

Exhibit No.:  
Issues: Pensions  
Witness: William J. Williamson  
Exhibit Type: Rebuttal Testimony  
Sponsoring Party: Missouri-American Water Company

Case No.: WR-2003-0500  
Date Filed: November 10, 2003

**MISSOURI PUBLIC SERVICE COMMISSION**

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

**REBUTTAL TESTIMONY  
OF  
WILLIAM J. WILLIAMSON**

**FILED<sup>3</sup>**

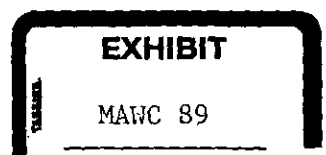
**JAN 23 2004**

**Missouri Public  
Service Commission**

**ON BEHALF OF  
MISSOURI-AMERICAN WATER COMPANY**

**JEFFERSON CITY, MISSOURI**

**Exhibit No.** 89  
**Date** 12-16-03 **Case No.** WR-2003-0500  
**Reporter** SLKM



**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 SERVICE**

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

**AFFIDAVIT OF WILLIAM J. WILLIAMSON**

William J. Williamson, being first duly sworn, deposes and says that he is the witness who sponsors the accompanying rebuttal testimony entitled "Rebuttal Testimony of William J. Williamson"; that said rebuttal testimony and schedule(s) were prepared by him and/or under his direction and supervision; that if inquiries were made as to the facts in said rebuttal testimony, he would respond as therein set forth; and that the aforesaid rebuttal testimony and schedule(s) are true and correct to the best of his knowledge.

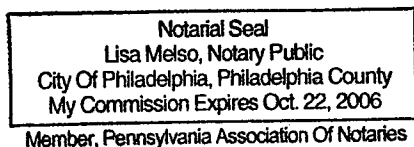
  
William J. Williamson

State of Pennsylvania  
County of Philadelphia

SUBSCRIBED and sworn to  
before me this 7<sup>th</sup> day of November 2003.

  
Notary Public

My commission expires:



REBUTTAL TESTIMONY  
WILLIAM J. WILLIAMSON  
MISSOURI-AMERICAN WATER COMPANY  
CASE NO. WR-2003-0500

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### **WITNESS INTRODUCTION**

1 **Q: WHAT IS YOUR NAME AND BY WHOM ARE YOU EMPLOYED AND IN WHAT**  
2 **CAPACITY?**

3

4 A: My name is William J. Williamson. I am a Principal in the firm of Towers Perrin. My  
5 business address is 1500 Market Street, Philadelphia, PA 19102.

6

7 **Q: PLEASE DESCRIBE YOUR EDUCATION, BACKGROUND AND**  
8 **QUALIFICATIONS?**

9

10 A: I have attached to my rebuttal testimony a schedule, which is marked as Schedule WJW-1.  
11 This schedule details my education, background and qualifications in the area of actuarial  
12 analysis related to pensions.

13

14

### **PURPOSE AND SCOPE**

15

16 **Q: WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY ON THIS ISSUE?**

17

18 A: Missouri-American Water Company has requested Towers Perrin to provide rebuttal testimony  
19 in this proceeding. The Company has asked me to address two areas related to pensions. The  
20 first area is an explanation of the difference between the FAS 87 rules for developing pension  
21 expense and the ERISA rules for developing the minimum required cash contribution to  
22 pension plans. The second area is an explanation of the increase in American Water's  
23 minimum contribution under ERISA over the next five years.

24

25 **Q: COULD YOU PROVIDE AN OVERVIEW OF FAS 87?**

26

27 A: FAS 87 is the accounting standard (officially, Financial Accounting Standards Board  
28 Statement No. 87) which prescribes the methodology for developing the annual accounting

1 cost for organizations that prepare their financial statements in accordance with U.S. generally  
2 accepted accounting principles. In general terms, the annual accounting cost under FAS 87  
3 can be viewed as the sum of two items: the value of pension benefits deemed to be earned in  
4 the current year, plus a portion of the unfunded past service obligation.

5  
6 **Q: COULD YOU PROVIDE AN OVERVIEW OF THE ERISA RULES FOR**  
7 **DEVELOPING THE MINIMUM REQUIRED CASH CONTRIBUTION TO A**  
8 **PENSION PLAN?**

9  
10 **A:** ERISA is the Employee Retirement Income Security Act. This law was originally signed in  
11 1974 and has been modified a number of times since then. Under ERISA, the minimum  
12 required cash contribution to a pension plan is essentially the greater of two amounts. One  
13 amount is based on the pension plan's Actuarial Accrued Liability (ERISA AAL approach),  
14 and the other is based on the pension plan's Current Liability (ERISA CL approach). Both  
15 amounts can be viewed as the sum of two items: the value of pension benefits deemed to be  
16 earned in the current year, plus a portion of the unfunded past service obligation. The  
17 difference between the two amounts is that they are based on different approaches to  
18 measuring the past service obligation.

19  
20 **Q: ARE THERE ANY KEY COMMENTS THAT YOU WANT TO SHARE ABOUT THE**  
21 **DIFFERENCES BETWEEN THE ERISA AAL APPROACH AND THE ERISA CL**  
22 **APPROACH?**

23  
24 **A:** Yes. In simplified terms, the required contribution under the ERISA AAL approach is \$0 if  
25 the plan's assets are 100% or more of the plan's Actuarial Accrued Liability. In simplified  
26 terms, the required contribution under the ERISA CL approach is \$0 if the plan's assets are  
27 90% or more of the plan's Current Liability.

28  
29 **Q: WHAT ARE THE INPUTS THAT ARE USED TO DEVELOP THE FAS 87 COST AND**  
30 **THE ERISA MINIMUM REQUIRED CONTRIBUTION?**

1 A: For both the FAS 87 cost and ERISA contribution, there are four key inputs: the provisions of  
2 the pension plan, data for the participants in the pension plan, assets of the pension plan, and  
3 actuarial assumptions and methods.  
4

5 **Q: ARE THE SAME INPUTS USED TO DEVELOP THE FAS 87 COST AND THE ERISA**  
6 **MINIMUM CONTRIBUTION?**  
7

8 A: For American Water's pension plan, the participant data, the plan provisions and some of the  
9 actuarial assumptions are the same. There are some differences in the plan assets and some of  
10 the actuarial assumptions and methods. However, the key point is this. In the long-term (i.e.,  
11 to the point in time at which the plan is shut down and all obligations are paid), the cumulative  
12 FAS 87 costs and the cumulative minimum required contributions would be the same. This  
13 occurs because the long-term cost of the plan is the sum of all benefits paid less the sum of all  
14 investment return on plan assets and plus the sum of all administrative expenses paid with plan  
15 assets. In summary, the FAS 87 cost and the minimum required contribution will differ from  
16 year to year, but will not differ over the long-term.  
17  
18  
19

20 **Q: COULD YOU EXPLAIN THE MAJOR DIFFERENCES IN THE PLAN ASSETS AND**  
21 **THE ACTUARIAL ASSUMPTIONS AND METHODS THAT DIFFER?**  
22

23 A: The attached table, Schedule WJW-2, summarizes the major differences in plan assets as well  
24 as actuarial assumptions and methods.  
25

26 **Q: IN LIGHT OF THE INFORMATION IN THE ATTACHED SCHEDULE WJW-2,**  
27 **WHY DOES THE FAS 87 COST DIFFER FROM THE MINIMUM REQUIRED**  
28 **CONTRIBUTION UNDER ERISA?**  
29

30 A: For American Water, the reasons are the differences in the discount rates and the asset  
31 smoothing. As shown in Schedule WJW-2, the discount rate for FAS 87 is based on corporate

bond yields while the discount rate for the ERISA contribution is based on the long term investment return under the ERISA AAL approach and the 30-year Treasury bond yield under the ERISA CL approach. Also, as shown in the table, assets are not smoothed for FAS 87 purposes for American Water but assets are smoothed for ERISA purposes for American Water.

**Q: WHY DOES AMERICAN WATER EXPECT THE MINIMUM REQUIRED CASH CONTRIBUTION UNDER ERISA TO INCREASE SO DRAMATICALLY FROM 2003 TO 2004?**

**A:** The main reason is the discount rate that is used to determine the Current Liability under ERISA. As shown in Schedule WJW-2, the maximum interest rate for the ERISA CL approach is 120% of the weighted average of the 30-year Treasury bonds in 2002 and 2003, but is only 105% of the weighted average for 2004 and beyond. We are assuming that American Water will continue to use the highest interest rate allowed under ERISA, and we assume that 30-year Treasury bonds will remain at 4.95%, which is the level in March 2003. Thus, we are assuming that the weighted average for use in the American Water pension plan will be the amounts shown in the table below.

For the Plan Year beginning on July 1 of:	The assumed maximum interest rate to be used in calculating the Current Liability is:
2002	6.80%
2003	6.45%
2004	5.39%
2005	5.25%
2006	5.20%
2007	5.20%

**Q: HOW DO THE INTEREST RATES IN THE ABOVE TABLE CAUSE THE PROJECTED MINIMUM CONTRIBUTIONS TO INCREASE DRAMATICALLY?**

A: The interest rates are used as discount rates. That is, they are used to calculate the Current Liability, which is one measure of the present value of future pension benefits that are expected to be paid under the pension plan. If the discount rate decreases, the present value increases. As the table shows, the discount rate is expected to decrease dramatically from 2002 to 2004. This results in the following chain of events:

- a significant increase in the Current Liability,
- a significant decrease in the pension plan's funded position (because the Current Liability increases), and
- a significant increase in the minimum required contribution under the ERISA CL approach.

**Q: COULD YOU BE MORE SPECIFIC ABOUT THE PENSION PLAN'S FUNDED POSITION AND THE MINIMUM REQUIRED CONTRIBUTION UNDER THE ERISA CL APPROACH?**

A: Yes. See the table below. As you can see, the funded percentage under the ERISA CL approach is at least 90% for 2002 and 2003. Thus, there is no required contribution under the ERISA CL approach for these two years. However, the funded percentage falls below 80% for 2004 and remains below 90% through 2007, resulting in a required contribution under the ERISA CL approach for 2004 through 2007.

For the Plan Year beginning July 1 of:	The plan's funded percentage under the ERISA CL approach	The minimum required cash contribution under the ERISA CL approach (\$ million)
2002	109%	\$0.0
2003	90%	0.0
2004	72%	76.6
2005	76%	73.8
2006	82%	67.1
2007	89%	25.6

**Q: DO ANY OTHER FACTORS CONTRIBUTE TO THE LARGE INCREASE IN THE CONTRIBUTION FROM 2003 TO 2004?**



1 A: Yes, the asset smoothing and the amortization of the unfunded liability.

2

3 • Concerning the asset smoothing, we are gradually reflecting past investment performance of  
4 plan assets. About 60% of plan assets are invested in the stock market. Thus, the plan assets  
5 (like the assets of all major pension plans with which I am familiar) had low or negative  
6 investment returns in 2000, 2001, and 2002. When we smooth the asset returns, we gradually  
7 reflect these low investment returns over successive five-year periods. Thus, the low  
8 investment returns of 2000, 2001 and 2002 are gradually being reflected through 2007.

9 • Concerning the amortization of the unfunded liability, ERISA requires relatively fast  
10 amortization of the unfunded Current Liability if the funded percentage falls below 80%. For  
11 example, since the American Water plan goes from a CL funded percentage of 90% in 2003 to  
12 72% in 2004, the required amortization under the ERISA CL approach goes from \$0 in 2003  
13 (because no contribution, let alone no amortization, is required under the ERISA CL approach  
14 when the Current Liability funded percentage is at least 90%), to 25% of the unfunded Current  
15 Liability in 2004 (because the CL funded percentage drops to 72%).

16

17 **Q: CAN YOU COMMENT ON THE VOLATILITY OF THE LEVEL OF THE FAS 87**  
18 **AND ERISA PENSION COSTS?**

19

20 A: We are now seeing significant increases in the ERISA contributions. I have discussed  
21 previously in my rebuttal the factors that impact the level of the minimum required  
22 contributions under ERISA. We are seeing the minimum required contribution go from zero  
23 for the plan year 2001 a few years ago to an excess of \$75 million dollars for the plan year  
24 2004 and then reduce down to \$25.6 in plan year 2007. The FAS 87 costs over the next few  
25 years are projected to be significantly less volatile. Specifically, they will peak in 2004 at  
26 \$44.4 million and then go down to \$28.9 million in 2008.

27

28 **Q: DOES THIS CONCLUDE YOUR REBUTTAL TESTIMONY?**

29

30 A: Yes, it does.

31

**Missouri American Water Company  
Case No. WR-2003-0500**

**Background and Qualifications of William J. Williamson**

My name is William J. Williamson. I am a Principal at Towers Perrin's Philadelphia Consulting Office.

I graduated from Lehigh University in 1976 with a Bachelor of Science Degree in Industrial Engineering and in 1978 received an M.B.A. Degree from the Wharton School of the University of Pennsylvania. I have been an Enrolled Actuary under ERISA since 1983 and a Fellow of the Society of Actuaries since 1987. I am a Member of the American Academy of Actuaries.

Between 1978 and 1983 I was employed by Alexander & Alexander as a consultant in the employee benefits division.

I began my career with Towers Perrin in 1983 specializing in actuarial consulting services and employee benefits as an Associate Consultant. I was promoted to Consultant in 1985 and to Principal in 1990.

I have expertise in actuarial and pension consulting, as well as the design, financing, administration, and communications of employee benefit plans. In particular, I have expertise in the development of the accounting costs for U.S. pension plans and in the development of minimum required cash contributions for U.S. pension plans. I have had primary responsibility for the actuarial work for American Water since 2000.

I have written articles for *Pension World* and the *Eastern Pennsylvania Business Journal*, and have been a speaker at the annual Enrolled Actuaries meeting.

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	Accounting Cost Under FAS 87	Minimum Required Contribution Under ERISA	
		Actuarial Accrued Liability Approach	Current Liability Approach
Effective date of plan assets	January 1 of each plan year	July 1 of each plan year	July 1 of each plan year
Does American Water smooth assets for this purpose?	No	Yes, investment returns are smoothed over five years	Yes, investment returns are smoothed over five years
Discount Rate	<p>FAS 87 specifies the use of yields on high-quality corporate bonds; the appropriateness of the discount rate must be checked every measurement date; for American Water, the measurement date is every December 31.</p> <p>As of December 31, 2002 the discount rate used to determine the 2003 fiscal year pension cost was selected to be 6.75% based on Moody's Aa bond yield of 6.52% as of December 31, 2002. The assumed discount rate for fiscal years 2004-2008 is 6.0% based on Moody's Aa bond yield of 5.92% as of May 9, 2003.</p>	<p>ERISA specifies the use of an interest rate which is the actuary's "best estimate of anticipated experience under the plan". This rate reflects the plan sponsor's long-term assumed investment return on plan assets.</p> <p>For American Water, the discount rate is 9.0% and is assumed to remain at 9.0%.</p>	<p>ERISA specifies the use of an interest rate that lies within a specified range of the 48-month weighted average of U.S. Treasury bond yields.</p> <ul style="list-style-type: none"> <li>■ For 2002 and 2003, the range is 90% to 120% of the weighted average.</li> <li>■ For 2004 and beyond, the range is 90% to 105% of the weighted average.</li> </ul> <p>For the plan year beginning July 1, 2002, the interest rate is 6.8%. The assumed rate for 2003 through 2007 is 6.45%, 5.39%, 5.25% and 5.20%, thereafter, respectively.</p>

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	Accounting Cost Under FAS 87	Minimum Required Contribution Under ERISA	
		Actuarial Accrued Liability	Current Liability
Investment return	FAS 87 specifies the use of the plan sponsor's long-term assumed investment return on plan assets. For American Water for fiscal 2003, the expected return on asset rate is 8.75%. This rate is assumed to remain at 8.75%.	ERISA specifies the use of an interest rate which is the actuary's "best estimate of anticipated experience under the plan". This rate reflects the long-term assumed investment return on plan assets. For American Water, the discount rate is 9.0% and is assumed to remain at 9.0%.	ERISA specifies the use of an interest rate that lies within a specified range of the 48-month weighted average of U.S. Treasury bond yields. ■ For 2002 and 2003, the range is 90% to 120% of the weighted average ■ For 2004 and beyond, the range is 90% to 105% of the weighted average. For the plan year beginning July 1, 2002, the interest rate is 6.8% The assumed rate for 2003 through 2007 is 6.45%, 5.39%, 5.25% and 5.20% thereafter, respectively
Compensation Increases	FAS 87 specifies the use of the plan sponsor's long-term assumed annual pay increases for plan participants. For American Water for all years the compensation increase rate is assumed to be 4.75%.	ERISA specifies the use of assumed pay increases which are the actuary's "best estimate of anticipated experience under the plan." For American Water for all years the compensation increase rate is assumed to be 5.00%.	As required under ERISA, no future pay increases are reflected in the current liability calculation.

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	Accounting Cost Under FAS 87	Minimum Required Contribution Under ERISA	
		Actuarial Accrued Liability	Current Liability
Amortization periods for the portions of the unfunded past service obligations	The average number of future years of service for active employees in the plan	<p>The amortization period varies depending upon the reason for the increase or decrease in the unfunded obligation.</p> <ul style="list-style-type: none"> <li>■ For increases/decreases due to changes in plan provisions: 30 years</li> <li>■ For increases/decreases due to changes in actuarial assumptions: 10 years</li> <li>■ For increases/decreases due to actual experience differing from the actuarial assumption: 5 years</li> </ul>	<p>The amortization period depends on the funded position of the plan.</p> <ul style="list-style-type: none"> <li>■ Example 1: If the plan is 85% funded, then 20% of the unfunded obligation is amortized.</li> <li>■ Example 2: If the plan is 70% funded, then 26% of the unfunded obligation is amortized.</li> <li>■ Example 3: If the plan is 60% funded, then 30% of the unfunded obligation is amortized.</li> </ul>