BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In Re: Application for increase in water and	)	
wastewater rates in Alachua, Brevard, DeSoto,	)	DOCKET NO. 080121-WS
Highlands, Lake, Lee, Marion, Orange,	)	
Palm Beach, Pasco, Polk, Putnam,	)	Dated: November 19, 2008
Seminole, Sumter, Volusia, and Washington	)	
Counties by Aqua Utilities Florida, Inc.	)	
	)	

REBUTTAL TESTIMONY

OF

PAUL R. MOUL

on behalf of

Aqua Utilities Florida, Inc.

1		**INTRODUCTION AND SCOPE OF TESTIMONY**
2	**Q.**	**Please state your name, business address and occupation.**
3	A.	My name is Paul Ronald Moul. My business address is 251 Hopkins Road,
4		Haddonfield, NJ 08033-3062. I am Managing Consultant at the firm P.
5		Moul & Associates, an independent financial and regulatory consulting firm.
6	**Q.**	**On whose behalf are you submitting rebuttal testimony in this**
7		**proceeding?**
8	A.	Aqua Utilities Florida, Inc. ("AUF" or the "Company").
9	**Q.**	**What is the purpose of your testimony?**
10	A.	The purpose of my testimony is to address, comment on, and rebut the
11		testimony presented by Mr. James A. Rothschild, a witness appearing on
12		behalf of the Office of Public Counsel ("OPC").
13	**Q.**	**Are you sponsoring any exhibits to your rebuttal testimony?**
14	A.	Yes. My educational background, business experience and qualifications
15		are attached as Exhibit PRM-1. I am also sponsoring Exhibit PRM-2
16		regarding Florida's leverage formula law.
17		**REBUTTAL SUMMARY**
18	**Q.**	**Please summarize those issues raised in Mr. Rothschild's testimony that**
19		**you will address.**
20	A.	The central areas of dispute in this case involve: (i) the appropriate capital
21		structure ratios that should be used to calculate the overall rate of return, (ii)

1		whether the Company's cost of equity should be set using the leverage
2		formula that is prescribed annually by the Commission for water and
3		wastewater utilities, (iii) whether the cost of equity proposed by Mr.
4		Rothschild, if adopted, will be adequate to satisfy investor expectations, (iv)
5		the determination of a reasonable Discounted Cash Flow ("DCF") cost rate,
6		and (v) the proper application of the Capital Asset Pricing Model ("CAPM")
7		as a measure of the Company's cost of equity.

CAPITAL STRUCTURE

9	Q.	**Please outline the deficiencies in Mr. Rothschild's proposal related to**
10		**capital structure?**
11	A.	Mr. Rothschild recommends that the Company's cost of capital be based on
12		the capital structure of the Company's parent – Aqua America, Inc. ("AAI").
13		Mr. Anzaldo points out in his rebuttal testimony that in making this
14		recommendation, Mr. Rothschild ignores the facts that the Company is a
15		separate wholly-owned subsidiary of AAI, operates exclusively in Florida,
16		and has its own capital structure that reflects the unique risks that the
17		Company faces in Florida.
18	Q.	**Are there other reasons why it would inappropriate to base the**
19		**Company's cost of capital on the capital structure of AAI?**
20	A.	Yes. As explained in more detail in Mr. Anzaldo's testimony, the capital
21		structure of AAI includes capital from restricted debt financings which is
22		not available for use in Florida. In addition, AAI's capital structure includes
23		short-term debt that is not part of the Company's capital structure and thus
24		should not be imputed to the Company. If the capital structure of AAI is to
25		be used in this proceeding, AAI's short-term debt and restricted debt

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1		financings must be eliminated before imputing the parent's capital structure
2		to the Company.
3		**THE COMMISSION'S LEVERAGE FORMULA**
4	Q.	**Mr. Moul, were you engaged to participate in this case when AUF filed**
5		**its direct case in May 2008?**
6	A.	No. It is my understanding that AUF did not require the services of a cost of
7		capital expert and the Company made no provision in its rate case expense
8		for my services. When it presented its direct case, AUF utilized the leverage
9		formula to establish the cost of equity and Mr. Steven Anzaldo filed
10		testimony in support of that proposal. After the OPC ignored the leverage
11		formula and presented alternative cost of equity testimony, it became
12		necessary for AUF to respond and engage my services.
13	Q.	**Has Mr. Rothschild adequately explained why the Company's rate of**
14		**return on common equity should not be based on the Commission's**
15		**leverage formula?**
16	A.	No. In fact, he has not even addressed the issue. It is my understanding that
17		the Commission has encouraged water and wastewater utilities in Florida to
18		take advantage of the leverage formula in rate cases based upon legislation
19		enacted for this purpose. The leverage formula provides a streamlined
20		approach to an often contentious issue in rate cases, which can consume
21		considered resources for the Commission and its regulated utilities. Indeed,
22		this approach provides administrative efficiency and helps to minimize the
23		cost of rate cases to both the utility and its customers. Unfortunately, the
24		OPC has created a rate of return issue that the Company is forced to deal
25		with in this case. The submission of Mr. Rothschild's testimony in this case

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1   subverts the intention of the leverage formula, which has been used

2   successfully by other water and wastewater cases in Florida to reduce rate

3   case expense which is ultimately borne by the ratepayers.

4   Q.   **Has the Commission and its staff recognized that the leverage formula**

5   **statute was designed to provide cost savings to ratepayers?**

6   A.   Yes. As shown in Exhibit PRM-2, the Commission has long recognized that

7   presenting cost of equity testimony in a rate case can be extremely

8   expensive; and, that the leverage formula statute allows a utility to mitigate

9   significant rate case expense by employing the cost of equity on a leverage

10   scale in lieu of presenting its own cost of equity witness.

11   Q.   **Please outline the deficiencies in Mr. Rothschild's proposals related to**

12   **return on equity?**

13   A.   Mr. Rothschild recommends a 9.47% rate of return on common equity based

14   upon a flawed discounted cash flow approach for determining the cost of

15   common equity. The ROE proposed by Mr. Rothschild is entirely

16   inadequate to reflect the current risk of common stocks. Rates of return

17   established in other ratesetting proceedings show that the return proposed by

18   Mr. Rothschild is much too low. For example, Aqua Pennsylvania, an

19   affiliate of AUF, was recently granted an 11% equity return in its recent rate

20   case (Order entered July 31, 2008 in Docket No. R-00072711). The

21   weighted average of other major authorized returns for subsidiaries of Aqua

22   America is 10.86%. The table presented below shows those returns.

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1　　Table 1

| AQUA AMERICA INC | | | |
| Authorized Equity Returns Weighted by State | | | |
	Net Property, Plant and Equipment	Percent to Total	State Authorized Return on Equity
Pennsylvania	$ 1,555,155	59.6%	11.00%
North Carolina	214,024	8.2%	10.40%
Illinois	210,270	8.1%	10.75%
Ohio	202,798	7.8%	10.48%
Texas	172,556	6.6%	12.00%
New Jersey	137,510	5.3%	10.00%
Indiana	114,994	4.4%	10.00%
Total or Weighted Average	$ 2,607,307	100.0%	10.86%

Excluding New York, Virginia, Maine and Florida for which no recent data is available. These jurisdictions, along with other states and eliminations, represent approximately 7% of total net property, plant and equipment

2　　　　If the Commission were to adopt the proposals of Mr. Rothschild in this

3　　case, it would provide a disincentive for further investment by Aqua

4　　America in its Florida operations, because higher returns could be obtained

5.　　in other jurisdictions.

6　　**Q.　Are there other factors that lead you to believe that Mr. Rothschild has**

7　　**understated the Company's cost of equity?**

8　　A.　Apart from the <u>Value Line</u> forecasts which I will discuss later in my

9　　testimony, it is apparent that Mr. Rothschild has failed to adequately take

10　　into account the tremendous volatility in the capital markets that has resulted

11　　from the current financial crisis. Volatility in the financial markets can be

12　　traced initially to turmoil in the credit markets that began with the collapse

13　　of the sub-prime mortgage market, which prompted central banks

throughout the world to inject enormous amounts of reserves into the banking system to increase liquidity in reaction to the credit crunch. Valuation uncertainties for asset-backed securities linked to sub-prime mortgages caused liquidity concerns for many hedge funds, investment banks, and financial institutions, including the near collapse of a major investment bank (i.e., The Bear Stearns Companies). During this period, many critical events occurred including the third-largest banking failure in U.S. history after a "run on the bank" by depositors of IndyMac. Subsequently, the Federal Housing Finance Agency placed the government-sponsored enterprises ("GSE") -- Federal National Mortgage Association (Fannie Mae) and Freddie Mac into conservatorship on September 7, 2008. Thereafter, in the largest bankruptcy in history, Lehman Brothers Holding, Inc. filed a bankruptcy petition on September 15, 2008. Then, JPMorgan Chase acquired the banking operations of Washington Mutual, which was the largest U.S. savings bank (its holding company subsequently filed for bankruptcy protection); Bank of America rescued Merrill Lynch & Co., Inc. with assistance of the Federal government; and the U.S. Treasury effectively nationalized through acquisition of 79.9% of the equity in American International Group, which was the world's largest insurance company. Afterward, on October 3, 2008, Congress passed and the President signed the Emergency Economic Stabilization Act of 2008, which among other provisions provides the mechanisms to deploy up to $700 billion through the Troubled Asset Relief Program ("TARP") to address the urgent needs of the credit crisis. Then, the Federal Reserve Board instituted its Commercial Paper Funding Facility ("CPFF"), which was authorized on October 7, 2008,

| 1		and it participated in coordinated efforts by major central banks to support
2		financial stability and to maintain flows of credit in the banking system.
3		These programs included a $75 billion Term Auction Facility ("TAF"), a
4		future TAF auction totaling $150 billion, and an increase to $620 billion of
5		swap authorizations with central banks in Canada, England, Japan,
6		Denmark, the European Union, Norway, Australia, Sweden, and
7		Switzerland.
8	**Q.**	**Have these recent events which have destabilized the financial markets**
9		**increased the cost of capital for water and wastewater utilities like**
10		**AUF?**
11	A.	Yes. Higher capital costs for public utilities are revealed by the increased
12		volatility in the stock market, declining stock prices, and higher public
13		utility bond yields. I will describe each of these factors that point to a
14		higher cost of capital, including the cost of equity. Mr. Rothschild's
15		testimony does not reflect these higher capital cost rates.
16	**Q.**	**Is there an objective measure of volatility in the stock market that**
17		**reflects the increase in the cost of equity?**
18	A.	Yes. Volatility is a measure of the risk associated with common stocks. As
19		volatility in the stock market increases, the cost of equity also increases.
20		The Chicago Board Options Exchange ("CBOE") Volatility Index (i.e.,
21		"VIX") can be used to measure this risk. The VIX is based on real-time
22		prices of options on the S&P 500 Index, and is designed to reflect investors'
23		consensus view of future (30-day) expected stock market volatility.
24	**Q.**	**Can you present the VIX in an historical context?**
25	A.	Yes. Presented below is the distribution of the history of the VIX.

1 <u>Table 2</u>

Distribution of VIX Since 1990
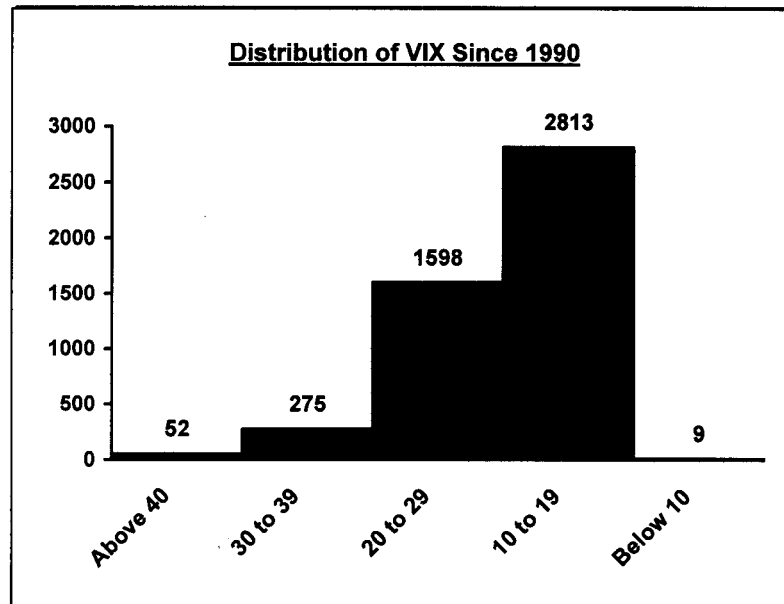
2 The histogram in Table 2 represents the VIX daily closing index sorted into

3 five groupings over the period from January 2, 1990 to October 31, 2008.

4 The higher the index values, the more volatility investors expect in the S&P

5 500. For 2008 through October 31, the VIX averaged 27.96, or above its

6 historic average of 19.37. Such volatility is not surprising given investor

7 concerns about financial market uncertainties and future economic growth.

8 **Q. Has Mr. Rothschild taken these current market conditions into**

9   **account?**

10 A. Not that I can see. Mr. Rothschild uses stock prices through August 31,

11   2008 in his analysis. As previously explained, current market conditions are

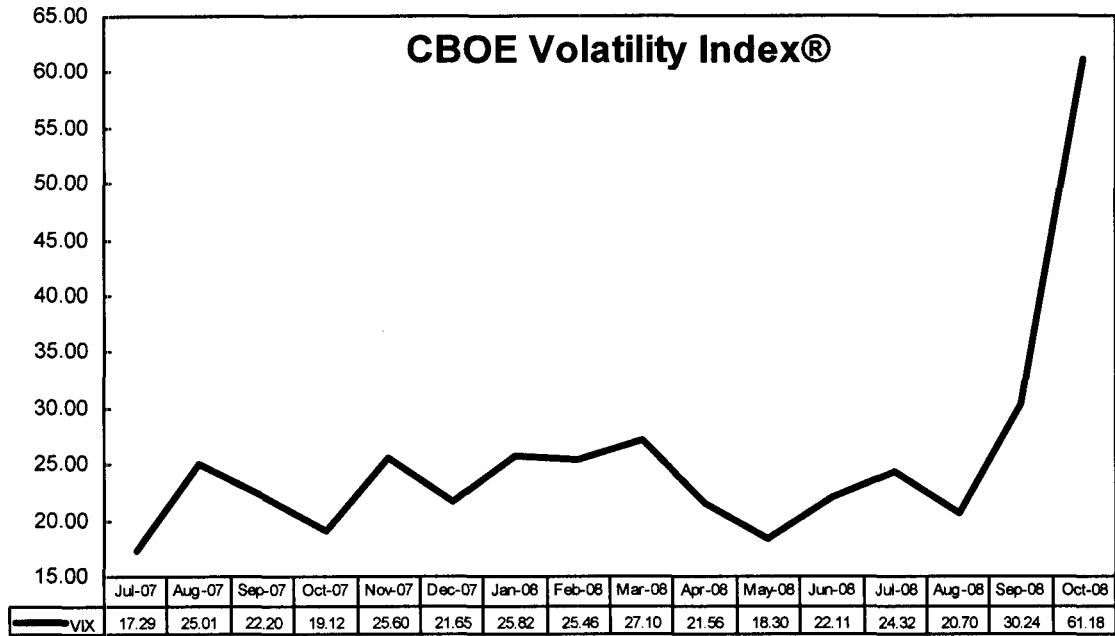12   substantially different as represented by increased stock market volatility.

13   This can be further demonstrated by recent performance of the VIX as

14   shown below.

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1   <u>Table 3</u>

CBOE Volatility Index®

	Jul-07	Aug-07	Sep-07	Oct-07	Nov-07	Dec-07	Jan-08	Feb-08	Mar-08	Apr-08	May-08	Jun-08	Jul-08	Aug-08	Sep-08	Oct-08
VIX	17.29	25.01	22.20	19.12	25.60	21.65	25.82	25.46	27.10	21.56	18.30	22.11	24.32	20.70	30.24	61.18

12   The graph indicates that the VIX has ballooned outside of its historical

13   range by moving well above 40 and peaking at 80 on October 27, 2008. The

14   volatility of the stock market is today significantly higher than in the recent

15   past. This high volatility increases risk, which brings with it higher capital

16   costs. Given the recent performance of the VIX, there is no support for Mr.

17   Rothschild's unduly low proposed equity return in this case.

18 Q. **You have identified a number of factors that cause Mr. Rothschild to**

19   **understate the Company's cost of equity. In your opinion, are there**

20   **other reasons that have led Mr. Rothschild to propose an unduly low**

21   **(i.e., single digit) return on equity?**

22 A. Yes. For a variety of technical reasons that I will cover later in my rebuttal

23   testimony, the rate of return testimony submitted by Mr. Rothschild

24   misapplies the models used to measure the cost of equity. In general, the

25   infirmities in his analyses include:

1 • A DCF growth rate that understates investor expected growth because

2 his growth rate has failed to reflect all of the factors important to

3 investors when developing their total return requirements.

4 • A failure to reflect flotation costs as part of the rate of return on

5 common equity.

6 • A CAPM approach that fails to adequately measure investor

7 requirements of the required returns for public utilities.

8 As such, the recommendation of Mr. Rothschild fails to meet the accepted

9 standards of a fair rate of return.

DISCOUNTED CASH FLOW

11 Q. **What form of the DCF model has been employed by Mr. Rothschild in**

12 **this case?**

13 A. Mr. Rothschild's methodology is based on the constant growth or "Gordon"

14 form of the DCF model. This form of the DCF is the simplified version of

15 the model that is also used by the Commission in its annual prescription of

16 the leverage formula for water and wastewater utilities.

17 Q. **Do you have any concerns regarding the DCF model?**

18 A. There is an element of circularity in the DCF model when applied in public

19 utility rate cases. This is because investors' expectations for the future

20 depend upon regulatory decisions. Therefore, the use of the DCF model in

21 rate cases ensures that regulators will continue to provide high growth

22 utilities with a return which sustains that performance. On the other hand,

23 the use of the DCF model for low growth companies perpetuates that

24 performance and hinders any improvement. This then will reinforce

25 investors' expectations that regulators will grant returns which guarantee

1   low growth. Due to this circularity, the DCF model may not fully reflect the

2   true risk of a utility because the model may not deal with the high risk traits

3   of a utility with low growth caused by poor accounting returns as revealed

4   by reported earnings per share. If the DCF approach cannot cope with

5   general capital market fundamentals, then either the assumptions underlying

6   the DCF method are incomplete or the approach is not being properly

7   implemented. For this reason, other models of the cost of equity should be

8   used along with DCF.

9   Q.   **Previously, you indicated that Mr. Rothschild's market evidence ended**

10   **with stock prices on August 31, 2008. Do his stock prices fully reflect**

11   **the current status of the equity market?**

12 A.   No. I described previously the significant dislocations that have occurred in

13   the capital markets -- both debt and equity markets. By ending his analysis

14   in August 2008, he does not reflect current capital cost conditions. As

15   shown below, the updated dividend yields for his gas companies of

16   reference are:

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1   Table 4

	Spot Dividend Yield			Average Dividend Yield		
	At 10/31/08	At 08/31/08	Δ	Avg. for Year 10/08	Avg. for Year 08/08	Δ
AGL Resources	5.53%	5.08%	0.44%	5.31%	4.58%	0.73%
ATMOS Energy Corp.	5.36%	4.72%	0.64%	5.31%	4.76%	0.55%
Equitable Res	2.54%	1.76%	0.77%	1.82%	1.43%	0.39%
Laclede Group	2.87%	3.34%	-0.47%	3.47%	3.82%	-0.34%
Nicor, Inc.	4.03%	4.05%	-0.03%	4.41%	4.70%	-0.29%
N. W. National Gas	3.11%	3.08%	0.03%	3.44%	3.26%	0.18%
Piedmont National Gas	3.16%	3.60%	-0.45%	3.73%	3.91%	-0.18%
South Jersey Inds.	3.17%	3.03%	0.14%	3.35%	3.03%	0.31%
Southwest Gas	3.45%	2.97%	0.48%	3.29%	3.16%	0.12%
WGL Holdings	4.41%	4.47%	-0.06%	4.84%	4.37%	0.48%
Average	3.76%	3.61%	0.15%	3.90%	3.70%	0.19%
AQUA AMERICA INC.	3.00%	2.73%	0.27%	3.05%	2.53%	0.52%

2   With these updated prices, the dividend yields for Mr. Rothschild's gas

3   group increased by 0.15% using spot prices and 0.19% using average prices.

4   The dividend yield increases for Aqua America have been 0.27% and

5   0.52%, respectively. This shows that Mr. Rothschild has understated his

6   DCF analysis in this case. I will subsequently incorporate these updated

7   dividend yields into Mr. Rothschild's DCF application.

8   Q.   **How does Mr. Rothschild arrive at a growth rate for purposes of his**

9   **DCF model?**

10   A.   Mr. Rothschild relies principally on a retention growth calculation. I believe

11   that there are serious limitations in this approach. Retention growth, along

12   with external financing growth, is one way of describing book value per

13   share growth. That is to say, book value changes from period to period by

14   earnings not paid out in dividends plus the accretion to existing stockholders

15   from the sale of new shares at above book value. Other factors also

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1		contribute to earnings growth, which are not accounted for by the retention
2		growth formula. Some of the factors which actually contribute to investors'
3		expectations of earnings growth and which should be considered in
4		assessing those expectations, are: (i) the earnings rate on existing equity,
5		(ii) the portion of earnings not paid out in dividends, (iii) sales of additional
6		common equity, (iv) reacquisition of common stock previously issued, (v)
7		changes in financial leverage, (vi) acquisitions of new business
8		opportunities, (vii) profitable liquidation of assets, and (viii) repositioning of
9		existing assets. In my view, book value per share growth, or its surrogate
10		retention growth, does not represent the proper financial variable to be
11		considered when selecting the DCF growth component. This is because
12		utility stocks do not typically trade at book value.
13	**Q.**	**Please illustrate the infirmities in Mr. Rothschild's DCF approach?**
14	A.	The major infirmity of the DCF method becomes apparent when viewing the
15		model in its retention growth rate form, which has been proposed by Mr.
16		Rothschild. Essentially, Mr. Rothschild merely adjusts his assumed return
17		on book common equity by the difference between the dividend yield on
18		book value and the dividend yield on market value. The table of figures
19		provided below shows how his DCF result (using year-end market prices)
20		can be expressed from the values shown on page 1 of JAR Schedule 3.
21		Each element is referenced to the associated line item shown on those pages
22		of Mr. Rothschild's schedules.
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1   Table 5

Gas Group	Year Ended	At 08/30/08
Return on Equity (Line 2c)	12.25%	12.25%
Dividend Yield on Book Value (Line 2b)	-8.86%	-8.14%
Dividend Yield on Market Value (Line 1)	3.70%	3.61%
Result	7.09%	7.72%
Additional factors (Lines 4 & 6)	2.19%	1.99%
Average DCF return	9.28%	9.71%

2   A key component of retention growth is his assumed return on book

3   common equity. In his testimony, Mr. Rothschild acknowledges that the

4   Gas Group will earn a 12.25% return on equity, but instead he proposes a

5   DCF return of just 9.71% using August 31, 2008 stock prices and 9.28% for

6   the year ended August 31, 2008 stock prices. The key to Mr. Rothschild's

7   analysis is the set of values that he presents in footnote [A] on page 1 of

8   JAR Schedule 3.

9   We know that the DCF model is intended to represent the investor expected

10   returns using variables that they will realize in the future. To conform with

11   the forward-looking nature of the DCF model, it is necessary to employ

12   forecasts of investor expected returns. Unfortunately, Mr. Rothschild has

13   mixed historic and forecast variables in his calculations, thus double

14   counting the historical data. This double counting arises because when

15   making their forecasts, analysts consider historical data, which they then

16   adjust for abnormalities that are not considered relevant for future growth,

1   or for trends in the historical data. As such, the analysts' growth rate

2   forecasts already reflect the historical performance of the utilities that they

3   follow. To avoid double-counting for historical information, the investor

4   expected equity returns would be 12.95% (12.25% + 13.00% + 13.08% +

5   13.45% = 51.78% ÷ 4) for the Gas Group. By employing investor expected

6   returns, which do not double-count historical returns, the results of Mr.

7   Rothschild's DCF model would be 10.41% (12.95% - 8.14% + 3.61% +

8   1.99%) for the Gas Group using August 31, 2008 stock prices. The results

9   using the year ended August 31, 2008 stock prices would be 9.98% (12.95%

10 - 8.86% + 3.70% + 2.19%) for the Gas Group. This data clearly show that

11 Mr. Rothschild's DCF results are unreasonably low.

12 **Q.   In your prior illustration which demonstrates that the DCF return is**

13 **highly sensitive to the assumed return on equity, you show that Mr.**

14 **Rothschild's retention growth form of the DCF is merely a**

15 **reformulated earnings/book ratio. Does Mr. Rothschild attempt to**

16 **rationalize this discrepancy?**

17 A.   Yes.   However, Mr. Rothschild's justification is inconsistent and

18 contradictory. For example, Mr. Rothschild suggests that the cost of equity

19 would not change because increases (or decreases) in the return on book

20 common equity will be offset by decreases (or increases) in the price of

21 stock as it affects the variables within his form of the DCF model. Mr.

22 Rothschild offers no proof of his assertion that higher (or lower) dividend

23 yields would be offset by lower (or higher) growth rates. Under this theory,

24 the cost of equity is always the same. Essentially, his highly structured DCF

25 analysis provides an overly simplified expression of the cost of equity that is

1 significantly dependent upon Mr. Rothschild's selection of the value that he

2 assigns to the Return on Equity of his companies. As clearly shown, his

3 selection in this regard is biased. Further, Mr. Rothschild never explains

4 how his gas group could earn a 12.25% return on book value if his DCF cost

5 rates are 9.28% or 9.71% which are used to set their allowed returns in rate

6 cases.

7 **Q.** **In order to implement the constant growth DCF model using the**

8 **retention growth rate formula, must one assume a constant dividend**

9 **payout ratio?**

10 A. Yes.

11 **Q.** **Is this assumption reasonable?**

12 A. No. With forecasts showing higher earnings growth rates than dividend

13 growth rates, the expectation is that dividend payout ratios will decline in

14 the future. Indeed, <u>Value Line</u> projects declining dividend payout ratios for

15 the natural gas companies, which means that earnings per share and price

16 appreciation (i.e., the capital gains yield, or growth component of the DCF)

17 can be expected to grow at a higher rate than dividends in the future. This is

18 shown below based on the <u>Value Line</u> forecasts for each of the natural gas

19 utility companies covered by <u>Value Line</u>.

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1   <u>Table 6</u>

Company	2008	2009	2011-13
AGL Resources, Inc.	62.0%	61.0%	59.0%
Atmos Energy Corporation	66.0%	63.0%	58.0%
Equitable Resources	43.0%	34.0%	28.0%
Laclede Group, Inc.	54.0%	61.0%	56.0%
Nicor Inc.	78.0%	72.0%	51.0%
Northwest Natural Gas Co.	58.0%	57.0%	56.0%
Piedmont Natural Gas Compan	66.0%	67.0%	60.0%
South Jersey Industries, Inc.	47.0%	46.0%	42.0%
Southwest Gas Corporation	44.0%	42.0%	41.0%
WGL Holdings, Inc.	58.0%	59.0%	61.0%
Average	57.6%	56.2%	51.2%

2   These forecasts as of September 12, 2008 show that dividend payout ratios

3   will not be constant, hence, a critical element of the retention growth

4   formulation of the DCF model is unrealistic.

5   **Q.   As to the DCF growth component, what financial variables should be**

6   **given greatest weight when assessing investor expectations?**

7   A.   The theory of DCF suggests that, absent a change in price-earnings multiple,

8   the value of a firm's equity (i.e., share price) will grow at the same rate as

9   earnings per share. Hence, earnings per share form the basis for investors'

10   capital gains yield, and earnings are the source of dividend payments to

11   investors. As shown above, a constant dividend payout ratio does not reflect

12   the reality of the equity markets, nor investor expectations. Therefore, to

13   properly reflect investor expectations within the limitations of the DCF

14   model, earnings per share growth, which is the basis for the capital gains

15   yield and the source of dividend payments, must be emphasized. Moreover,

16   it is instructive to note that Professor Gordon, the foremost proponent of the

17   DCF model in rate cases (and the individual whose name is most commonly

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1		associated with the DCF model), has determined that the best measure of
2		growth in the DCF model is analysts' forecasted earnings per share growth.
3		Hence, to follow Professor Gordon's findings, earnings per share forecasts
4		must be given primary weight.[1]

Q. **Does Mr. Rothschild use earning per share forecasts in his DCF model?**

A. Not directly. While Mr. Rothschild provided analysts earnings growth rates, he declined to use them directly in his DCF model.

Q. **How would the use of analysts' forecasts of earnings growth impact the DCF?**

A. The Zack's earnings growth rates for his gas group are shown on page 3 of JAR Schedule 4 and revealed by footnote [B]. There, the gas group average growth rate is 7.12%. For Aqua America, the Zack's growth rate is 8.70%. Using the Zacks average growth rate, the DCF result is:

Table 7

Discounted Cash Flow (DCF)	D_0/P_0	x	*(1+0.5g)*	+	*g*	=	*k*
Gas Group	3.61%	x	1.03560	+	7.12%	=	10.86%
Aqua America	2.53%	x	1.04350	+	8.70%	=	11.34%

Q. **Previously, you provided a comparison of dividend yields that showed that they have increased. By recognizing those higher yields, what DCF result would now be produced?**

A. Yes. As indicated previously, the dividend yield component of the DCF model has increased. The Zacks earnings growth estimates for the gas group have also changed. The updated growth rate is now 7.20% for the Gas Group. The Zacks forecast for Aqua America has remained constant.

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[1] "Choice Among Methods of Estimating Share Yield," The Journal of Portfolio Management, Spring 1989 by Gordon, Gordon & Gould.

1 By utilizing the midpoint of the spot and average dividend yields updated

2 through October 2008, the DCF results would be:

3 Table 8

Discounted Cash Flow (DCF)	D_0/P_0	x	(1+0.5g)	+	g	=	k
Gas Group	3.83%	x	1.03600	+	7.20%	=	11.17%
Aqua America	3.02%	x	1.04350	+	8.70%	=	11.85%

4 **Q. Has Mr. Rothschild taken flotation costs into account in his DCF**

5 **model?**

6 A. No. By failing to adjust his DCF model for flotation costs, Mr. Rothschild

7 has understated the required rate of return on common equity.   To the

8 extent that the Gas Group is expected to issue new shares to investors, it is

9 necessary to make a provision in the cost of equity for the costs associated

10 with issuing those new shares. I should also note that Mr. Rothschild's

11 failure to account for flotation costs is inconsistent with the Value Line

12 forecasts that show that the gas companies will be issuing new common

13 stock in the future. Indeed, Mr. Rothschild acknowledges that there will be

14 a 1.50% annual increase in shares outstanding for his gas group and 0.83%

15 for Aqua America (see JAR Schedule 5). It is obvious that issuance costs

16 associated with these common stock financings, yet Mr. Rothschild ignored

17 these costs in his DCF model.

18 **Q. What impact would a flotation cost adjustment have on Mr.**

19 **Rothschild's DCF model?**

20 A. In Docket No. 080006-WS, the Commission Staff memorandum dated May

21 8, 2008 calculated 0.20% for flotation costs. Based upon my experience,

22 this allowance is reasonable. Using this allowance, the DCF results are

1		11.06% (10.86% + 0.20%) for the gas group using August 31, 2008 prices
2		and 11.54% (11.34% + 0.20%) for Aqua America using August 31, 2008
3		prices. Using updated dividend yields through October 2008, the DCF
4		results would be 11.37% (11.17% + 0.20%) for the gas group and 12.05%
5		(11.85% + 0.20%) for Aqua America.

CAPITAL ASSET PRICE MODEL

7	Q.	**You previously stated that Mr. Rothschild had included a CAPM**
8		**element as part of his cost of equity calculation. Do you agree with Mr.**
9		**Rothschild's CAPM approach?**
10	A.	No.
11	Q.	**How do you understand the CAPM approach used by Mr. Rothschild?**
12	A.	Mr. Rothschild submits a cost of equity that is loosely tied to the CAPM,
13		and he employs a convoluted process to apply his version of the CAPM.
14		Rather than using a straight-forward approach to the CAPM, Mr. Rothschild
15		essentially reduces the historical return on the S&P Composite published by
16		Ibbotson Associates (now Morningstar) downward for changes in inflation
17		that occurred historically and the inflation rate that he calculated.
18	Q.	**One element of the CAPM is the risk-free rate of return. Mr.**
19		**Rothschild employed a 4.43% risk-free rate of return using the yields**
20		**on 30-year Treasury bonds. Are there problems with using Treasury**
21		**yields as a measure of the risk-free rate of return in this economic**
22		**environment?**
23	A.	Yes. There are real problems with using Treasury yields as a measure of the
24		risk-free rate of return in our current economic environment. Due to the
25		financial turmoil that I described previously, there has been a flight to

1   quality, thereby reducing the yields on Treasury obligations. While this

2   condition is most pronounced at the shortest end of the yield curve (i.e.,

3   obligations with the shortest deviation), all Treasury yields display relatively

4   low yields by reference to other credit obligations. This situation is

5   displayed by the graphic published on the front page of the October 30,

6   2008 edition of The Wall Street Journal. That graph is shown below.

7   Table 9
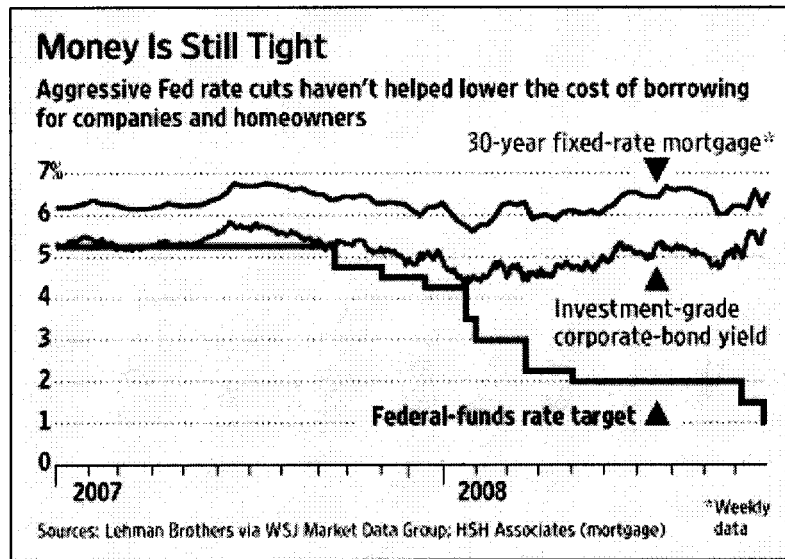
8   This situation is also revealed by the yield spreads related to public utility

9   borrowing costs. Those comparisons are:

1   <u>Table 10</u>

A Rated Public Utility Bonds over 20-Year Treasuries							
	A-rated Public Utility	20-Year Treasuries			A-rated Public Utility	20-Year Treasuries	
Month	Bonds	Yield	Spread	Month	Bonds	Yield	Spread
Jan-07	5.96%	4.95%	1.01%	Jan-08	6.02%	4.35%	1.67%
Feb-07	5.90%	4.93%	0.97%	Feb-08	6.21%	4.49%	1.72%
Mar-07	5.85%	4.81%	1.04%	Mar-08	6.21%	4.36%	1.85%
Apr-07	5.97%	4.95%	1.02%	Apr-08	6.29%	4.44%	1.85%
May-07	5.99%	4.98%	1.01%	May-08	6.28%	4.60%	1.68%
Jun-07	6.30%	5.29%	1.01%	Jun-08	6.38%	4.74%	1.64%
Jul-07	6.25%	5.19%	1.06%	Jul-08	6.40%	4.62%	1.78%
Aug-07	6.24%	5.00%	1.24%	Aug-08	6.37%	4.53%	1.84%
Sep-07	6.18%	4.84%	1.34%	Sep-08	6.49%	4.32%	2.17%
Oct-07	6.11%	4.83%	1.28%	Oct-08	7.56%	4.45%	3.11%
Nov-07	5.97%	4.56%	1.41%				
Dec-07	6.16%	4.57%	1.59%				

2   Here, the spread in yields on A-rated public utility bonds and 20-year

3   Treasury bonds has tripled since the beginning of 2007. This means that the

4   CAPM, which is based on Treasury yields, has a tendency to understate the

5   cost of equity for a water utility. And, the fact that the yield on A-rated

6   public utility bonds is now over 7.50%, it shows clearly that Mr.

7   Rothschild's 9.25% cost of equity recommendation, prior to his adjustment

8   for a 44% common equity ratio, is well off the mark. Indeed, due to the

9   much higher risk of common equity over long-term corporate debt, the risk

10   spread must be substantially higher than 1.75% (9.25% - 7.50%).

11   **Q.   Are there other features of the CAPM which suggest that the**

12   **Company's cost of equity should be higher than indicated by the CAPM**

13   **results for the comparative gas companies used by Mr. Rothschild in his**

14   **analysis?**

15   A.   Yes. The beta for Aqua America is 1.00 based upon the October 24, 2008

16   issue of <u>Value Line</u>, while Mr. Rothschild reported a beta value of 0.95 for

17   Aqua America. I presume the difference in betas is attributable to Mr.

22

1		Rothschild's use of an earlier <u>Value Line</u> publication. The beta for the gas
2		group is 0.83 according to Mr. Rothschild, although the Staff memorandum
3		dated May 8, 2008 shows a 0.87 beta for the gas group. The higher beta for
4		Aqua America indicates more systematic risk. Therefore the Company's
5		cost of equity must be higher than indicated for the comparative gas
6		company group, which serves as the foundation for the Commission's
7		leverage formula.
8	Q.	**Mr. Rothschild has used a geometric mean to measure historic returns**
9		**in his CAPM application. Do you agree with that approach?**
10	A.	No. A serious flaw in Mr. Rothschild's CAPM approach rests with his
11		measurement of the historical returns using the geometric mean rather than
12		the correct arithmetic mean. This is shown by Mr. Rothschild's erroneous
13		inflation-adjusted market return of just 9.66%, as compared to the 12.20%
14		market return used in the Staff memorandum dated May 8, 2008. It is
15		obvious that Mr. Rothschild is way off the mark. Fundamentally, the
16		arithmetic mean must be used to the exclusion of the geometric mean in the
17		CAPM. As I will describe below, it has been established that the arithmetic
18		mean best describes expected future returns -- the objective of the CAPM.
19		The arithmetic mean provides the correct representation of all probable
20		outcomes and has a measurable variance. The geometric mean, which Mr.
21		Rothschild advocates, consists merely of a rate of return taken from two data
22		points which would have no measurable variance (i.e., the dispersion of the
23		returns cannot be calculated with a geometric mean). So while a geometric
24		mean will capture the growth from an initial to a terminal value, it cannot
25		provide a reasonable representation of the market premium in the context of

1	the CAPM because the model requires a single period return expectation of
2	investors. The arithmetic mean provides an unbiased estimate, provides the
3	correct representation of all probable outcomes, and has a measurable
4	variance.
5	
6	As stated by Ibbotson:

Arithmetic Versus Geometric Differences
For use as the expected equity risk premium in the CAPM, the arithmetic or simple difference of the arithmetic means of stock market returns and riskless rates is the relevant number. This is because the CAPM is an additive model where the cost of capital is the sum of its parts. Therefore, the CAPM expected equity risk premium must be derived by arithmetic, not geometric, subtraction.

Arithmetic Versus Geometric Means
The expected equity risk premium should always be calculated using the arithmetic mean. The arithmetic mean is the rate of return which, when compounded over multiple periods, gives the mean of the probability distribution of ending wealth values....This makes the arithmetic mean return appropriate for computing the cost of capital. The discount rate that equates expected (mean) future values with the present value of an investment is that investment's cost of capital. The logic of using the discount rate as the cost of capital is reinforced by noting that investors will discount their (mean) ending wealth values from an investment back to the present using the arithmetic mean, for the reason given above. They will therefore require such an expected (mean) return prospectively (that is, in the present looking toward the future) in order to commit their capital to the investment. (Stocks, Bonds, Bills and Inflation - 1996 Yearbook, pages 153-154)

As stated in the 2003 Yearbook published by Ibbotson Associates:

The arithmetic mean is the rate of return which, when compounded over multiple periods, gives the mean of the probability distribution of ending wealth values....This makes the arithmetic mean return appropriate for forecasting, discounting, and computing the cost of capital. The discount rate that equates expected (mean) future values with the present value of an investment is that investment's

24

cost of capital. The logic of using the discount rate as the cost of capital is reinforced by noting that investors will discount his expected (mean) ending wealth values from an investment back to the present using the arithmetic mean, for the reason given above. They will, therefore, require such an expected (mean) return prospectively (that is, in the present looking toward the future) to commit his capital to the investment. (Stocks, Bonds, Bills and Inflation - 2003 Yearbook, page 100)

In the 2006 Yearbook, Ibbotson added:

> A simple example illustrates the difference between geometric and arithmetic means. Suppose $1.00 was invested in a large company stock portfolio that experiences successive annual returns of +50 percent and -50 percent. At the end of the first year, the portfolio is worth $1.50. At the end of the second year, the portfolio is worth $0.75. The annual arithmetic mean is 0.0 percent, whereas the annual geometric mean is -13.4 percent. Both are calculated as follows:

$$r_A = \frac{1}{2}(0.50 - 0.50) = 0.0, \text{ and}$$

$$r_G = \left[\frac{0.75}{1.00}\right]^{\frac{1}{2}} - 1 = -0.134$$

> The geometric mean is backward-looking, measuring the change in wealth over more than one period. On the other hand, the arithmetic mean better represents a typical performance over single periods.

> In general, the geometric mean for any time period is less than or equal to the arithmetic mean. The two means are equal only for a return series that is constant (i.e., the same return in every period). For a non-constant series, the difference between the two is positively related to the variability or standard deviation of the returns. For example, in Table 6-7, the difference between the arithmetic and geometric mean is much larger for risky large company stocks than it is for nearly riskless Treasury bills. (Stocks, Bonds, Bills and Inflation - 2006 Yearbook, page 108)

As such, the geometric mean should not be used in the CAPM.

25

1   **Q.**   **How would the use of the arithmetic mean affect Mr. Rothschild's**

2   **CAPM result?**

3   **A.**   To begin, the correct arithmetic mean historical return is 12.3% according to

4   the 2008 Ibbotson Associates Yearbook. The arithmetic mean historical

5   inflation rate was 3.1% during that period. To adjust the historical returns

6   for changes in inflation as proposed by Mr. Rothschild, the market return

7   would become 11.46% (i.e., 2.26% - 3.1% + 12.3%) using his other inputs

8   from page 1 of JAR Schedule 6. Correcting Mr. Rothschild's analysis to

9   reflect an 11.46% market return, the result would be:

10   <u>Table 11</u>

Capital Asset Pricing Model (CAPM)	Rf	+	ß	x (	Rm	-	Rf	) =	k
Gas Group	4.43%	+	0.83	x (	11.46%	-	4.43%	) =	10.26%
AAI	4.43%	+	1.00	x (	11.46%	-	4.43%	) =	11.46%

11   By recognizing flotation costs, the resulting CAPM returns would be

12   10.46% (10.26% + 0.20%) for the gas group and 11.66% (11.46% + 0.20%)

13   for Aqua America.

14   **Q.**   **Does an 11.46% market return that you are using in the CAPM**

15   **calculations shown above, seem reasonable in the current investment**

16   **environment?**

17   **A.**   It is certainly too low by reference to the 12.20% market return specified in

18   the Staff memorandum dated May 8, 2008. Mr. Rothschild has substantially

19   understated the total return for the market in today's environment. To bring

20   some perspective to the market return approach advocated by Mr.

21   Rothschild, the DCF return can be calculated for the Value Line Composite

22   of 583 industrial, retail and transportation companies, which includes 72 of

23   Value Line's 98 industry groups and excludes financial services, utilities

1	and non-North American companies. In its semi-annual forecast dated May
2	9, 2008, <u>Value Line</u> forecasts growth for the Industrial Composite of 11.0%
3	for earnings per share, 10.0% for dividends per share, 6.0% for book value
4	per share, and 16.5% for percent retained to common equity. An average of
5	these four growth rates is 10.9% (11.0% + 10.0% + 6.0% + 16.5% = 43.5%
6	÷ 4), which is very close to the earnings forecast. The resulting DCF return
7	is 12.7% (1.8% dividend yield plus 10.9% growth rate for the <u>Value Line</u>
8	composite). This DCF return shows that the market return of 11.46% is far
9	too low.
10	**Q.** **What would the CAPM results look like if the <u>Value Line</u> DCF return**
11	**for the industrial composite were used?**
12	**A.** Those results are:
13	<u>Table 12</u>

Capital Asset Pricing Model (CAPM)	Rf	+	ß	x (	Rm	-	Rf	) =	k
Gas Group	4.43%	+	0.83	x (	12.7%	-	4.43%	) =	11.29%
AAI	4.43%	+	1.00	x (	12.7%	-	4.43%	) =	12.70%

14	Adjusted for flotation costs, the returns would be 11.49% (11.29% + 0.20%)
15	for the gas group and 12.90% (12.70% + 0.20%) for Aqua America.
16	**ADJUSTMENT TO THE COST OF EQUITY APPLICABLE TO THE AQUA**
17	**AMERICA CONSOLIDATED CAPITAL STRUCTURE**
18	**Q.** **Mr. Rothschild adjusts his 9.25% recommended cost of equity for his**
19	**gas companies upward by 0.22% when it is to be applied to the Aqua**
20	**America capital structure. Do you agree with this adjustment?**
21	**A.** No. His adjustment is deficient because a 0.22% adjustment is inadequate
22	to compensate investors for the financial risk associated with the 44.03%

27

common equity ratio that he is proposing. As revealed by the leverage formula contained in the Staff memorandum dated May 8, 2008, the cost of equity would increase by 0.54% (4.82% - 4.28%) when the common equity ratio declines by 5.59% (49.62% - 44.03%) for the gas group.

Further, there are serious errors with regard to Mr. Rothschild's use of short-term debt for the gas company group. Most stand-alone LDCs have seasonal working capital needs related to stored gas inventory. Those cash flow needs often correspond with the end of the fiscal year for many LDCs, which are typically at September 30 or December 31. A stand-alone LDC would borrow short-term to finance injections of natural gas into storage in the summer when their cash flow is at a trough. In the heating season, that inventory is sold to customers and the short-term debt is repaid. Hence, for natural gas companies, their cash flow requirements are cyclical according to seasons, which cause short-term debt to peak near the end of the fiscal year. It is for this reason that average short-term debt is commonly used for gas companies in rate cases. Similar situations do not apply to water companies because they do not temporarily finance raw water stored in inventory. For water companies, their cash flow typically peaks after the summer sales of water, which does not correspond to the end of their fiscal year. Regardless of these errors, Mr. Rothschild is incorrect in adopting a 0.22% adjustment for change in common equity ratios, particularly when we know that the leverage formula shows a 0.54% increase.

REBUTTAL SUMMARY

Q.   **What conclusions do you reach regarding the return on common equity and capital structure recommendations sponsored by Mr. Rothschild in**

1		**this proceeding?**
2	A.	For purposes of establishing rates in this proceeding, AUF has elected to use
3		Commission's leverage formula to establish ROE. This ROE based upon the
4		leverage formula is conservative. Mr. Rothschild's proposed cost of equity
5		is far too low in comparison to returns for the gas utilities, investor
6		expectations and other objective measures, and thus understates the cost of
7		equity of AUF. In my rebuttal, I have pointed out that the DCF and CAPM
8		approaches as applied by Mr. Rothschild are flawed and systematically
9		understate the Company's cost of equity. Finally, the Commission should
10		not adopt the low common equity ratio recommended by Mr. Rothschild.
11		As explained in Mr. Anzaldo's testimony, this low equity ratio was
12		determined and applied in an inappropriate manner and when combined
13		with his low return on equity recommendation produces a weighted return
14		on equity well below the types of returns that investors expect for water
15		utilities such as AUF.
16	**Q.**	**Does this conclude your rebuttal testimony?**
17	A.	Yes.

EDUCATIONAL BACKGROUND,
BUSINESS EXPERIENCE AND QUALIFICATIONS

I was awarded a degree of Bachelor of Science in Business Administration by Drexel University in 1971. While at Drexel, I participated in the Cooperative Education Program which included employment, for one year, with American Water Works Service Company, Inc., as an internal auditor, where I was involved in the audits of several operating water companies of the American Water Works System and participated in the preparation of annual reports to regulatory agencies and assisted in other general accounting matters.

Upon graduation from Drexel University, I was employed by American Water Works Service Company, Inc., in the Eastern Regional Treasury Department where my duties included preparation of rate case exhibits for submission to regulatory agencies, as well as responsibility for various treasury functions of the thirteen New England operating subsidiaries.

In 1973, I joined the Municipal Financial Services Department of Betz Environmental Engineers, a consulting engineering firm, where I specialized in financial studies for municipal water and wastewater systems.

In 1974, I joined Associated Utility Services, Inc., now known as AUS Consultants. I held various positions with the Utility Services Group of AUS Consultants, concluding my employment there as a Senior Vice President.

In 1994, I formed P. Moul & Associates, an independent financial and regulatory consulting firm. In my capacity as Managing Consultant and for the past twenty-nine years, I have continuously studied the rate of return requirements for cost of service-regulated firms. In this regard, I have supervised the preparation of rate of return studies, which were employed, in connection with my testimony and in the past for other individuals. I have presented direct testimony on the subject of fair rate of return, evaluated rate of return testimony of other witnesses, and presented rebuttal testimony.

My studies and prepared direct testimony have been presented before thirty-four (34) federal, state and municipal regulatory commissions, consisting of: the Federal Energy Regulatory Commission; state public utility commissions in Alabama, Alaska, Connecticut, Delaware, Florida, Georgia, Hawaii, Illinois, Indiana, Iowa, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Missouri, New Hampshire, New Jersey, New York, North Carolina, Ohio, Oklahoma, Pennsylvania, Rhode Island, South Carolina, Tennessee, Texas, Virginia, West Virginia, and Wisconsin; and the Philadelphia Gas Commission. My testimony has been offered in over 200 rate cases involving electric power, natural gas distribution and transmission, resource recovery, solid waste collection and disposal, telephone, wastewater, and water service utility companies. While my testimony has involved principally fair rate of return and financial matters, I have also testified on capital allocations, capital recovery, cash working capital, income taxes, factoring of accounts receivable, and take-or-pay

expense recovery. My testimony has been offered on behalf of municipal and investor-owned public utilities and for the staff of a regulatory commission. I have also testified at an Executive Session of the State of New Jersey Commission of Investigation concerning the BPU regulation of solid waste collection and disposal.

I was a co-author of a verified statement submitted to the Interstate Commerce Commission concerning the 1983 Railroad Cost of Capital (Ex Parte No. 452). I was also co-author of comments submitted to the Federal Energy Regulatory Commission regarding the Generic Determination of Rate of Return on Common Equity for Public Utilities in 1985, 1986 and 1987 (Docket Nos. RM85-19-000, RM86-12-000, RM87-35-000 and RM88-25-000). Further, I have been the consultant to the New York Chapter of the National Association of Water Companies, which represented the water utility group in the Proceeding on Motion of the Commission to Consider Financial Regulatory Policies for New York Utilities (Case 91-M-0509). I have also submitted comments to the Federal Energy Regulatory Commission in its Notice of Proposed Rulemaking (Docket No. RM99-2-000) concerning Regional Transmission Organizations and on behalf of the Edison Electric Institute in its intervention in the case of Southern California Edison Company (Docket No. ER97-2355-000). Also, I was a member of the panel of participants at the Technical Conference in Docket No. PL07-2 on the Composition of Proxy Groups for Determining Gas and Oil Pipeline Return on Equity.

In late 1978, I arranged for the private placement of bonds on behalf of an investor-owned public utility. I have assisted in the preparation of a report to the Delaware Public Service Commission relative to the operations of the Lincoln and Ellendale Electric Company. I was also engaged by the Delaware P.S.C. to review and report on the proposed financing and disposition of certain assets of Sussex Shores Water Company (P.S.C. Docket Nos. 24-79 and 47-79). I was a co-author of a Report on Proposed Mandatory Solid Waste Collection Ordinance prepared for the Board of County Commissioners of Collier County, Florida.

I have been a consultant to the Bucks County Water and Sewer Authority concerning rates and charges for wholesale contract service with the City of Philadelphia. My municipal consulting experience also included an assignment for Baltimore County, Maryland, regarding the City/County Water Agreement for Metropolitan District customers (Circuit Court for Baltimore County in Case 34/153/87-CSP-2636).

I am a member of the Society of Utility and Regulatory Financial Analysts (formerly the National Society of Rate of Return Analysts) and have attended several Financial Forums sponsored by the Society. I attended the first National Regulatory Conference at the Marshall-Wythe School of Law, College of William and Mary. I also attended an Executive Seminar sponsored by the Colgate Darden Graduate Business School of the University of Virginia concerning Regulated Utility Cost of Equity and the Capital Asset Pricing Model. In October 1984, I attended a Standard & Poor's Seminar on the Approach to Municipal Utility Ratings, and in May 1985, I attended an S&P Seminar on Telecommunications Ratings.

Date	Occasion	Sponsor
April 2006	Thirty-eighth Financial Forum	Society of Utility & Regulatory Analysts
April 2001	Thirty-third Financial Forum	Society of Utility & Regulatory Analysts
December 2000	Pennsylvania Public Utility Law Conference: Non-traditional Players in the Water Industry	
July 2000	EEI Member Workshop Developing Incentives Rates: Application and Problems	Edison Electric Institute
February 2000	The Sixth Annual FERC Briefing	Exnet and Bruder, Gentile & Marcoux, LLP
March 1994	Seventh Annual Proceeding	Electric Utility Business Environment Conf.
May 1993	Financial School	New England Gas Assoc.
April 1993	Twenty-fifth Financial Forum	National Society of Rate of Return Analysts
June 1992	Rate ad Charges Subcommittee Annual Conference	American Water Works Association
May 1992	Rates School	New England Gas Assoc.
October 1989	Seventeenth Annual Eastern Utility Rate Seminar	Water Committee of the National Association of Regulatory Utility Commissioners Florida Public Service Commission and University of Utah
October 1988	Sixteenth Annual Eastern Utility Rate Seminar	Water Committee of the National Association Regulatory Utility Commissioners, Florida Public Service Commission and University of Utah
May 1988	Twentieth Financial Forum	National Society of Rate of Return Analysts
October 1987	Fifteenth Annual Eastern Utility Rate Seminar	Water Committee of the National Association Regulatory Utility Commissioners, Florida Public Service Commission and University of Utah
September 1987	Rate Committee Meeting	American Gas Association
May 1987	Pennsylvania Chapter Annual Meeting	National Association of Water Companies
October 1986	Eighteenth Financial Forum	National Society of Rate of Return
October 1984	Fifth National on Utility Ratemaking Fundamentals	America Bar Association

Date	Occasion	Sponsor
March 1984	Management Seminar	New York State Telephone Association
February 1983	The Cost of Capital Seminar	Temple University, School of Business Admin.
May 1982	A Seminar on Regulation and The Cost of Capital	New Mexico State University, Center for Business Research and Services
October 1979	Economics of Regulation	Brown University

M E M O R A N D U M

JANUARY 14, 1982

TO: SUSAN CLARK, GENERAL COUNSEL

FROM: DEBORAH ACHILLES, FINANCIAL ANALYST, AFAD   *dfa*

RE: PROPOSED LEGISLATION CHAPTER 367

Three sections of Chapter 367 affect the Finance Section and are explained below:

367.011(2)   Exclusion of security applications from
             Commission jurisdiction.

Current Situation.   Currently the Florida Public Service Commission requires that the issue and sale of securities maturing more than 12 months after the date of issue be approved. The work load of the staff in the water and sewer industry is such that there is insufficient time to review each application in a manner that would be beneficial to the industry.

Intent of Proposal. The proposed change is intended to reduce the current work load of the staff and the Commission by postponing the evaluation of financing arrangements until the utility requests a rate case.

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Estimated Cost. A cost savings will be realized in the short
run by individual companies in that the issue and sale of securities
need not be approved. In the long run the costs associated with rate
cases will be increased when the issue of financing arrangements is
incorporated into the proceedings. Witnesses required to substantiate
the decisions of management months or years after the fact will be in
a position of being second-guessed by the Commission which has the
benefit of "hindsight" information. In addition, if the Commission
considers the financing plans imprudent at the rate case, the expense
associated with the financing could be disallowed. Under the current
procedure, the utility would not enter into a contractual arrangement
if the Commission failed to approve a security application. The penalty
for an imprudent decision would be substantially higher under the
proposed procedure.

The costs incurred by the Commission would be higher under the
proposed procedure in that the hearing process is lengthier than the
current approval procedure. The preparation and presentation of testimony
requires more time and resources than the preparation of a recommendation
to the Commission.

The water and sewer industry in Florida will experience increased
capital costs as a result of this change in legislation. The financial
condition of the water and sewer companies in Florida is frequently
unstable due to the lack of incentives to maintain financial integrity.
Given this proposal the issue of efficient financing will not be
addressed in a timely manner so the financial condition of the water and

-3-

sewer industry could deteriorate rapidly. Also the price indexing and

pass-through procedures will increase the time between rate cases and

further postpone the evaluation of the companies' financing. Furthermore,

the current approval process is the only surveillance vehicle available

to encourage efficient financing and although one would hope that all

companies make prudent decisions, it can be assumed that if these decisions

are being scrutinized, managers will make an additional effort to put

their best foot forward. This would be especially true of transactions

between affiliates which are widespread in the water and sewer industry.

All of these factors will reduce the probability of long run financial

stability in this industry by replacing foresight and planning with

reactive regulation and thus increase the cost of capital to companies

within the industry.

367.081(4)(f)   The establishment of leverage scales and

                   allowing the use of these scales in lieu

                   of cost of equity testimony by the utility.

Current Situation.   The current statute specifies that a

single leverage scale be established annually, and does not allow its

use once a return on equity has been established for a utility.

Intent of Proposal.   The intent of this change is to permit

the leverage scale to be updated during the year, if necessary, and

to permit more than one scale if the segmentation of the industry so

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requires. Also, this proposal will allow the utilities to adopt the
cost of equity on the leverage scale in lieu of presenting cost of
equity testimony during a rate proceeding.

Estimated Cost. There will be a cost to the Commission staff
associated with the updating of the scales and the use of multiple scales,
although the accuracy of this methodology will be greatly enhanced. On
the other hand, there will be a substantial cost savings associated with
permitting the use of the scales in rate case proceedings. The cost of
presenting cost of equity testimony can range from two or three thousand
dollars to $20,000 plus. Overall the proposed change will result in a
net cost savings.

367.082(5)   Interim rates procedure

Current Situation. The current procedure requires the use
of the company's most recent rate of return for establishing interim
rates with adjustments for rate changes.

Intent of Proposal. The proposed change intends to clarify
the adjustments to the rate of return by specifying the treatment of
fixed-cost capital and the treatment of variable-cost capital and short
term financing. It also allows the use of either an average or a year-
end rate base and associated capital structure.

Estimated Cost. The only estimated cost savings would be
the reduction of litigation costs associated with the clarification
of the intent of the statute.

DFA/jn

cc: Marshall Willis, Water & Sewer Department
     Greg Follensbee, AFAD Director
     Scott Wilson, Deputy Director/Financial Analysis, AFAD