Revenue At OPC Study COS Level	(400,293)	(320,312)	(94,924)	3,422	18,963	(63,915)	56,473
24	Example: Revenue Increase of Additional 10% Above OPC	1,191,708	401,810	213,090	274,245	87,064	137,581	77,917
25	Example: Revenue Increase of Additional 50% Above OPC	7,559,712	3,290,297	1,445,146	1,357,537	359,467	943,567	163,696
26								
27	Adjust to eliminate negative increase							
28	Example: Revenue At OPC Study COS Level	(400,293)	(267,596)	(79,302)			(53,396)	(400,293)
29	Example: Revenue Increase of Additional 10% Above OPC	1,191,708	401,810	213,090	274,245	87,064	137,581	77,917
30	Example: Revenue Increase of Additional 50% Above OPC	7,559,712	3,290,297	1,445,146	1,357,537	359,467	943,567	163,696
31								
32	Percentage of Net Revenue Increase							
33	Example: Revenue At OPC Study COS Level	-2.45%	-3.55%	-2.50%	0.00%	0.00%	-2.57%	0.00%
34	Example: Revenue Increase of Additional 10% Above OPC	7.30%	5.33%	6.71%	10.14%	13.15%	6.62%	49.32%
35	Example: Revenue Increase of Additional 50% Above OPC	46.32%	43.63%	45.52%	50.19%	54.30%	45.39%	103.62%
36								
37	Class Revenue							
38	Example: Revenue At OPC Study COS Level	15,920,010	7,273,934	3,095,762	2,704,808	662,046	2,025,484	157,975
39	Example: Revenue Increase of Additional 10% Above OPC	17,512,011	7,943,340	3,388,154	2,979,053	749,110	2,216,462	235,892
40	Example: Revenue Increase of Additional 50% Above OPC	23,880,015	10,831,827	4,620,210	4,062,345	1,021,514	3,022,448	321,671
41								
42	Percentage of Class Revenue							
43	Example: Revenue At OPC Study COS Level	100.00%	45.69%	19.45%	16.99%	4.16%	12.72%	0.99%
44	Example: Revenue Increase of Additional 10% Above OPC	100.00%	45.36%	19.35%	17.01%	4.28%	12.66%	1.35%
45	Example: Revenue Increase of Additional 50% Above OPC	100.00%	45.36%	19.35%	17.01%	4.28%	12.66%	1.35%

Office of the Public Counsel  
MAWC Class Cost of Service Summary  
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St. Louis District

CLASS COST OF SERVICE SUMMARY:		Rate A and				PRIVATE FIRE	PUBLIC FIRE
		TOTAL	others	Rate B	Rate J & D	SERVICE	SERVICE
1	O & M Expenses	55,339,107	44,772,772	1,575,215	6,472,765	219,647	2,298,708
2	Depreciation Expenses	10,480,307	8,004,792	316,125	1,209,813	61,394	888,182
3	Taxes	22,102,000	16,867,682	677,079	2,555,308	127,017	1,874,913
4	TOTAL Expenses and Taxes	87,921,414	69,645,247	2,568,419	10,237,887	408,058	5,061,803
5							
6	Spread public fire expenses & taxes to o	15	0	0	0	0	0
7	TOTAL Expenses and Taxes after Sprea	87,921,414	69,645,247	2,568,419	10,237,887	408,058	5,061,803
8							
9	Current Revenue						
10	Rate Revenue	115,960,456	98,414,824	2,158,918	8,245,315	1,212,727	5,928,672
11	Other Revenue	25	2,983,573	2,339,760	88,407	346,767	14,834
12	TOTAL Current Revenues	118,944,029	100,754,584	2,247,325	8,592,082	1,227,561	6,122,477
13	Current Revenue Percentage	100.00%	84.71%	1.89%	7.22%	1.03%	5.15%
14							
15	OPERATING INCOME	31,022,615	31,109,337	(321,095)	(1,645,805)	819,504	1,060,674
16							
17	TOTAL Rate Base	282,017,396	214,759,127	8,702,411	32,621,733	1,666,442	24,267,684
18							
19	Spread public fire rate base to others	15	0	0	0	0	0
20	TOTAL Rate Base after Spread	282,017,396	214,759,127	8,702,411	32,621,733	1,666,442	24,267,684
21							
22	Implicit Rate of Return (ROR)	11.00%	14.49%	-3.69%	-5.05%	49.18%	4.37%
23							
24	Operating Income with Equalized ROR	31,022,615	23,624,038	957,287	3,588,472	183,313	2,669,506
25							
26	Class COS with Equalized ROR	118,944,029	93,269,285	3,525,706	13,826,358	591,371	7,731,309
27	Class COS Percentage	100.00%	78.41%	2.96%	11.62%	0.50%	6.50%
28							
29	OPC Recommended ROR	7.45%	7.45%	7.45%	7.45%	7.45%	7.45%
30							
31	Operating Income with Recommended ROR	21,010,296	15,999,555	648,330	2,430,319	124,150	1,807,942
32	True-up plus add'l taxes	25	(6,187,870)	(4,852,615)	(183,354)	(719,187)	(30,766)
33	Class COS with Recommended ROR	102,743,839	80,792,187	3,033,395	11,949,018	501,441	6,467,798
34	Class COS Percentage	100.00%	78.63%	2.95%	11.63%	0.49%	6.30%
		(16,200,189)	(12,477,098)	(492,312)	(1,877,340)	(89,929)	(1,263,511)
			Rate A and			PRIVATE FIRE	PUBLIC FIRE
		TOTAL	others	Rate B	Rate J & D	SERVICE	SERVICE
1	Current Rate Revenue	118,944,029	100,754,584	2,247,325	8,592,082	1,227,561	6,122,477
2	Class Percentage	100.00%	84.71%	1.89%	7.22%	1.03%	5.15%
3							

Office of the Public Counsel  
MAWC Class Cost of Service Summary  
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4	Class COS with Equalized ROR	118,944,029	93,269,285	3,525,706	13,826,358	591,371	7,731,309
5	Class COS Percentage	100.00%	78.41%	2.96%	11.62%	0.50%	6.50%
6							
7	Margin Revenue Required to Equalized ROR	118,944,029	93,269,285	3,525,706	13,826,358	591,371	7,731,309
8	Revenue Neutral Shift to Equalize Class ROR	0	(7,485,299)	1,278,381	5,234,277	(636,191)	1,608,832
9	Revenue Increase/Decrease Percentage	0.00%	-7.43%	56.88%	60.92%	-51.83%	26.28%
10							
11	1/2 of Revenue Neutral Shift	0	(3,742,649)	639,191	2,617,138	(318,095)	804,416
12	Revenue Increase/Decrease Percentage	0.00%	-3.71%	28.44%	30.46%	-25.91%	13.14%
13							
14	Recommended Margin Revenue	118,944,029	97,011,934	2,886,516	11,209,220	909,466	6,926,893
15	Recommended Class Revenue Percentage	100.00%	81.56%	2.43%	9.42%	0.76%	5.82%
16							
17	Spread of Revenue Increase						
18	Example: Revenue At OPC Study COS Level	(16,200,189)	(13,213,036)	(393,144)	(1,526,697)	(123,869)	(943,444)
19	Example: Revenue Increase of Additional 10% Abov	(5,925,805)	(4,833,146)	(143,807)	(558,445)	(45,310)	(345,099)
20	Example: Revenue Increase of Additional 50% Abov	35,171,730	28,686,414	853,542	3,314,565	268,929	2,048,281
21							
22	Combining Revenue Neutral Shift and Revenue Increase						
23	Example: Revenue At OPC Study COS Level	(16,200,189)	(16,955,685)	246,047	1,090,441	(441,965)	(139,028)
24	Example: Revenue Increase of Additional 10% Abov	(5,925,805)	(8,575,795)	495,384	2,058,694	(363,405)	459,317
25	Example: Revenue Increase of Additional 50% Abov	35,171,730	24,943,764	1,492,733	5,931,703	(49,166)	2,852,697
26							
27	Adjust to eliminate negative increase						
28	Example: Revenue At OPC Study COS Level	(16,200,189)	(15,663,475)			(408,282)	(128,432)
29	Example: Revenue Increase of Additional 10% Abov	(5,925,805)	(5,684,904)			(240,902)	
30	Example: Revenue Increase of Additional 50% Abov	35,171,730	24,908,944	1,490,649	5,923,423		2,848,715
31							
32	Percentage of Net Revenue Increase						
33	Example: Revenue At OPC Study COS Level	-13.62%	-15.55%	0.00%	0.00%	-33.26%	-2.10%
34	Example: Revenue Increase of Additional 10% Abov	-4.98%	-5.64%	0.00%	0.00%	-19.62%	0.00%
35	Example: Revenue Increase of Additional 50% Abov	29.57%	24.72%	66.33%	68.94%	0.00%	46.53%
36							
37	Class Revenue						
38	Example: Revenue At OPC Study COS Level	102,743,839	85,091,109	2,247,325	8,592,082	819,279	5,994,045
39	Example: Revenue Increase of Additional 10% Abov	113,018,223	95,069,680	2,247,325	8,592,082	986,660	6,122,477
40	Example: Revenue Increase of Additional 50% Abov	154,115,759	125,663,527	3,737,974	14,515,504	1,227,561	8,971,192
41							
42	Percentage of Class Revenue						
43	Example: Revenue At OPC Study COS Level	100.00%	82.82%	2.19%	8.36%	0.80%	5.83%
44	Example: Revenue Increase of Additional 10% Abov	100.00%	84.12%	1.99%	7.60%	0.87%	5.42%
45	Example: Revenue Increase of Additional 50% Abov	100.00%	81.54%	2.43%	9.42%	0.80%	5.82%

Office of the Public Counsel  
MAWC Class Cost of Service Summary

Warrensburg District

CLASS COST OF SERVICE SUMMARY:		TOTAL	RESIDENTIAL	COMMERCIAL	INDUSTRIAL	OTHER PUBLIC AUTHORITY	SALES FOR RESALE	PRIVATE FIRE SERVICE	PUBLIC FIRE SERVICE
1	O & M Expenses	949,015	482,900	160,966	33,006	149,869	84,065	6,525	31,685
2	Depreciation Expenses	249,945	122,253	42,546	8,600	35,598	22,800	3,407	14,741
3	Taxes	514,357	239,664	88,266	18,574	76,155	50,513	6,807	34,377
4	TOTAL Expenses and Taxes	1,713,317	844,817	291,777	60,180	261,622	157,379	16,740	80,803
5									
6	Spread public fire expenses & taxes to others	15 80,803	71,227	7,671	166	1,739	0	0	(80,803)
7	TOTAL Expenses and Taxes after Spread	1,713,317	916,044	299,449	60,346	263,361	157,379	16,740	-
8									
9	Current Revenue								
10	Rate Revenue	2,470,700	1,252,514	469,991	77,174	408,314	209,250	53,457	0
11	Other Revenue	25 54,043	27,600	9,761	2,031	8,648	5,386	617	0
12	TOTAL Current Revenues	2,524,743	1,280,114	479,752	79,205	416,962	214,636	54,074	0
13	Current Revenue Percentage	100.00%	50.70%	19.00%	3.14%	16.52%	8.50%	2.14%	0.00%
14									
15	OPERATING INCOME	811,425	364,071	180,303	18,858	153,601	57,257	37,334	0
16									
17	TOTAL Rate Base	9,051,349	4,191,496	1,561,859	330,861	1,348,604	903,176	118,099	597,255
18									
19	Spread public fire rate base to others	15 597,255	526,473	56,701	1,229	12,852	0	0	(597,255)
20	TOTAL Rate Base after Spread	9,051,349	4,717,968	1,618,560	332,089	1,361,457	903,176	118,099	-
21									
22	Implicit Rate of Return (ROR)	8.96%	7.72%	11.14%	5.68%	11.28%	6.34%	31.61%	
23									
24	Operating Income with Equalized ROR	811,425	422,951	145,099	29,771	122,050	80,967	10,587	
25									
26	Class COS with Equalized ROR	2,524,743	1,338,995	444,548	90,117	385,411	238,345	27,327	
27	Class COS Percentage	100.00%	53.03%	17.61%	3.57%	15.27%	9.44%	1.08%	
28									
29	OPC Recommended ROR	7.45%	7.45%	7.45%	7.45%	7.45%	7.45%	7.45%	
30									
31	Operating Income with Recommended ROR	674,326	351,489	120,583	24,741	101,429	67,287	8,798	
32	True-up plus add'l taxes	25 (67,377)	(34,411)	(12,169)	(2,532)	(10,781)	(6,715)	(769)	
33	Class COS with Recommended ROR	2,320,265	1,233,121	407,862	82,555	354,008	217,950	24,769	
34	Class COS Percentage	100.00%	53.15%	17.58%	3.56%	15.26%	9.39%	1.07%	
		(204,477)	(105,873)	(36,686)	(7,562)	(31,403)	(20,395)	(2,558)	

Office of the Public Counsel  
MAWC Class Cost of Service Summary

	TOTAL	RESIDENTIAL	COMMERCIAL	INDUSTRIAL	OPA	SFR	PRIVATE FIRE	
1 Current Rate Revenue	2,524,743	1,280,114	479,752	79,205	416,962	214,636	54,074	
2 Class Percentage	100.00%	50.70%	19.00%	3.14%	16.52%	8.50%	2.14%	
3								
4 Class COS with Equalized ROR	2,524,743	1,338,995	444,548	90,117	385,411	238,345	27,327	
5 Class COS Percentage	100.00%	53.03%	17.61%	3.57%	15.27%	9.44%	1.08%	
6								
7 Margin Revenue Required to Equalize ROR	2,524,743	1,338,995	444,548	90,117	385,411	238,345	27,327	
8 Revenue Neutral Shift to Equalize Class ROR	(0)	58,880	(35,204)	10,913	(31,551)	23,709	(26,747)	
9 Revenue Increase/Decrease Percentage	0.00%	4.60%	-7.34%	13.78%	-7.57%	11.05%	-49.46%	
10								
11 1/2 of Revenue Neutral Shift	(0)	29,440	(17,602)	5,456	(15,775)	11,855	(13,374)	
12 Revenue Increase/Decrease Percentage	0.00%	2.30%	-3.67%	6.89%	-3.78%	5.52%	-24.73%	
13								
14 Recommended Margin Revenue	2,524,743	1,309,555	462,150	84,661	401,186	226,491	40,700	
15 Recommended Class Revenue Percentage	100.00%	51.87%	18.30%	3.35%	15.89%	8.97%	1.61%	
16								
17 Spread of Revenue Increase								
18 Example: Revenue At OPC Study COS Level	(204,477)	(106,060)	(37,429)	(6,857)	(32,492)	(18,343)	(3,296)	
19 Example: Revenue Increase of Additional 10% Above OPC	27,549	14,289	5,043	924	4,378	2,471	444	
20 Example: Revenue Increase of Additional 50% Above OPC	955,655	495,687	174,931	32,045	151,855	85,730	15,406	
21								
22 Combining Revenue Neutral Shift and Revenue Increase								
23 Example: Revenue At OPC Study COS Level	(204,477)	(76,620)	(55,031)	(1,400)	(48,267)	(6,489)	(16,670)	
24 Example: Revenue Increase of Additional 10% Above OPC	27,549	43,730	(12,559)	6,380	(11,398)	14,326	(12,929)	
25 Example: Revenue Increase of Additional 50% Above OPC	955,655	525,127	157,329	37,502	136,080	97,585	2,032	
26								
27 Adjust to eliminate negative increase								
28 Example: Revenue At OPC Study COS Level	(204,477)	(76,620)	(55,031)	(1,400)	(48,267)	(6,489)	(16,670)	(204,477)
29 Example: Revenue Increase of Additional 10% Above OPC	27,549	18,696	2,728	2,728	6,125	6,125	27,549	
30 Example: Revenue Increase of Additional 50% Above OPC	955,655	525,127	157,329	37,502	136,080	97,585	2,032	955,655
31								
32 Percentage of Net Revenue Increase								
33 Example: Revenue At OPC Study COS Level	-8.10%	-5.99%	-11.47%	-1.77%	-11.58%	-3.02%	-30.83%	
34 Example: Revenue Increase of Additional 10% Above OPC	1.09%	1.46%	0.00%	3.44%	0.00%	2.85%	0.00%	
35 Example: Revenue Increase of Additional 50% Above OPC	37.85%	41.02%	32.79%	47.35%	32.64%	45.47%	3.76%	
36								
37 Class Revenue								
38 Example: Revenue At OPC Study COS Level	2,320,265	1,203,495	424,720	77,804	368,694	208,147	37,404	2320265
39 Example: Revenue Increase of Additional 10% Above OPC	2,552,292	1,298,811	479,752	81,932	416,962	220,761	54,074	2552292
40 Example: Revenue Increase of Additional 50% Above OPC	3,480,398	1,805,242	637,081	116,706	553,042	312,221	56,106	3480398
41								
42 Percentage of Class Revenue								
43 Example: Revenue At OPC Study COS Level	100.00%	51.87%	18.30%	3.35%	15.89%	8.97%	1.61%	
44 Example: Revenue Increase of Additional 10% Above OPC	100.00%	50.89%	18.80%	3.21%	16.34%	8.65%	2.12%	
45 Example: Revenue Increase of Additional 50% Above OPC	100.00%	51.87%	18.30%	3.35%	15.89%	8.97%	1.61%	