**FILED** June 07, 2010 **Data Center** Missouri Public /O 4 Service Commission

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

MAWCExhibit No 104 Date 5-0-10 Reporter \*\*

# 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

#### AFFIDAVIT OF MICHI Q. CHAO

Michi Q. Chao, being first duly sworn, deposes and says that she is the witness who sponsors the accompanying testimony entitled "Direct Testimony of Michi Q. Chao"; that said testimony and schedules were prepared by her and/or under her direction and supervision; that if inquires 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.

Midhi Q. Chao

State of Missouri County of St. Louis SUBSCRIBED and sworn to

Before me this 2 ft day of Ochher 2009.

**Notary Public** 

My commission expires:

STAGIA. OLSEN
Notary Public - Notary Sed
STATE OF MISSOURI
St. Charles County
Commission Number 09519210
My commission expires March 20, 2013

# DIRECT TESTIMONY MICHI 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. <u>WITNESS INTRODUCTION</u>
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	a	PLEASE SUMMARIZE YOUR EMPLOYMENT EXPERIENCE

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

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

- commentaries. The Budget/Forecast iterations included historical account trend
  analysis and financial statement modeling.
- During May of 2009, I was promoted to Finance Director for Missouri-American and Texas American. My present duties for Missouri-American Water Company include all aspects of Finance (Financial Reporting, Budgeting/Forecasting, Rates/Regulations, and Compliance).

#### II. PURPOSE OF TESTIMONY

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

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

### III. RECOMMENDED OVERALL RATE OF RETURN AND CAPITAL STRUCTURE

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

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

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

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- DO YOU BELIEVE THAT MAWC'S PRO FORMA APRIL 30, 2010 CAPITAL 6 Q. 7 STRUCTURE IS REASONABLE FOR RATEMAKING PURPOSES?
- 8 A. Yes, I do.

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- 10 Q. HOW DID YOU DETERMINE THAT CAPITAL STRUCTURE **REASONABLE?** 11.
  - To determine whether MAWC's pro forma April 30, 2010 capital structure is reasonable for ratemaking purposes, I examined the average common equity ratios of the two proxy groups of water utility companies discussed in the Direct Testimony of MAWC witness Pauline Ahern. Specifically, I compared MAWC's common equity ratio in my proposed capital structure to that of Ms. Ahern's six AUS Utility Reports water companies and to her group of eight AUS Utility Reports natural gas distribution companies. These utilities and their corresponding financial data are shown on Schedules PMA-4 and PMA-5. respectively, attached to the Direct Testimony of Ms. Ahern. As of the year ending 2008, the average common equity ratio of Ms. Ahern's six AUS Utility Reports water companies was 47.85%, with a standard deviation of 4.27%, representing a range of 43.57% - 52.12%. As of the year ending 2008, the average common equity ratio of Ms. Ahern's eight AUS Utility Reports natural

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

To further check the reasonableness of my proposed capital structure, I also considered projected equity ratios from Value Line Investment Survey<sup>1</sup>. Value Line estimates that the composite common equity ratio for the water utility industry will be 46.0% in 2009, 47.5% in 2010, and 50.0% over the 2012-2014 period. Thus, MAWC's pro forma April 30, 2010 equity ratio is also relatively close to Value Line's projected common equity ratios for the water utility industry.

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

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

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

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

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

#### 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 Schedule MQC-1, pages 1 and 4.

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A.

# Q. PLEASE EXPLAIN THE PRO FORMA ADJUSTMENTS YOU MADE TO MAWC'S COMMON EQUITY BALANCE.

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

# Q. WHAT OTHER ADJUSTMENT DID YOU MAKE TO MAWC'S COMMON EQUITY BALANCE?

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

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

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

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#### Q. WHAT IS MAWC'S OVERALL WEIGHTED AVERAGE COST OF CAPITAL?

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

- 2 Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?
- 3. A. Yes, it does.

Schedule MQC-1 Page 1 of 5

### 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

Class of Capital	<u>Amount</u>	Percent of Total	Cost <u>Rate</u>	Weighted Cost of <u>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	389,850,573	48.94%	11.60%	5.68%
Total Capitalization	\$ 796,563,986	100.00%		<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 Debt issue		issue	Maturity	Principal	Amount Outstanding	Pro Forma	Pro Forma Amount Outstanding	Unamortized Issuance Expense	Pro Forma	Monthly Amortization Debt	Unamortized teausnos Expense	Carrying Value	Annual Amortization Debt	Annual Interest	Total
<u>Subladger</u>	Rate	Date	Date	<u>Amount</u>	<b>60</b> 6/30709	Adjustments	<u> </u>	<u>52 6/30/09</u>	<u>Adjustments</u>	Expense	<u>@ 4/30/10</u>	<u>Ø 4/30/10</u>	<u>Expense</u>	Expense	Cost
BD170005	7.790%	06/01/97	06/01/27	000,000,82	\$8,000,000		\$8,000,000	\$68,078		\$317	\$84,912	\$7,935,088	\$3,800	\$623,200	\$827,000
BD170008	8.580%	04/21/95	03/01/25	3,000,000	3,000,000		3.000,000	40,649		216	38,487	2,961,513	2,595	257,400	259,995
BD170007	7.140%	03/15/84	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
8D170008	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	209,996	4,265,004	11,831	223,750	235,581
BD170010	5.850%	07/26/96	07/01/26	6,000,000				253,104		1,241	240,697	(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	980, 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	30,051	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		1,483	229,863	69,770,337	17,554	4,585,000	4,602,554
BØ170020	8.250%	02/04/09	12/01/38	25,000,000	25,000,000		25,000,000	981,127		2,779	953,333	24,048,667	33,353	2,062,500	2,095,853
BO350005 - P					20,222,0			-		-,,,,		2 ,,0 ,0,00		2,002,000	_,
87350006 - Q								581,875		2,375	558,125	(558,125)	28,500	-	28,500
80350007 - R					-		-	767,002		5,518	711,818	(711,818)	66,221	-	88,221
BD350008 - S							_	818,873		5,423	784,641	(764,641)	65,079		65.079
BØ350009 - 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
8D350011 - 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	1,297,868
BD350014 - Y	5.000%	03/01/99	03/01/29	40,000,000	39,570,000		39,570,000	1,082,363		4,586	1,036,500	38,533,500	55,035	1,978,500	2,033,535
DD335014 - 1	U. 90,0076	0301149		40,000,000	39,370,000		35,310,000	1,082,000		4,560	1,030,500	20,333,300	35,035	1,570,500	2,003,333
				\$469,330,000	\$410,410,000	\$0	\$410,410,000	\$12,180,824	\$0	\$53,208	\$11,648,748	\$398,761,252	\$638,491	\$24,742,490	\$25,380,981

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

8.38%

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

Schedule MQC-1 Page 3 of 5

#### 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>	ST Debt Balance	LT Debt	Common Equity Infusion
		10000	Eddit Middle
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 <b>/2009</b>	(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)	,	\$ 15,000,000
4/30/2010	5,374,481		
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

Type, Par Value	Dividend <u>Rate</u>	Date <u>Issued</u>	Amount Outstanding @ 6/30/09	<u>Adjustments</u>	Amount Outstanding @ 4/30/10	Unamortized Issuance Expense @ 6/30/09	Adjustments	Unamortized Issuance Expense @ 4/30/10	Carrying Value <u>@ 4/30/10</u>	Annual Amortization	Annual Dividends	Total Annual <u>Cost</u>
Cumulative Preferred	5.875%	10/11/66	120,000	(12,000)	108,000	<u> </u>			108,000		6,345	6,345
Stock \$100 par		<u>-</u>	120,000	(12,000)	108,000				108,000		6,345	6,345
				Cost of prefer	ed stock = [Tot	al Annual Cos	t/Carrying Valu	ie]				5.88%
Preference Stock \$100 par	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
,			2,500,000		2,500,000	31,509	(1,189)	30,320	2,469,680	1,427	229,500	230,927
			,	Cost of prefere	ince stock = [T	otal Annual Co	ost/Carrying Va	due]				9.35%
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 Pre	ferred Stoc	k = [Total <i>#</i>	Annual Cost/Carry	ring Value]								9.20%

Schedule MQC-1 Page 5 of 5

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

	Balance		Adjustments		Balance
	@ 6/30/09	Equity Infusion	Net Income	Dividends Paid	@ 4/30/10
Common Stock Paid-in Capital	95,994,075 140,910,760	15,000,000	-	-	95,994,075 155,910,760
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	<del>-</del> .	15,064,993		
Less: Common Stock Dividends			10,001,000		
ABP Jul 09 - Apr 10	15,096,337			//= 000 00=\ ·	
•		•	•	(15,096,337)	•
Total Pro Forma RE Adjustment				(31,344)	