

Exhibit No.:
Issues: Capital Structure and Overall Rate
of Return
Witness: Michi Q. Chao
Exhibit Type: Direct
Sponsoring Party: Missouri-American Water Company
Case No.: WR-2010-XXXX
SR-2010-XXXX
Date: October 30, 2009

MISSOURI PUBLIC SERVICE COMMISSION

**CASE NO. WR-2010-XXXX
CASE NO. SR-2010-XXXX**

DIRECT TESTIMONY

OF

MICHI Q. CHAO

ON BEHALF OF


MISSOURI-AMERICAN WATER COMPANY

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

IN THE MATTER OF MISSOURI-AMERICAN) WATER COMPANY FOR AUTHORITY TO) FILE TARIFFS REFLECTING INCREASED) RATES FOR WATER AND SEWER) SERVICE)	CASE NO. WR-2010-XXXX CASE NO. SR-2010-XXX
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AFFIDAVIT OF MICHIE Q. CHAO

Michie Q. Chao, being first duly sworn, deposes and says that she is the witness who sponsors the accompanying testimony entitled "Direct Testimony of Michie Q. Chao"; that said testimony and schedules were prepared by her and/or under her direction and supervision; that if inquiries were made as to the facts in said testimony and schedules, she would respond as therein set forth; and that the aforesaid testimony and schedules are true and correct to the best of her knowledge.



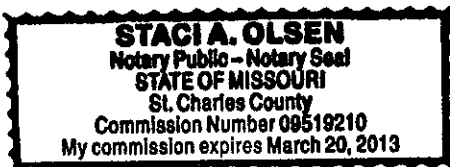
Michie Q. Chao

State of Missouri
County of St. Louis
SUBSCRIBED and sworn to
Before me this 28th day of October 2009.



Notary Public

My commission expires:



**DIRECT TESTIMONY
MICHIO Q. CHAO
MISSOURI-AMERICAN WATER COMPANY
CASE NO. WR.2010.XXXX
SR.2010.XXXX**

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DIRECT TESTIMONY

MICHI Q. CHAO

1

I. WITNESS INTRODUCTION

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

3 A. My name is Michi Q. Chao, and my business address is 727 Craig Road, St.
4 Louis, Missouri 63141.

5

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

7 A. I am employed by American Water Works Service Company ("Service
8 Company") as a Financial Director. The Service Company is a subsidiary of
9 American Water Works Company, Inc. ("American") that provides various
10 services to American's water utility subsidiaries. In this proceeding I am testifying
11 on behalf of Missouri-American Water Company ("MAWC" or "the Company").

12

13 **Q. PLEASE SUMMARIZE YOUR EDUCATIONAL BACKGROUND.**

14 A. In September 1995, I received a Bachelor of Science degree in Business
15 Administration with a major in Finance from California State University of Los
16 Angeles.

17 **Q. PLEASE SUMMARIZE YOUR EMPLOYMENT EXPERIENCE.**

1 A. From 1996 to 1997, I was employed by Arroyo Seco Management Services as
2 the Senior Financial analyst. From 1997 to 1998, I joined Cedar Sinai Medical
3 Center as their Senior Accountant. From 1998 to 2000, I was employed by
4 UCLA Medical Center as the Disbursement Manager. In 2000, I joined Health
5 Net, Inc and held two roles, Financial Consultant and Financial Planning and
6 Reporting Manager in the Corporate Business Planning department. My
7 customers included various functional departments such as Corporate
8 Executives, Corporate Finance and Shared Services, National Operations (East
9 coast and West coast). My responsibilities included, Financial Statement
10 Performance packages, Financial and Business presentations, Strategic
11 Planning, and Forecasting, Financial compliance (Sarbanes Oxley 302
12 certification) and Software implementation, training and reporting development
13 (standard and ad hoc). I was responsible for an Annual Operating expense
14 budget of approximately \$450 million and an Annual Balance Sheet budget of
15 approximately \$3.0 billion.

16 In August of 2004, I joined American Water as a Consultant with Resources
17 Global Professionals and was hired on September 20, 2004. Through May of
18 2009, I held two titles, Performance, Planning and Reporting Manager and
19 Financial Planning Analysis Director. I was responsible for the Reporting
20 packages and the Budget/Forecast deliverables for the Central Region States
21 (Missouri, Illinois, Indiana, Iowa, Michigan, Ohio and Texas). The Reporting
22 packages adhered to required Financial Statement variance threshold and

1 commentaries. The Budget/Forecast iterations included historical account trend
2 analysis and financial statement modeling.

3 During May of 2009, I was promoted to Finance Director for Missouri-American
4 and Texas American. My present duties for Missouri-American Water Company
5 include all aspects of Finance (Financial Reporting, Budgeting/Forecasting,
6 Rates/Regulations, and Compliance).

7 **II. PURPOSE OF TESTIMONY**

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

9 A. The purpose of my testimony is to present the capital structure that I recommend
10 be used for computing the Company's weighted average cost of capital
11 ("WACC") in this proceeding. The WACC is used as the authorized overall rate
12 of return on rate base. The Company's WACC reflects, among other things, the
13 rate of return on common equity recommendation presented in the Direct
14 Testimony of MAWC witness Ms. Pauline Ahern.

15 **III. RECOMMENDED OVERALL RATE OF RETURN AND CAPITAL STRUCTURE**

16 **Q. WHAT CAPITAL STRUCTURE DO YOU RECOMMEND BE USED FOR
17 COMPUTING THE COMPANY'S WACC FOR RATEMAKING PURPOSES?**

18 A. Since this proceeding will set rates for future service, the capital structure
19 components should be developed from estimates for the period during which
20 those rates will be in effect. As a starting point, I used MAWC's actual capital
21 structure as of June 30, 2009. I then adjusted the component balances in that
22 capital structure to reflect all changes expected to occur by April 30, 2010, which

1 is the end of the proposed true-up period. That resulted in a pro forma April 30,
2 2010 capital structure that is comprised of 50.06% long-term debt, 0.68% short-
3 term debt, 0.32% preferred stock, and 48.94% common equity, as shown on
4 Schedule MQC-1, page 1.

5
6 **Q. DO YOU BELIEVE THAT MAWC'S PRO FORMA APRIL 30, 2010 CAPITAL**
7 **STRUCTURE IS REASONABLE FOR RATEMAKING PURPOSES?**

8 A. Yes, I do.

9
10 **Q. HOW DID YOU DETERMINE THAT CAPITAL STRUCTURE IS**
11 **REASONABLE?**

12 A. To determine whether MAWC's pro forma April 30, 2010 capital structure is
13 reasonable for ratemaking purposes, I examined the average common equity
14 ratios of the two proxy groups of water utility companies discussed in the Direct
15 Testimony of MAWC witness Pauline Ahern. Specifically, I compared MAWC's
16 common equity ratio in my proposed capital structure to that of Ms. Ahern's six
17 AUS Utility Reports water companies and to her group of eight AUS Utility
18 Reports natural gas distribution companies. These utilities and their
19 corresponding financial data are shown on Schedules PMA-4 and PMA-5,
20 respectively, attached to the Direct Testimony of Ms. Ahern. As of the year
21 ending 2008, the average common equity ratio of Ms. Ahern's six AUS Utility
22 Reports water companies was 47.85%, with a standard deviation of 4.27%,
23 representing a range of 43.57% - 52.12%. As of the year ending 2008, the
24 average common equity ratio of Ms. Ahern's eight AUS Utility Reports natural

1 gas distribution companies was 44.36%, with a standard deviation of 3.83%,
2 representing a range of 40.53% - 48.18%. Thus, MAWC's pro forma April 30,
3 2010 common equity ratio of 48.94% is well within one standard deviation of the
4 average common equity ratio of Ms. Ahern's water utility company sample and
5 just slightly above one standard deviation of the average common equity ratio of
6 Ms. Ahern's natural gas distribution company sample. One standard deviation
7 represents statistically significant closeness to the mean of a sample.

8 To further check the reasonableness of my proposed capital structure, I also
9 considered projected equity ratios from Value Line Investment Survey¹. Value
10 Line estimates that the composite common equity ratio for the water utility
11 industry will be 46.0% in 2009, 47.5% in 2010, and 50.0% over the 2012-2014
12 period. Thus, MAWC's pro forma April 30, 2010 equity ratio is also relatively
13 close to Value Line's projected common equity ratios for the water utility industry.

14
15 Based on these comparisons, I concluded that MAWC's pro forma April 30, 2010
16 capital structure is reasonable and, thus, should be used to compute the
17 Company's WACC in this proceeding.

18
19 **Q. DID YOU MAKE ANY PRO FORMA ADJUSTMENTS TO MAWC'S PRINCIPAL**
20 **AMOUNT OF LONG-TERM DEBT?**

21 A. No, I did not. The Company's pro forma principal amount of long-term debt at
22 April 30, 2010 is not expected to change from the actual balance at June 30,
23 2009; thus, no adjustments were needed. However, the long-term debt carrying

¹ Value Line Investment Survey, October 23, 2009, p. 1793.

1 value was adjusted to reflect the amortization of debt issuance expense that will
2 occur during that time period. The pro forma carrying value of long-term debt at
3 April 30, 2010 is \$398,761,252, as shown on Schedule MQC-1, pages 1 and 2.

4
5 **Q. WHAT IS MAWC'S COST OF LONG-TERM DEBT?**

6 A. MAWC's pro forma April 30, 2010 cost of long-term debt is 6.36%, as shown on
7 Schedule MQC-1, page 1. The computation of this cost is shown on Schedule
8 MQC-1, page 2.

9
10 **Q. HAVE YOU INCLUDED SHORT-TERM DEBT IN THE COMPANY'S PRO**
11 **FORMA APRIL 30, 2010 CAPITAL STRUCTURE?**

12 A. Yes, I have. The Company is projecting a short-term debt balance of \$5,374,481
13 at April 30, 2010, as shown on Schedule MQC-1, pages 1 and 3.

14
15 **Q. WHAT COST HAVE YOU ASSUMED FOR MAWC'S SHORT-TERM DEBT**
16 **BALANCE?**

17 A. I have assumed a cost for short-term debt of 3.62%, as shown on MQC-1, pages
18 1 and 3. This is the Company's current short-term interest rate projection for
19 April 2010.

20
21 **Q. PLEASE EXPLAIN THE PRO FORMA ADJUSTMENT YOU MADE TO**
22 **MAWC'S PREFERRED STOCK BALANCE.**

23 A. I started with the Company's preferred stock balance as of June 30, 2009 and
24 then made adjustments to reflect the annual sinking fund payment of \$12,000 on

1 the \$120,000 (at 6/30/09) Cumulative Preferred Stock and the appropriate
2 amortization of the issuance expense associated with the \$2,500,000 of
3 Preference Stock. The Company's pro forma adjusted preferred stock balance is
4 \$2,577,680, as shown on Schedule MQC-1, pages 1 and 4.

5
6 **Q. WHAT IS MAWC'S COST OF PREFERRED STOCK?**

7 A. MAWC's pro forma April 30, 2010 cost of preferred stock is 9.20%, as shown on
8 Schedule MQC-1, pages 1 and 4.

9
10 **Q. PLEASE EXPLAIN THE PRO FORMA ADJUSTMENTS YOU MADE TO**
11 **MAWC'S COMMON EQUITY BALANCE.**

12 A. Starting with the Company's actual common equity balance as of June 30, 2009,
13 I made a pro forma adjustment to reflect MAWC's planned common equity
14 infusion of \$15,000,000 in the form of paid-in capital from its parent, American
15 Water Works Company. American Water Works Company currently owns 100%
16 of the outstanding common stock of MAWC. This equity infusion is expected to
17 occur by March 31, 2010, which is prior to the end of the proposed true-up period
18 in this case. The funds from this equity infusion will be used to finance utility
19 property that will be placed in service and to pay down short-term debt that is
20 expected to build up through the normal course of business.

21
22 **Q. WHAT OTHER ADJUSTMENT DID YOU MAKE TO MAWC'S COMMON**
23 **EQUITY BALANCE?**

1 A. I adjusted MAWC's June 30, 2009 retained earnings balance, which is a
2 component of common equity, to capture the changes expected to occur by the
3 end of the proposed true-up period ending April 30, 2010. Specifically, I have
4 added net income and subtracted dividend payments expected to occur during
5 that period, which results in a net pro forma change to retained earnings of -
6 \$31,344. Adding that incremental change to the June 30, 2009 retained earnings
7 balance produces a total pro forma common equity balance of \$389,850,573 at
8 April 30, 2010, as shown on Schedule MQC-1, pages 1 and 5.

9 **Q. WHAT COST RATE HAVE YOU APPLIED TO MAWC'S COMMON EQUITY**
10 **COMPONENT?**

11 A. As shown on page 1 of Schedule MQC-1, MAWC's common equity component
12 has been assigned a cost of 11.60%. This cost of common equity was
13 developed and recommended by Ms. Pauline Ahern of AUS Consultants–Utility
14 Services, MAWC's consultant on this issue, who has concluded that MAWC
15 should be afforded the opportunity to earn a return on common equity between
16 10.71% and 12.52%, with a midpoint recommendation rounded down to 11.60%.

17
18 **Q. WHAT IS MAWC'S OVERALL WEIGHTED AVERAGE COST OF CAPITAL?**

19 A. The overall weighted average cost of capital is calculated by summing the
20 component costs of the capital structure, with each component weighted by its
21 respective proportion to total capitalization. Based on the pro forma capital
22 component balances and component costs I have described, MAWC's WACC is
23 8.91%, as shown on Schedule MQC-1, page 1. Thus, I recommend that MAWC
24 be authorized an overall rate of return on rate base in this proceeding of 8.91%.

1

2 **Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?**

3 **A. Yes, it does.**

Missouri-American Water Company
 Weighted Average Cost of Capital
 Pro Forma at 4/30/10
 Case No. WR-2010-XXXX
 Case No. SR-2010-XXXX

<u>Class of Capital</u>	<u>Amount</u>	<u>Percent of Total</u>	<u>Cost Rate</u>	<u>Weighted Cost of Capital</u>
Long-Term Debt	\$ 398,761,252	50.06%	6.36%	3.18%
Short-Term Debt	5,374,481	0.68%	3.62%	0.02%
Preferred Stock	2,577,680	0.32%	9.20%	0.03%
Common Equity	<u>389,850,573</u>	<u>48.94%</u>	11.60%	<u>5.68%</u>
Total Capitalization	<u>\$ 796,563,986</u>	<u>100.00%</u>		<u>8.91%</u>

Missouri-American Water Company
Pro Forma Cost of Long-Term Debt at 4/30/10
Case No. WR-2010-XXXX
Case No. SR-2010-XXXX

General Mortgage Bonds Debt Issue Subledger	Rate	Issue Date	Maturity Date	Principal Amount	Amount Outstanding @ 4/30/09	Pro Forma Adjustments	Pro Forma Amount Outstanding @ 4/30/10	Unamortized Issuance Expense @ 6/30/09	Pro Forma Adjustments	Monthly Amortization Debt Expense	Unamortized Issuance Expense @ 4/30/10	Carrying Value @ 4/30/10	Annual Amortization Debt Expense	Annual Interest Expense	Total Cost
BD170005	7.790%	06/01/97	06/01/27	\$8,000,000	\$8,000,000		\$8,000,000	\$68,078		\$317	\$64,912	\$7,935,088	\$3,800	\$623,200	\$627,000
BD170006	8.590%	04/21/95	03/01/25	3,000,000	3,000,000		3,000,000	40,649		216	38,487	2,961,613	2,595	257,400	259,995
BD170007	7.140%	03/19/94	03/01/34	12,500,000	12,500,000		12,500,000	206,518		698	199,541	12,300,459	8,372	892,500	900,872
BD170008	5.500%	05/18/93	01/01/23	4,950,000	-		-	175,239		1,082	164,422	(164,422)	12,981	-	12,981
BD170009	5.000%	02/01/98	02/01/28	4,500,000	4,475,000		4,475,000	219,855		986	209,966	4,265,004	11,831	223,750	235,581
BD170010	5.850%	07/28/96	07/01/26	6,000,000	-		-	253,104		1,241	240,897	(240,697)	14,889	-	14,889
BD170011	5.000%	11/01/98	11/30/28	19,000,000	18,680,000		18,680,000	811,798		3,499	776,807	17,903,193	41,990	934,000	975,990
BD170013	5.900%	03/01/00	03/01/30	29,000,000	28,985,000		28,985,000	1,021,343		4,118	990,160	28,004,840	49,420	1,710,115	1,759,535
BD170014	5.200%	04/01/02	04/01/32	15,000,000	14,935,000		14,935,000	683,877		2,505	658,827	14,276,173	30,061	776,620	806,681
BD170017	4.600%	12/20/06	12/01/36	57,480,000	57,480,000		57,480,000	1,395,251		4,241	1,352,842	56,127,158	50,891	2,644,080	2,694,971
BD170018	6.593%	10/22/07	10/15/37	103,000,000	103,000,000		103,000,000	980,364		2,883	951,530	102,048,470	34,601	6,790,790	6,825,391
BD170019	6.550%	* 8/1/08	05/31/23	70,000,000	70,000,000		70,000,000	244,291		1,463	229,663	69,770,337	17,554	4,585,000	4,602,554
BD170020	8.250%	02/04/09	12/01/38	25,000,000	25,000,000		25,000,000	981,127		2,779	953,333	24,046,667	33,353	2,062,500	2,095,853
BD350005 - P				-	-		-	-		-	-	(558,125)	-	-	28,500
BD350006 - Q				-	-		-	581,875		2,375	558,125	-	28,500	-	-
BD350007 - R				-	-		-	767,002		5,518	711,818	(711,818)	66,221	-	66,221
BD350008 - S				-	-		-	818,873		5,423	764,641	(764,641)	65,079	-	65,079
BD350009 - T	5.500%	02/01/93	02/01/23	15,000,000	-		-	353,212		2,167	331,543	(331,543)	26,003	-	26,003
BD350010 - U	5.700%	06/01/95	06/01/25	12,000,000	-		-	314,100		1,645	297,655	(297,655)	19,734	-	19,734
BD350011 - V	5.500%	11/01/96	11/01/26	19,900,000	-		-	550,387		2,646	523,927	(523,927)	31,752	-	31,752
BD350013 - X	5.100%	03/01/98	03/01/28	25,000,000	24,785,000		24,785,000	631,517		2,819	603,324	24,181,676	33,831	1,264,035	1,297,866
BD350014 - Y	5.000%	03/01/99	03/01/29	40,000,000	39,570,000		39,570,000	1,082,363		4,596	1,036,500	38,533,500	55,035	1,976,500	2,031,535
				\$469,330,000	\$410,410,000	\$0	\$410,410,000	\$12,180,824	\$0	\$83,208	\$11,648,748	\$398,761,252	\$638,491	\$24,742,490	\$25,360,981

Cost of Long-Term Debt = [Total Cost / Carrying Value]

* Original issue date was 5/15/08 and held by AWK awaiting Board Approval until 8/1/08.

6.36%

Missouri-American Water Company
Pro Forma Short Term Debt at 4/30/10
Case No. WR-2010-XXXX
Case No. SR-2010-XXXX

<u>Date</u>	<u>ST Debt Balance</u>	<u>LT Debt Issuance</u>	<u>Common Equity Infusion</u>
4/30/2009	\$ 27,295,267		
5/31/2009	34,833,840		
6/30/2009	(1,513)		
7/31/2009	(11,486,563)		
8/31/2009	(13,404,480)		
9/30/2009	(16,679,093)		
10/31/2009	(17,227,587)		
11/30/2009	(7,710,855)		
12/31/2009	2,623,162		
1/31/2010	2,125,013		
2/28/2010	7,958,232		
3/31/2010	(755,160)		
4/30/2010	5,374,481		\$ 15,000,000
Balance @ 4/30/10	\$ 5,374,481		

Missouri-American Water Company
Pro Forma Cost of Preferred Stock at 4/30/10
Case No. WR-2010-XXXX
Case No. SR-2010-XXXX

<u>Type, Par Value</u>	<u>Dividend Rate</u>	<u>Date Issued</u>	<u>Amount Outstanding @ 6/30/09</u>	<u>Adjustments @ 4/30/10</u>	<u>Amount Outstanding @ 4/30/10</u>	<u>Unamortized Issuance Expense @ 6/30/09</u>	<u>Adjustments @ 4/30/10</u>	<u>Unamortized Issuance Expense @ 4/30/10</u>	<u>Carrying Value @ 4/30/10</u>	<u>Annual Amortization</u>	<u>Annual Dividends</u>	<u>Total Annual Cost</u>
Cumulative Preferred Stock	5.875%	10/11/66	120,000	(12,000)	108,000	-	-	-	108,000	-	6,345	6,345
\$100 par			120,000	(12,000)	108,000	-	-	-	108,000	-	6,345	6,345
Cost of preferred stock = [Total Annual Cost/Carrying Value]												
Preference Stock	9.18%	10/3/91	2,500,000		2,500,000	31,509	(1,189)	30,320	2,469,680	1,427	229,500	230,927
\$100 par			2,500,000	-	2,500,000	31,509	(1,189)	30,320	2,469,680	1,427	229,500	230,927
Cost of preference stock = [Total Annual Cost/Carrying Value]												
Total Preferred Stock			2,620,000	(12,000)	2,608,000	31,509	(1,189)	30,320	2,577,680	1,427	235,845	237,272

Total Cost of Preferred Stock = [Total Annual Cost/Carrying Value] 9.20%

Missouri-American Water Company
Pro Forma Common Equity at 4/30/10
Case No. WR-2010-XXXX
Case No. SR-2010-XXXX

	Balance @ 6/30/09	Equity Infusion	Adjustments Net Income	Dividends Paid	Balance @ 4/30/10
Common Stock	95,994,075	-	-	-	95,994,075
Paid-in Capital	140,910,760	15,000,000	-	-	155,910,760
Retained Earnings	137,977,082	-	15,064,993	(15,096,337)	137,945,738
Total Common Equity	374,881,917	15,000,000	15,064,993	(15,096,337)	389,850,573

Pro-Forma Adjustments

Additional Paid-in Capital

15,000,000

Retained Earnings

Add: Net Income Available to Common

ABP Jul 09 - Apr 10

15,064,993

15,064,993

Less: Common Stock Dividends

ABP Jul 09 - Apr 10

15,096,337

(15,096,337)

Total Pro Forma RE Adjustment

(31,344)