

BEFORE THE NEW MEXICO PUBLIC REGULATION COMMISSION

**IN THE MATTER OF THE PETITION
BY NEW MEXICO-AMERICAN
WATER COMPANY, INC. FOR
ADJUSTMENT OF WATER RATES
FOR ITS CLOVIS DISTRICTS,**

Case No. 08-00134-UT

**NEW MEXICO-AMERICAN
WATER COMPANY, INC.,
Petitioner.**

**REBUTTAL TESTIMONY
OF
BENTE VILLADSEN
ON BEHALF OF
NEW MEXICO-AMERICAN WATER COMPANY**

TABLE OF CONTENTS

Section	Page #
EXECUTIVE SUMMARY	ii
I. INTRODUCTION AND SUMMARY	1
II. COMMENTS ON STAFF'S (PATIN) DIRECT.....	3
III. COMMENTS ON CITY'S (BLANK) DIRECT	4
A. The cost of equity adjustments in the Blank Direct	4
B. Other issues that have affected the cost of equity	8
IV. CONCLUDING REMARKS.....	14
SUPPORTING FIGURES	15

EXECUTIVE SUMMARY

Dr. Bente Villadsen, a Principal at *The Brattle Group*, filed direct testimony on the cost of capital for New Mexico-American Water Company's Clovis districts in June 2008 and is now filing rebuttal testimony in response to the testimony submitted by Mr. Thomas C. Patin on behalf of New Mexico Public Regulation Commission Staff and Dr. Larry Blank on behalf of the City of Clovis.

I continue to believe that 11¾ percent return on equity at 45.13 percent equity is an appropriate return on equity for New Mexico-American Water.

Mr. Patin in his testimony relies on a discounted cash flow methodology that the staff of the New Mexico Public Regulation Commission has used in prior cases. I find that the use of more than one method is preferable and I also disagree with Mr. Patin's reliance on the book value capital structure of publicly traded comparables in the assessment of the relative financial risk of New Mexico-American Water. The methodology results in the recommended return on equity of 11.17 percent which is too low.

Given the recent turmoil in financial markets, Dr. Blank's suggested 10.3 percent return on equity is simply too low. Dr. Blank's suggested 10.3 percent is based on a downward adjustment to my midpoint recommendation of 11¾ percent. His adjustment subtracts the change in the 30-year Treasury bond yield since June 2008 from 11¾ percent, but fails to consider the increased volatility in financial markets and increased cost of debt for utilities. Further, the calculated adjustment suffers from methodological issues such as mixing the 20-year and the 30-year Treasury bond yields. The increased market volatility leads investors' risk premium to increase. Further, the increase in utilities cost of debt indicates that the drop in the yield on long-term government bonds is driven by factors other than lower cost of capital for utilities. Hence, the 10.3 percent recommended by Dr. Blank is below what investors currently require to provide equity capital.

1 **I. INTRODUCTION AND SUMMARY**

2 **Q1. PLEASE STATE YOUR NAME AND ADDRESS FOR THE RECORD.**

3 A1. My name is Bente Villadsen. My business address is *The Brattle Group*, 44 Brattle Street,
4 Cambridge, MA 02138.

5 **Q2. DID YOU PREVIOUSLY FILE TESTIMONY IN THIS PROCEEDING?**

6 A2. Yes, I filed direct testimony (“Villadsen Direct”) on behalf of New Mexico-American
7 Water Company (“New Mexico-American Water” or the “Company”) in June 2008
8 regarding the estimate of the cost of equity for New Mexico-American Water’s Clovis
9 districts. The cost of equity is the return that the Commission should provide the
10 Company an opportunity to earn on the portion of its rate base financed by equity.

11 **Q3. WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY?**

12 A3. New Mexico-American Water has asked me to review and respond to the testimony of
13 Mr. Thomas C. Patin (“Patin Direct”), who filed testimony on behalf of the Utility
14 Division Staff (the “Staff”) of the New Mexico Public Regulation Commission (“PRC”
15 or the “Commission”), and to the testimony of Dr. Larry Blank (“Blank Direct”), who
16 filed testimony on behalf of the City of Clovis, NM. Specifically, I will address their
17 recommendations for the cost of equity capital (“CoE”) for New Mexico-American
18 Water.

19 **Q4. PLEASE SUMMARIZE THE RECOMMENDATIONS OF THE PATIN DIRECT
20 AND THE BLANK DIRECT.**

21 A4. The Patin Direct recommends a CoE of 11.17 percent. Further, the Patin Direct uses the
22 Company’s filed debt cost of 6.43 percent and filed capital structure including 45.13
23 percent equity.¹ The Patin Direct relies exclusively on a the single stage Discounted
24 Cash Flow (“DCF”) method and takes into account that New Mexico-American Water
25 has higher financial risk than the proxy companies. The financial risk adjustment is
26 based on the sample companies’ book value capital structure and New Mexico-American
27 Water’s regulatory capital structure.

¹ Patin Direct pp. 3-4.

1 The Blank Direct recommends a CoE of 10.30 percent while also suggesting, without
2 explicit justification, an alternative of 9.715 percent which was the approved CoE in a
3 previous rate case. Dr. Blank suggests that the cost of equity be applied to a capital
4 structure with 44.17 percent equity and that the cost of debt be set at 5.9874 percent.²

5 The Blank Direct supports its recommended return on equity by referencing the reduction
6 in the long-term government bond rate since June 2008 when I filed my Direct Testimony
7 and cites the recent turmoil in the financial markets as a possible justification for lower
8 CoE.

9 **Q5. DO YOU AGREE WITH THE RECOMMENDATIONS OF THE PATIN DIRECT**
10 **AND THE BLANK DIRECT?**

11 A5. I agree with the Patin Direct's recommendation of using the Company's filed capital
12 structure and cost of debt. However, I continue to believe that 11¾ percent return on
13 equity at 45.13 percent equity is an appropriate return on equity for New Mexico
14 American Water. Hence, I find that the Patin Direct and especially the Blank Direct
15 recommended a return on equity that is too low in the current financial environment. The
16 Patin Direct relies on the book value capital structure of the comparable companies in
17 considering the financial risk whereas financial theory suggests that financial risk is
18 determined in financial markets using market values.

19 More troublesome is the Blank Direct's suggested 10.3 percent return on equity. The
20 recent events in the financial markets and in the economy as a whole suggest that, under
21 current market conditions, equity and debt investors expect higher compensation for their
22 investment now than at the time of the filing of my direct testimony. As I will discuss
23 below, market volatility has been very high in recent months and during periods of higher
24 market volatility, equity investors require a higher premium to invest in equity, so that the
25 cost of equity increases. Further, American Water recently raised debt capital in the form
26 of senior notes. While American Water is a solid investment grade entity,³ the interest
27 rate was 10 percent.⁴ As equity investors carry the residual risk of investments, they are

² Blank Direct Exhibit LB-6.

³ BBB+ by *Standard & Poor's* and Baa2 by *Moody's* (as of January 4, 2009).

⁴ American Water Press Release, "American Water Completes Debt Offering," Nov. 26, 2008.

1 awarded a premium over that of debt holders. Dr. Blank's recommended return on equity
2 does not allow equity investors any premium over the compensation granted to debt
3 holders and therefore is unreasonably low.

4 **Q6. HOW IS THE REMAINDER OF YOUR REBUTTAL TESTIMONY**
5 **ORGANIZED?**

6 A6. In Section II, I comment on the approach used by Mr. Patin. In Section III, I discuss the
7 methodology and resulting recommendation of Dr. Blank. Section IV provides my
8 concluding remarks. Two supporting figures are attached to this rebuttal testimony.

9 **II. COMMENTS ON STAFF'S (PATIN) DIRECT**

10 **Q7. WHY DO YOU DISAGREE WITH THE USE OF THE SAMPLE COMPANIES'**
11 **BOOK VALUE CAPITAL STRUCTURE FOR FINANCIAL RISK**
12 **COMPARISONS?**

13 A7. As discussed in the Villadsen Direct pp. 20-21 and Appendix E, standard economic
14 theory relies on market value capital structures when assessing the financial risk of a
15 company. Therefore, although the Patin Direct correctly recognizes the need to adjust the
16 CoE for the relative financial risk of New Mexico-American Water, I disagree with its
17 reliance on the average book value capital structure of the sample companies.⁵ Had the
18 Patin Direct relied on the market value capital structure of the comparable companies, the
19 calculated cost of equity would have been on the order of 70 to 75 basis points higher⁶
20 and very similar to that of the Villadsen Direct.

21 **Q8. DO YOU HAVE ANY OTHER COMMENTS ON THE PATIN DIRECT?**

22 A8. I believe that the use of multiple methods to estimate the cost of equity for sample
23 companies is preferable as each method can be used as a check on the results obtained by

⁵ See the Patin Direct, Schedule TCP-2.

⁶ Using 60 percent market equity for the sample companies in the Patin Direct, Schedule TCP-2 results in a cost of equity of 11.91 percent. Table No. BV-15 in my direct testimony estimated the market value capital structure of the gas LDC sample companies to include approximately 66% equity as of June 2008 and December 2008 data indicate an average of approximately 65% equity, so 60% is a conservative test of the magnitude.

1 other methods. Further, I prefer the methodologies and implementations relied upon in
2 the Villadsen Direct, but rather than re-iterating the reasons, I shall simply refer to my
3 direct testimony Section III.B.

4 **III. COMMENTS ON CITY'S (BLANK) DIRECT**

5 **Q9. WHAT ARE YOUR KEY CONCERNS WITH THE COST OF EQUITY THE**
6 **BLANK DIRECT RECOMMENDS?**

7 A9. My comments fall into two categories. First, the Blank Direct makes an adjustment to
8 the cost of equity estimated in my June 2008 direct testimony based solely on changes in
9 government interest rates. While government interest rates have declined, the turmoil in
10 financial markets has affected other parameters that impact the cost of equity for a
11 company. Examples of such parameters are the rates at which utilities can borrow (e.g.,
12 the yield on utility bonds) as well as investors risk perception and market volatility which
13 impacts the market risk premium. These factors also need to be considered when
14 determining the cost of equity for New Mexico-American Water. Second, I find the
15 implementation of the Blank Direct's adjustment to the cost of equity estimated in June
16 2008 inconsistent with my June 2008 direct testimony. I will address the implementation
17 of the adjustment first and then turn to the other factors that have impacted the cost of
18 equity.

19 **A. THE COST OF EQUITY ADJUSTMENTS IN THE BLANK DIRECT**

20 **Q10. WHY DO YOU DISAGREE WITH DR. BLANK'S ADJUSTMENTS TO YOUR**
21 **COST OF EQUITY ESTIMATE?**

22 A10. First, if one believes that market conditions have changed to an extent that merits an
23 update in the inputs then it is more appropriate to redo the entire analysis step-by-step
24 using the entire range of most recently available inputs and not merely adjust the long-
25 term interest rates. This approach would have to take into account any impact of the
26 current financial turmoil on the various input parameters. Second, if one nonetheless
27 decides to take this short-cut approach and apply the adjustment to the end-point results,
28 then the calculation should be done in a manner consistent with the Villadsen Direct.

1 **Q11. WHY DO YOU BELIEVE THE ADJUSTMENTS ARE NOT CONSISTENT**
2 **WITH YOUR DIRECT TESTIMONY?**

3 A11. I have identified several issues that are clearly indicative of such inconsistency. First and
4 foremost, the risk-free rate is only relied upon in the risk positioning methods. Therefore,
5 any adjustment would pertain only to the risk positioning results. As all of the risk
6 positioning results in the Villadsen Direct were higher than my recommended 11¾
7 percent return on equity,⁷ the Blank Direct overstates the reduction in the return on equity
8 (taking his approach for granted). Second, the Blank Direct's implementation of the
9 adjustment is inconsistent with the Villadsen Direct's approach.

10 **Q12. PLEASE EXPLAIN HOW THE BLANK DIRECT IMPLEMENT THE**
11 **ADJUSTMENT IN A MANNER INCONSISTENT WITH THE VILLADSEN**
12 **DIRECT.**

13 A12. First, as explained in Appendix C to Villadsen Direct, I rely upon the 20-year Treasury
14 bond yields when calculating the long-term risk-free rates.⁸ The Blank Direct uses the
15 30-year Treasury bond yields instead. In fact, the 30-year yields have dropped by more
16 than the 20-year Treasury bond yields since the filing of the Villadsen Direct. As a result,
17 the Blank Direct's change in the series that is relied upon results in an overstatement of
18 the drop in the risk-free rate by approximately 30 basis points. Second, the Blank Direct
19 is inconsistent with the time span used in the Villadsen Direct when averaging the long-
20 term Treasury bond yields. In particular, I relied on the average across the last 15 trading
21 days, while the Blank Direct uses only data for the month of December. This resulted in
22 only twelve data points being used for his averaging. The shortening of the time period
23 considered resulted in an upward bias in the calculated drop in the risk-free rate by about
24 10 basis points and hence a downward bias in the estimated cost of equity of about 10
25 basis points. Third, in Villadsen Direct I round the average yield to the nearest tenth of a
26 percent before using it in the CAPM and ECAPM equation, whereas the Blank Direct
27 relies on two decimals. Table 1 below shows that if the Blank Direct had implemented

⁷ Villadsen Direct, Table 3 on p. 40.

⁸ See lines 19-21 on p. C-17 of Appendix C to Villadsen Direct.

1 its calculation in a manner consistent with my direct testimony, the calculated adjustment
2 (cost of equity) would have been 45 basis points lower (higher).

Table 1
Potential Interest Rate Adjustments

Date	Approach Consistent with Villadsen Direct (20-year T. bond yield) [1]	Approach Used in Blank Direct (30-year T. bond yield) [2]
11/25/2008	3.85%	
11/26/2008	3.77%	
11/28/2008	3.71%	
12/1/2008	3.51%	3.22%
12/2/2008	3.47%	3.18%
12/3/2008	3.45%	3.17%
12/4/2008	3.35%	3.06%
12/5/2008	3.41%	3.11%
12/8/2008	3.45%	3.16%
12/9/2008	3.35%	3.06%
12/10/2008	3.39%	3.09%
12/11/2008	3.35%	3.07%
12/12/2008	3.36%	3.07%
12/15/2008	3.29%	2.98%
12/16/2008	3.16%	2.86%
Average in December	3.38%	3.09%
Average in December (Rounded)*	3.40%	3.10%
15-trading Day Average	3.46%	n/a
15-trading Day Average (Rounded)*	3.50%	n/a
Benchmark**	4.50%	4.54%
Change in risk-free rate***	1.00%	1.45%

Source: Bloomberg as of December 23, 2008.

[1]: 20-Year US Treasury Bond Yield for the 15 trading days ending on December 16, 2008.

[2]: 30-Year US Treasury Bond Yield from December 1, 2008 through December 16, 2008.

The Difference is calculated as:

[1]: the Benchmark minus the 15-trading Day Average (Rounded).

[2]: the Benchmark minus the Average in December.

* The values are rounded to the nearest tenth of a percent.

** The Benchmark is the average 20-Year US Treasury Bond Yield for the 15 trading days ending on May 7, 2008.

*** The values are rounded to the nearest tenth of a percent in column [1] only.

1 **Q13. DOES TABLE 1 SUGGEST THAT A DOWNWARD ADJUSTMENT IN THE**
2 **RECOMMENDED COST OF EQUITY BY ONE PERCENT IS WARRANTED?**

3 A13. No, it does not. One should not ignore the fact that while my recommendation of 11¾
4 percent is based upon primarily on three versions of the risk positioning method, I also
5 consider two versions of the DCF. Clearly, neither the simple nor the multi-stage DCF-
6 based results are affected by the dynamics of the risk-free rate. At the same time, the
7 results based on the risk positioning methods are all well above 11¾ percent.⁹ Therefore,
8 if one is willing to make this adjustment to the proposed rates, only the risk-positioning
9 results should be adjusted. As a result any adjustment *to the cost of equity* would be quite
10 a bit lower than the one percent calculated above and which takes Dr. Blank's
11 methodology for granted.

12 **Q14. WHAT WOULD THE FINAL NUMBER LOOK LIKE ONCE THE**
13 **ADJUSTMENT IS MADE TO THE RISK POSITIONING RESULTS?**

14 A14. The cost of equity results based on the analysis of the gas LDC sample with the risk
15 positioning methods reported in Villadsen Direct would change from 11.9 percent
16 (CAPM) to 12.4 percent (ECAPM with $\alpha = 1.5$ percent) to 10.9 percent to 11.4 percent,
17 respectively. Since none of the DCF results is affected by Dr. Blank's adjustment and no
18 DCF estimate is below 10.9 percent,¹⁰ it is clear that the resulting cost of equity,
19 everything else equal, is in the range of 10.9 to 11.4 percent for the gas LDC sample. I
20 therefore do not understand how the Blank Direct, based on the figures in my direct
21 testimony, comes up with a cost of equity as low as 10.3 percent. It is noteworthy that
22 the midpoint of the range that results from this calculation is 11.15 percent which is
23 indistinguishable from Mr. Patin's recommendation.

⁹ See Table 3 on p. 40 of Villadsen Direct.

¹⁰ *Ibid.*

1 **B. OTHER ISSUES THAT HAVE AFFECTED THE COST OF EQUITY**

2 **Q15. ABOVE YOU SAID THAT YOU DID NOT BELIEVE THE DROP IN THE**
3 **LONG-TERM GOVERNMENT BONDS IS THE ONLY SIGNIFICANT CHANGE**
4 **IN FINANCIAL MARKETS SINCE YOUR DIRECT TESTIMONY WAS FILED.**
5 **PLEASE EXPLAIN.**

6 A15. Clearly financial markets have experienced significant turmoil since my direct testimony
7 was filed in June 2008. That is why it is dangerous and incorrect to solely focus on the
8 drop in risk-free rates. The facts that financial markets are in turmoil and stock market
9 volatility has increased dramatically mean that equity investors face increased uncertainty.
10 Increased uncertainty leads them to seek lower risk investments or to demand a higher
11 expected rate of return before they are willing to invest their money. In part, this is an
12 explanation of why market prices have fallen. While the Blank Direct suggests that
13 financial markets distress should make investors content with lower returns,¹¹ if anything,
14 financial distress means that the current market risk premium (“MRP”) is *higher* than it
15 would otherwise be. Dimson, Marsh, and Staunton (2008) appear to agree as they note

16 Although credit spreads widened, credit fundamentals as measured
17 by low default rates remained at historically strong levels. This
18 may indicate higher defaults to come, an increase in risk aversion,
19 a bigger premium for liquidity, or all three.¹²

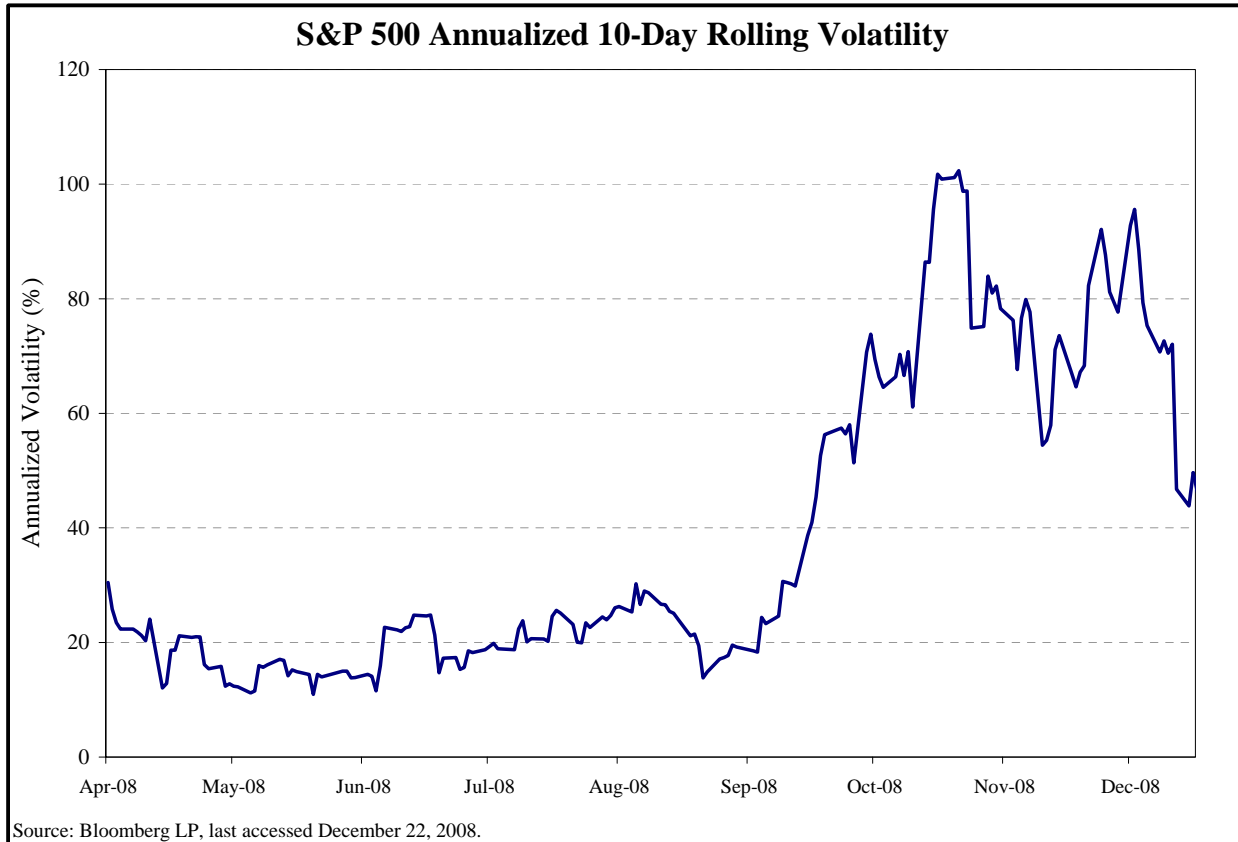
20 As shown in Figure 1 below, the volatility in the U.S. stock market spiked to 3 to 4 times
21 the normal level of about 20% in September-October and remains at more than twice its
22 normal level.

¹¹ See pp. 3-4 in Blank Direct.

¹² Elroy Dimson, Paul Marsh, and Mike Staunton, 2008, *Global Investment Returns Yearbook 2008*, p. 25.

1

Figure 1



2

3 As investors' risk aversion increases during times of financial distress, the MRP is
4 currently higher than in the recent past. This factor alone is counteracting any adjustment
5 to the CAPM and ECAPM models based on changes in the risk-free rate as contemplated
6 in the Blank Direct.

7 **Q16. ARE THERE ACADEMIC STUDIES THAT PROVIDE INSIGHTS INTO THE**
8 **MRP IN TIMES OF FINANCIAL RECESSION OR ECONOMIC DOWNTURN?**

9 A16. Yes. The academic literature contains studies of the impact of recessions on investors'
10 attitude towards risk. These studies find that risk aversion, and hence the risk premium
11 required to hold equity rather than debt, increases in economic downturns. Several
12 articles suggest that the market risk premium is higher during times of recession.
13 Constantinides (2008) studies a classical utility model where consumers are risk averse
14 and summarizes some of the empirical literature. Constantinides draws from empirical
15 evidence that shows that consumers become risk averse in times of economic recession or

1 downturn, and equity investments accentuate this risk.¹³ (Increased risk aversion leads to
2 a higher expected return for investors before they will invest.) Specifically, equities are
3 pro-cyclical and decline in value when the probability of a job loss increases; thus, they
4 fail to hedge against income shocks that are more likely to occur during recessions.¹⁴
5 Consequently, investors require an added risk premium to hold equities during economic
6 downturns:

7 In economic recessions, investors are exposed to the double hazard of
8 stock market losses and job loss. Investment in equities not only fails to
9 hedge the risk of job loss but also accentuates its implications. Investors
10 require a hefty equity premium in order to be induced to hold equities.
11 This is the argument that I formalize below and address the predictability
12 of asset returns and their unconditional moments.¹⁵

13 And

14 The first implication of the theory is an explanation of the counter-cyclical
15 behavior of the equity risk premium: the risk premium is highest in a
16 recession because the stock is a poor hedge against the uninsurable income
17 shocks, such as job loss, that are more likely to arrive during a recession.

18 The second implication is an explanation of the unconditional equity
19 premium puzzle: even though per capita consumption growth is poorly
20 correlated with stocks returns, investors require a hefty premium to hold
21 stocks over short-term bonds because stocks perform poorly in recessions,
22 when the investor is most likely to be laid off.¹⁶

23 Empirically, several authors have found that market volatility and the market risk
24 premium are positively related. For example, Kim, Morley and Nelson (2004)¹⁷ find that

25 When the effects of volatility feedback are fully taken into account, the
26 empirical evidence supports a significant positive relationship between
27 stock market volatility and the equity premium.¹⁸

¹³ Constantinides, G. M., "Understanding the equity risk premium puzzle". In R. Mehra, ed., *Handbook of the Equity Risk Premium*, 2008, Elsevier, Amsterdam.

¹⁴ Constantinides, G.M., and D. Duffie, 1996, "Asset Pricing with Heterogeneous Consumers", *Journal of Political Economy*.

¹⁵ G.M. Constantinides (2008), *op. cit.*

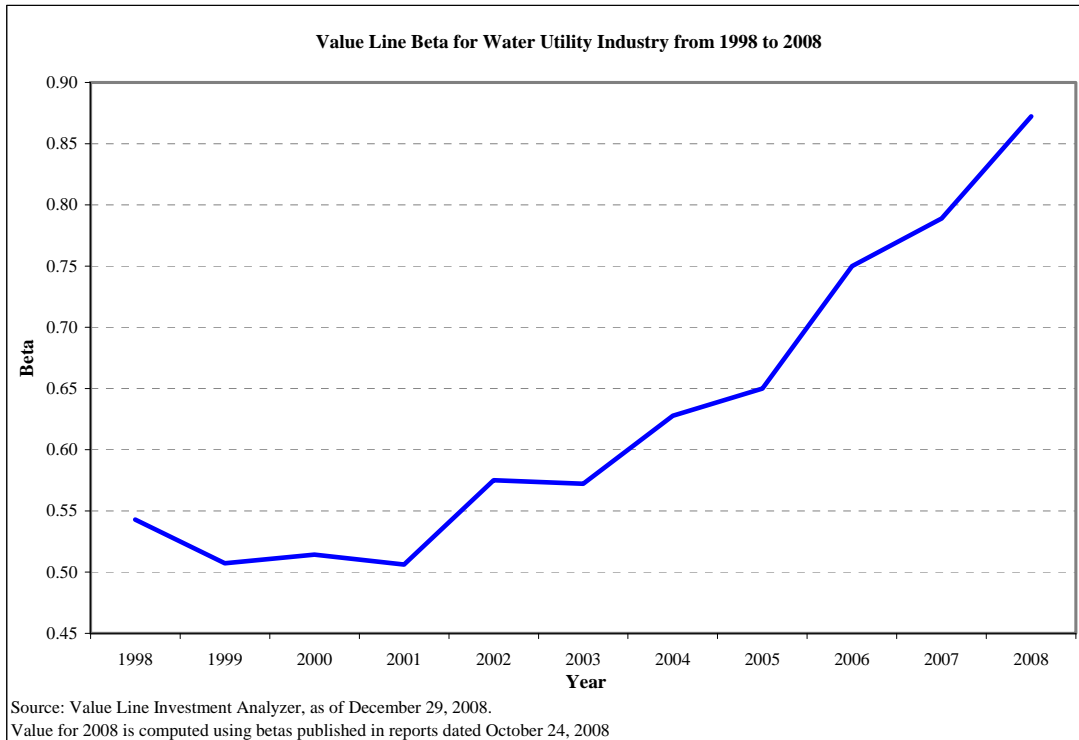
¹⁶ *Ibid*, p. 353.

¹⁷ C-J. Kim, J.C. Morley and C.R Nelson (2004), "Is There a Positive Relationship Between Stock Market Volatility and the Equity Premium," *Journal of Money, Credit and Banking*, Vol. 36.

1 **Q17. WHAT BEARING DOES THIS HAVE ON WATER UTILITIES THAT,**
2 **ACCORDING TO THE BLANK DIRECT, HAVE LOW RISK AND ARE**
3 **THEREFORE LIKELY TO BE MORE ATTRACTIVE ALTERNATIVES FOR**
4 **INVESTORS UNDER CURRENT CONDITIONS?**¹⁹

5 A17. Although investors traditionally have viewed water utilities as relatively low risk
6 compared to many other industries, the risk of the equity invested (or the systematic risk)
7 in the industry is increasing. *Value Line Investment Survey* (the “*Value Line*”) documents
8 this increase in systematic risk as the betas *Value Line* estimates for the utility companies
9 in the water sample have increased over time. Figure 2 below shows the average
10 estimated betas for the water sample. Based upon the end-of-year reports,²⁰ *Value Line*’s
11 estimated betas for the water utility companies have increased from an average of about
12 0.54 in 1998 to an average of about 0.87 in October 2008.

13 **Figure 2**



14
15
18 *Ibid.* p. 357. The authors rely on a statistical (Markov-switching) model of the ARCH type and data for the period 1926 to 2000 for their analysis.

19 See lines 17-20 on p.10 of the Blank Direct.

20 The 2008 beta estimates are taken from October 24, 2008 *Value Line Summary & Index*.

1 **Q18. ARE VALUE LINE BETAS A RELIABLE MEASURE OF THE WATER**
2 **INDUSTRY'S SYSTEMATIC RISK?**

3 A18. Yes. While the stocks of publicly traded water companies, as discussed in the Villadsen
4 Direct, trade relatively infrequently, the impact hereof on estimated betas do not change
5 significantly over time, so the trend illustrated in Figure 2 reflects an increase in the water
6 industry's systematic risk. At the same time, there are other indications that the overall
7 risk of the industry is increasing. Moody's Investors Service ("Moody's") and Standard
8 & Poor's ("S&P") both note the need for significant capital expenditures and the costs of
9 complying with environmental and security regulations as sources of risk.²¹ Fitch notes
10 that the debt ratios are increasing.²² At the same time, the regulatory requirements
11 imposed on the water industry are evolving.²³ Hence the water industry is experiencing a
12 transition period which adds to the risk of the industry.

13 **Q19. WHAT EVIDENCE DO YOU HAVE THAT THE WATER INDUSTRY WILL**
14 **REQUIRE SUBSTANTIAL CAPITAL EXPENDITURES GOING FORWARD?**

15 A19. As noted in the Villadsen Direct pp. 34-35, the water industry is expected to undertake
16 substantial capital investments in coming years. For example, the Environmental
17 Protection Agency ("EPA") has indicated that the water industry needs to invest capital
18 of about \$224 billion over the next two decades to meet the nation's need for clean
19 drinking water and for wastewater disposal.²⁴ Similarly, *Value Line* notes the need for
20 investment totaling "hundreds of millions of dollars in the coming decade" by the water
21 utilities it follows as the EPA enacts more stringent requirements; portions of many
22 current water systems are approaching 100 years in age and require significant
23 maintenance, in some cases complete rebuilding.²⁵ The requirement for additional
24 capital investment is a substantial hurdle for a group of companies that *Value Line*

²¹ *Moody's*, Credit Risks Are Increasing for U.S. Investor Owned Water Utilities, Special Comment, January 2004 and *Standard & Poor's*, Key Rating Factors for Water Companies Around the World, July 17, 2006.

²² *Fitch Ratings*, 2007 Median Ratios for Water and Sewer Revenue Bonds – Retail Systems.

²³ For example, the Ground Water Rule, a set of water quality standards mandated by the EPA, was published in the Federal Register November 8, 2006.

²⁴ www.epa.gov/waterinfrastructure/infrastructuregap.html

²⁵ *Value Line Investment Survey*, Water Utility Industry, July 25, 2008, p. 1415.

1 estimates to have an annual profit of about \$450 million in 2009.²⁶ According to the
2 American Society of Civil Engineers (“ASCE”), New Mexico’s drinking water
3 infrastructure “needs \$1.04 billion over the next 20 years.”²⁷ The Company also expects
4 to incur substantial capital expenditures over the next several years as it continues to
5 invest in wells.

6 **Q20. PLEASE SUMMARIZE WHAT OFFSETTING EFFECT THE CURRENT STATE**
7 **OF THE ECONOMY IS LIKELY TO HAVE ON THE COST OF CAPITAL.**

8 A20. In my view, focusing solely on the risk-free rate changes since the time of filing of the
9 Villadsen Direct is inappropriate since the current state of the economy is likely to
10 increase the cost of capital for all companies due to heightened investor uncertainty.
11 Investors are simply unwilling to commit capital to new investment without a much
12 higher expected return relative to the risk of the investment than in the relatively recent
13 past. This coupled with the requirement for substantial infrastructure investment in the
14 water industry in general, and for the Company’s continued efforts to maintain Clovis’
15 water supply, makes it imperative that the Commission not underestimate the required
16 return on equity.

17 **Q21. THE BLANK DIRECT CITES ORAL TESTIMONY BY DR. MORIN IN**
18 **SUPPORT OF ITS SUGGESTED ADJUSTMENT TO THE COST OF EQUITY.** ²⁸
19 **HOW DO YOU RESPOND?**

20 A21. As noted in the Blank Direct, Dr. Morin’s reduced his recommended cost of equity in a
21 matter before the Maryland Public Service Commission in response to a decline in the
22 long-term treasury bonds. Dr. Morin’s testimony clearly took place in a very different
23 financial environment. During the time frame in question, approximately August 2006 to
24 April 2007, the yield on long-term government bonds declined modestly while the yield
25 on utility and corporate bonds changed very little. At the same time, there was no
26 evidence of any substantial change in market volatility. Therefore, the factors discussed
27 above were not present and the circumstances that led Dr. Morin to reduce his

²⁶ *Ibid*, p. 1415.

²⁷ *American Society of Civil Engineers*, 2005 Report Card for America’s Infrastructure, New Mexico.

²⁸ Blank Direct pp. 12-13.

1 recommendation are not comparable to those faced by New Mexico-American Water
2 today.²⁹

3 **Q22. DO YOU HAVE ANY FURTHER COMMENTS ON BLANK DIRECT?**

4 A22. Yes. The Blank Direct suggest as an alternative that a cost of equity of 9.715 percent as
5 approved by the Commission in the Company's 2006 rate case can be supported.³⁰ Not
6 only does Dr. Blank not provide any justification for this figure, but the proposal itself
7 introduces circularity in the rate making process and fail to assess the return on equity
8 that investors *currently* require.

9 **IV. CONCLUDING REMARKS**

10 **Q23. HAVE THE TESTIMONIES PROVIDED BY MR. PATIN OR DR. BLANK**
11 **CAUSED YOU TO CHANGE YOUR COST OF EQUITY RECOMMENDATION?**

12 A23. No. I continue to find that a cost of equity of 11¾ percent is reasonable for New Mexico-
13 American Water.

14 **Q24. DO YOU HAVE ANY OTHER OBSERVATIONS ON THE COST OF EQUITY**
15 **FOR NEW MEXICO-AMERICAN WATER?**

16 A24. Yes. As noted in my testimony above, the recent turmoil in financial markets has caused
17 the cost of debt and equity to increase. For a utility that needs to undertake investments
18 in infrastructure, it is therefore imperative that the allowed return on equity and overall
19 return are such that it maintains its access to capital.

20 **Q25. DOES THIS CONCLUDE YOUR REBUTTAL TESTIMONY?**

21 A25. Yes.

²⁹ Figure BV-R1 shows Moody's utility bond yield for the period August 2006 to December 2008 and Figure BV-R2 shows the volatility of financial markets for the same period.

³⁰ See p.13 of Blank Direct.

SUPPORTING FIGURES

Figure BV-R 1

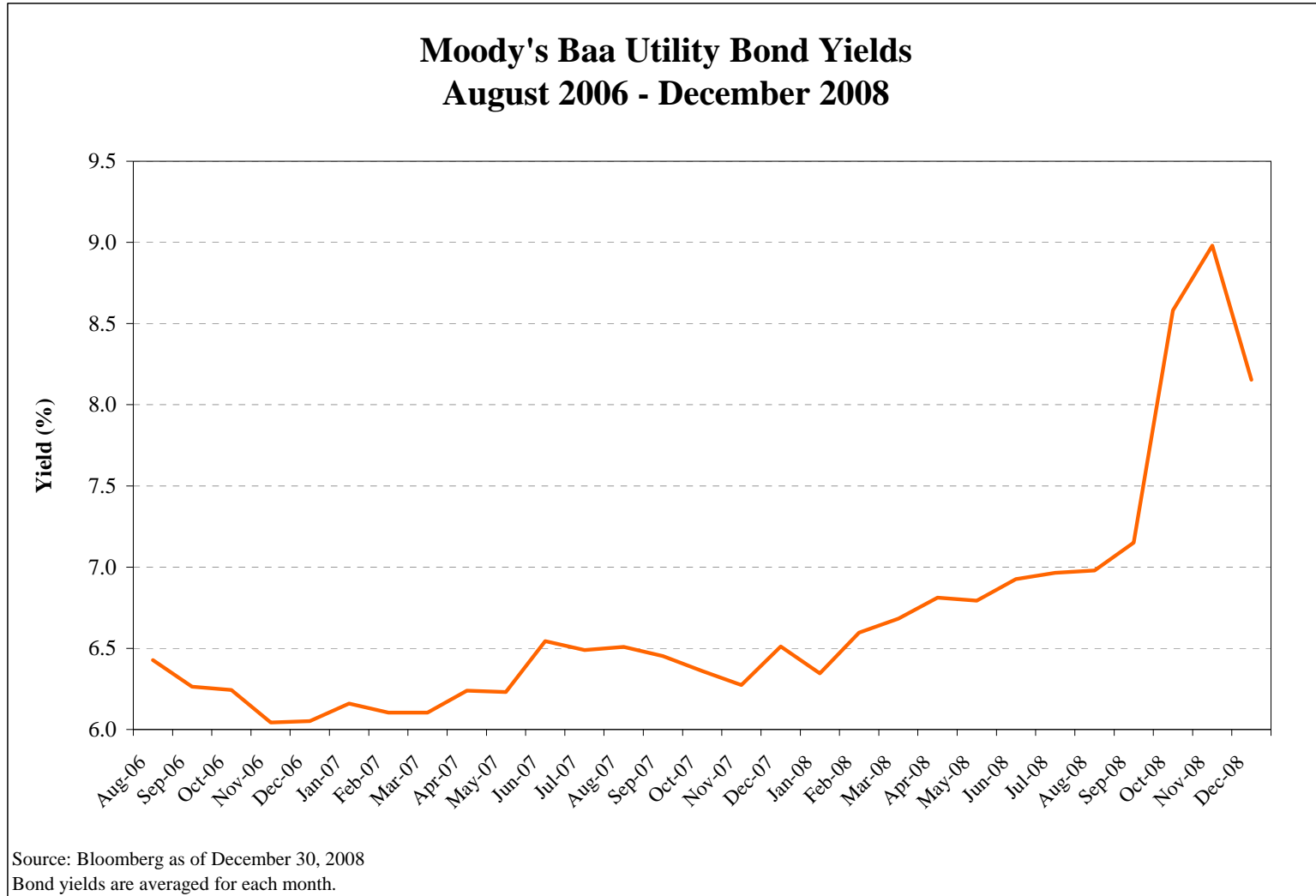


Figure BV-R 2

