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 DISTRICT AS FILED UNDER ADVICE NOTICE NO. 32,

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

Case No. 11-00196-UT

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

NOVEMBER 28, 2011

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EXECUTIVE SUMMARY

Dr. Bente Villadsen files rebuttal testimony on behalf of New Mexico-American Water Company. She finds that the applied for return on equity of 11.75% remains valid and therefore believes the recommendations of Dr. Larry Blank on behalf of the City of Clovis and Mr. Thomas C. Patin on behalf of Staff to be too low.

The adjustment that Dr. Larry Blank made to her recommendation fails to capture the unique nature of the current financial markets and the expected increase in interest rates. In addition, she finds Dr. Blank's recommendation to include approximately 7.5% short-term debt at a cost well below current utility bond yields without merit and likely to cause undue pressure on New Mexico-American Water's credit metrics.

She cautions against confusing the allowed return on equity with the earned return on equity emphasizing the importance of the earned return on equity for credit worthiness. This is especially important for a utility such as New Mexico-American water, which is incurring infrastructure expenditures but operates under a historic test year, so that there is a delay in the recovery on and of these costs.

Finally, Dr. Villadsen re-iterates the fact that financial markets currently are more volatile than has been the case historically or even in recent times. As investor uncertainty leads to a higher required return, it is necessary that New Mexico-American Water be allowed to earn a return on equity that is sufficiently high that it will be able it to attract both equity and debt investors.

I. INTRODUCTION AND SUMMARY

Q1. ARE YOU THE SAME BENTE VILLADSEN WHO FILED DIRECT TESTIMONY ON BEHALF OF NEW MEXICO-AMERICAN WATER COMPANY IN MAY 2011?

A1. Yes.

Q2. WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY?

A2. I have been asked by New Mexico-American Water Company ("New Mexico-American Water" or the "Company") to review and respond to testimony on cost of capital by Dr. Larry Blank on behalf of the City of Clovis ("Blank Testimony") and Mr. Thomas C. Patin on behalf of New Mexico Public Regulation Commission ("PRC") Staff ("Patin Testimony").

Q3. PLEASE SUMMARIZE THE RECOMMENDATIONS PUT FORWARD IN THIS CASE.

A3. Table R-1 below summarizes the Company's requests as well as the recommendations in the Patin Testimony and the Blank Testimony.

Table R-1: Summary of Cost of Capital and Capital Structure Recommendations[1]

	Company Request	Staff	Blank
ROE	11.75%	10.00%	10.01%
Common Equity	45.95%	52.00%	42.52%
Long-Term Debt	54.05%	48.00%	50.02%
Short-Term Debt	n/a	n/a	7.46%

Q4. HOW DOES THE PATIN TESTIMONY AND THE BLANK TESTIMONY ARRIVE AT THE RECOMMENDATIONS LISTED IN TABLE R-1 ABOVE?

A4. While the Patin Testimony calculates the DCF-based cost of equity for a group of water utilities and for a group of electric utilities using Value Line data, the Patin Testimony does not rely on the calculations to arrive at its recommendation of 10% ROE on 52% equity. Instead, the Patin Testimony acknowledges that a

[1] Sources: Company Schedule A-5, Patin Direct p. 15, Blank Direct p. 17.

variety of factors have affected the cost of equity in recent months and therefore recommends an ROE that is higher than what Staff calculated using the standard DCF.[2] Second, the Blank Testimony does not perform a cost of capital estimation, but subtracts 1.74%, based on an adjustment to the risk-free rate, from my recommended cost of equity of 11.75% to arrive at 10.01%.[3] However, the Blank Testimony notes that if the adjustment is applied only to the Capital Asset Pricing Model ("CAPM"), then the "resulting midpoint cost of equity should be no greater than 10.88%."[4]

Q5. WHAT ARE YOUR REACTIONS TO THE RECOMMENDATIONS IN THE PATIN TESTIMONY AND THE BLANK TESTIMONY?

A5. First, the Blank Testimony's recommendation to allow the Company to earn only 0.37% on approximately 7.5% of the rate base in combination with an allowed ROE of 10.01% on a low equity percentage of 42.5% simply leads to too low cash flow for the Company. This is especially true given the historic test year approach that necessarily leads to a lag between the time money was invested in infrastructure and the time this money earns a return. Specifically, I am concerned that a weighted cost of capital of 7.33% would result in a cash flow so low it could be damaging to the Company's credit metric on a stand-alone basis. New Mexico-American Water has in the past been unable to earn its allowed return and a combination of low cash flow and a weak balance sheet with only 42.5% equity would negatively affect the Company's already weak credit metric.[5] Second, the Patin Testimony acknowledges the problems with current cost of equity estimates and also the importance of debt coverage to increase the recommended equity percentage to 52%.[6] While I believe the 10% return on equity is too low for Company, I agree that a 52% equity ratio will enhance New Mexico-American Water's debt coverage and credit profile.

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[2] Patin Testimony p. 14 and Staff Schedule TCP-2.

[3] Blank Testimony p. 12-13. The 1.74% was arrived at looking at the difference between the forecasted risk-free rate as of April 2011 and the current (August to November) realized risk-free rate.

[4] Blank Testimony p. 15.

[5] Villadsen Direct p. 56-57.

Q6. WHAT ISSUES DO YOU ADDRESS IN THE REMAINDER OF YOUR REBUTTAL TESTIMONY?

A6. First, I address the Blank Testimony's recommendation focusing on its determination of the ROE and the inclusion of short-term debt. Second, I address the Patin Testimony focusing on the difference between allowed and earned returns. Because the Patin Testimony does not recommend the DCF-based ROE it estimates, I do not comment on the methodology.

II. THE BLANK TESTIMONY

Q7. HOW DOES THE BLANK TESTIMONY ARRIVE AT ITS RECOMMENDATION?

A7. The Blank Testimony calculates the difference between the risk-free rate I relied upon and the current yield on 20-year government bonds using data from August 1 to November 1, 2011. The Blank Testimony then reduces my recommended ROE of 11.75% by the calculated difference of 174 basis points to recommend an ROE of 10.01%. However, the Blank Testimony also references the 10.25% ROE allowed in New Mexico-American Water's last rate case and finds that if his adjustment of 1.74% is applied to the Capital Asset Pricing Model (CAPM), then the revised average is 10.88%.[7]

Q8. HOW DO YOU RESPOND TO THIS CALCULATION?

A8. The reasoning behind this calculation is wrong for several reasons. First, I relied on a risk-free rate that was consistent with the risk-free rate at the time of estimation but adjusted for an unusual increase in the spread between utility bond yields and government bond yields. My risk-free rate was consistent with the expected risk-free rate for 2012-13.[8] Comparing that rate with the currently unusually low yield on 20-year government bonds is inconsistent and fails to consider the unusual developments in financial markets in recent months. In

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[6] Patin Testimony p. 14.

[7] Blank Testimony p. 15.

[8] Villadsen Direct p. 26-27.

addition, it is inconsistent to update the risk-free rate in the cost of equity calculation but not update the rate base and other data used to determine New Mexico-American Water's rates.

Q9. WHY IS IT INCONSISTENT TO COMPARE YOUR RISK-FREE RATE TO THE CURRENT YIELD ON 20-YEAR GOVERNMENT BONDS?

A9. First, risk-free rates are currently unusually low with the spread between BBB-rated utility bonds and 20-year government bond yields has increased substantially since my direct testimony was filed and now stand at approximately 220 basis points, which is an increase of almost 50 basis points from the time of my direct testimony. This indicates that risk-free rate is <u>not</u> indicative of the cost of capital for a utility. If the Blank Testimony were to rely on changes in risk-free rates to change the cost of equity estimate, it would reduce the ROE only by the change in the 20-year yield but adjust for the increase in yield spread. This would result in an ROE of approximately 10.91%.[9] However, this figure fails to consider the reasons the government bond yields have dropped so dramatically. Second, I looked to the forecasted increase in government bond yields as provided by the Federal Reserve of Philadelphia as indications of the risk-free rates during the time rates will be in effect. At the time, the Philadelphia Federal Reserve's survey indicated an increase of 50 to 90 basis points over the next one to two years.[10] In its most recent survey, the Philadelphia Federal Reserve also finds that 10-year government bond yields are expected to increase by 40 to 110 basis points over current yields.[11] Thus, using the forecasted risk-free rate, the Blank Testimony's adjustment would result in an ROE of 10.41 to 11.11 percent. Third, the reasoning behind the Blank Testimony's recommendation fails to consider the substantial impact that the debt crisis in Europe have had on U.S. government debt. As the debt crisis in Europe has deepened, investors have

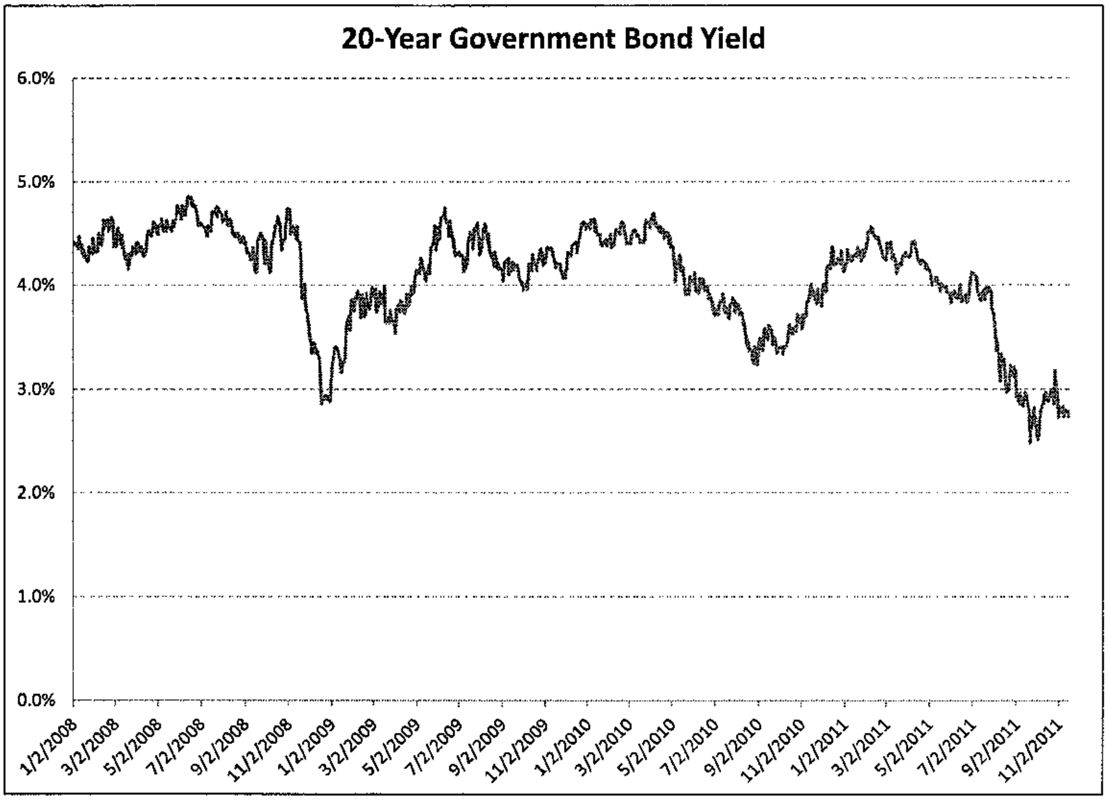
[9] Calculated as: 11.75% + Change in 20-year yield + Change in yield spread = 11.75% - 1.35% + 0.5% = 10.9%.

[10] Villadsen Direct p. 26.

[11] *Philadelphia Federal Reserve*, "Survey of Professional Forecasters," August 12, 2011.

fled to safety and that has resulted in historically low yields on U.S. government bonds. This is evident in Figure R-1 below which shows the development in the yield on 20-year government bonds.

Figure R-1



It is evident from Figure R-1 above that the yield on 20-year government bonds has declined dramatically over the last 3 months as Greece needed a second bail out and the crisis seemed to spread. The lagging recovery of the U.S. market likely also played a role.

Q10. WHAT IS YOUR CONCERN ABOUT THE INCLUSION OF SHORT-TERM DEBT IN NEW MEXICO-AMERICAN WATER'S CAPITAL STRUCTURE?

A10. I have three primary concerns with allowing approximately 7.5% short-term debt into the capital structure. First, even if the cash working capital is negative at

$78,422, as the Blank Testimony argues[12] and that capital is used to finance long-lived assets, there is no reason to include all short-term debt, $2,833,626, in the capital structure as it appears the Blank Testimony suggests. Second, short-term debt is not commonly used to finance long-lived utility assets and necessarily needs to be refinanced shortly. Put differently, New Mexico-American Water will need to refinance this debt within a short time horizon and is unlikely to be able to refinance at a cost of 0.3737%. Third, allowing such a low return on a non-trivial fraction of the Company's rate base will result in a cash flow to the Company that is substantially reduced from its true cost of capital for long-lived assets and will strain the Company's credit metrics.

Therefore, the Blank Testimony's inclusion of substantial short-term debt at a very low cost rate underestimates the cost of capital by a non-trivial amount.

Q11. DO YOU HAVE ANY OTHER COMMENTS ON THE CAPITAL STRUCTURE?

A11. Yes. The Rebuttal Testimony of Ms. Sheryl Hubbard ("Hubbard Rebuttal) indicates that New Mexico-American Water has increased its common equity from approximately $16.2 million to almost $17 million at the end of October.[13] Thus, the Company is moving towards a less leveraged capital structure and thus is improving its balance sheet. I.e., the point above that the short-term debt is short term is borne out by the updated capitalization figures in the Hubbard Rebuttal, which also shows a lower short-term debt than does the Blank Testimony.

II. THE PATIN TESTIMONY

Q12. WHAT ISSUES IN THE PATIN TESTIMONY DO YOU ADDRESS?

A12. I address two key issues. First, I address the Patin Testimony's ROE recommendation and second, I discuss the difference between the allowed ROE and the earned ROE. Because the Patin Testimony does not rely on its

[12] Blank Testimony p. 16.

[13] Schedule G-1 of the Application and Hubbard Rebuttal, respectively.

calculations to recommend an ROE for the Company, I shall not comment on the calculations.

Q13. HOW DO YOU REACT TO THE PATIN TESTIMONY'S RECOMMENDATION?

A13. As indicated in Table R-1 above, the Patin Testimony recommends an ROE of 10% on 52% equity and accepts the Company's embedded cost of debt estimate of 6.09%. As noted above, I agree with the Patin Testimony that the current environment has substantially impacted the cost of equity and estimation results. However, I find the recommended ROE to be too low given the Company's difficult financial situation and especially given the other reductions in cash flow that Staff recommends.[14] New Mexico-American Water has, as noted above, been unable to earn its allowed return on equity since 2001[15] and faces an asymmetric risk in that the Company is more likely to be unable to earn its allowed return on equity than to exceed its allowed ROE.[16] This is because the Company is investing in infrastructure, but only will be able to recover its costs when the project is included in its authorized rate base as a result of a future rate case.

Q14. WHAT COMMENTS DO YOU HAVE ON THE ALLOWED VERSUS EARNED RETURN ON EQUITY?

A14. The Patin Testimony at p. 5 states

> the ***cost*** of equity to the regulated utility is equal to the ***return*** on equity realized by the investor. [Emphasis in original]

However, there is a significant difference between the cost of equity or allowed return on equity and what investors realize. The realized return to investors is impacted by many factors, including the economy, industry and company-specific issues as well as regulatory approaches. For example, if a utility is incurring

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[14] From the testimony of Mr. Charles W. Gunter p. 6, I understand Staff is recommending a reduction in depreciation expenses and rate base.

[15] Villadsen Direct, Table 5, p. 57.

[16] See the Villadsen Direct pp. 60-61 for additional discussion.

large construction costs but operates in a regime with a historic test year and no CWIP in rate base, there will necessarily be a delay in the recovery on and of investments. In contrast, the cost of capital is the return that investors expect on the investment. Thus, the cost of equity is an ex ante concept whereas the realized return on equity is an ex post concept. Therefore, the two figures often differ and indeed the realized return that New Mexico-American Water's investors have received over the past 10 years has been below the allowed return on equity. Presumably, the allowed return on equity was the Commission's best estimate of the cost of equity.

I note that, for example, credit rating agencies and creditors are particularly concerned with the realized return and judge credit worthiness based on realized returns.[17] I recognize that Staff's suggestion to increase the equity percentage in the Company's capital structure, everything else equal, will enhance the debt coverage.

IV. CONCLUSIONS

Q15. HAS ANYTHING THAT SUBSTANTIALLY AFFECTS THE COST OF CAPITAL TRANSPIRED SINCE YOU SUBMITTED YOUR DIRECT TESTIMONY?

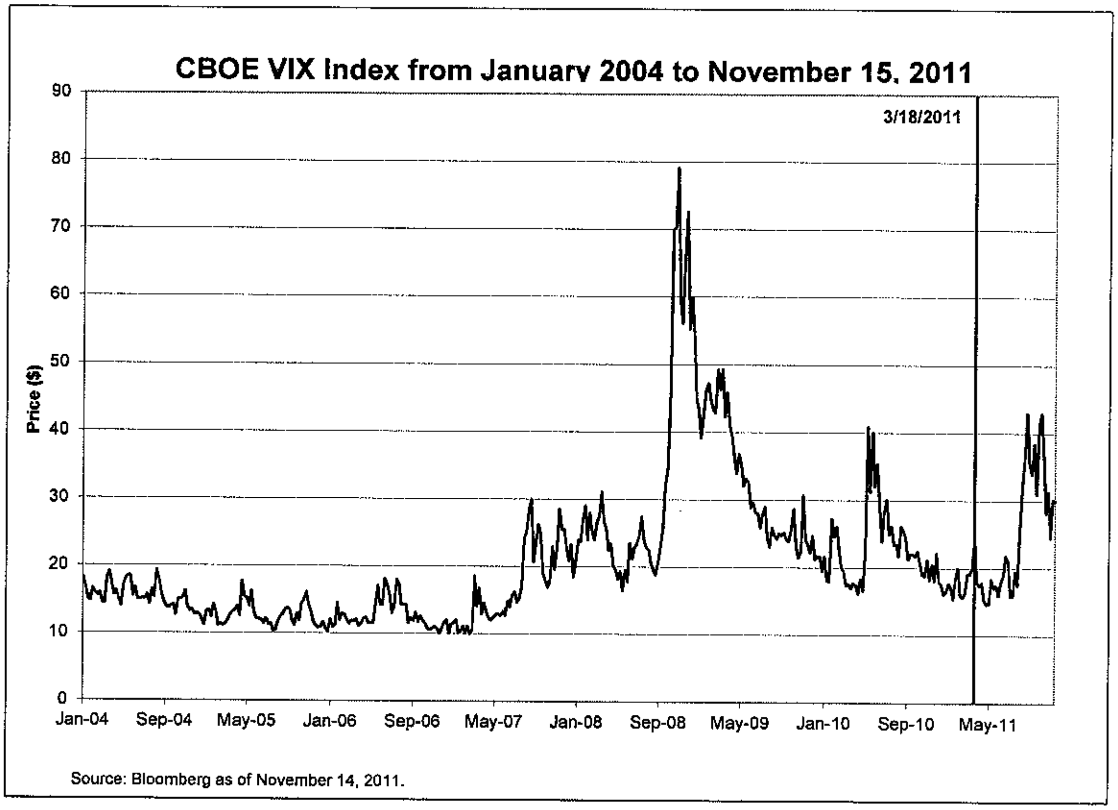
A15. Yes. As discussed in my response to CITY 1-58 attached to this rebuttal testimony as Exhibit BV-R1, financial markets have fallen back into substantially more turmoil than they were as of May 2011. To illustrate this effect, Figure R-2 below shows the VIX index from its start in 2004 to November 14, 2011. The VIX index is a key measure of market volatility and a barometer of investor uncertainty. As can be seen from Figure R-2, market volatility is up substantially since my direct testimony was filed in May of this year. Specifically, the VIX index has recently been around 30% and was as high as 40% in September 2011; almost twice the average of 21% from 2004 to today. As discussed in my direct testimony,[18] market volatility is important because a higher level of volatility

[17] See Villadsen Direct, Section V for a discussion of this issue.

[18] Villadsen Direct pp. 23-27.

leads to a higher risk premium and thus, everything else equal, a higher expected return on equity.

Figure R-2



There are many reasons why financial markets currently are highly volatile. The ongoing debt crisis in Europe, the inability of the U.S. economy to gain traction, and a multitude of unresolved political issues such as the government budget and tax rates going forward to name a few.

Q16. BASED ON THE DISCUSSION ABOVE, WHAT DO YOU CONCLUDE?

A16. Based on the discussion above, I do not believe the cost of capital has declined since my direct testimony was filed in April of this year and I find the recommendations of the Blank Testimony and the Patin Testimony too low.

The Blank Testimony's approach of simply deducting the difference between my forward looking risk-free rate and the current yield on 20-year government bonds from my recommended ROE (1) is inconsistent in that it compares ex ante and ex post figures and (2) fails to consider the reasons why the yield on 20-year government bonds has dropped over the last 3-9 months. In addition, the Blank Testimony suggests including approximately 7.5% short-term debt in the capital structure at a very low cost rate. This is problematic for at least two reasons. First, there is no reason to believe that the Company uses $2.8 million of short-term debt to finance long-lived assets and second, the very low cost rate the Blank Testimony assigns to this capital will substantially affect the Company's cash flow and hence its ability to enhance its credit metrics.

The Patin Testimony does not adequately distinguish between the allowed return and the realized return. Because New Mexico-American Water over a 10-year period has been unable to earn its allowed return on equity, it is vital that the Company be able to generate sufficient cash flow to enhance its credit metrics and attract capital.

Q17. DOES THE FACT THAT YOU DO NOT DISCUSS ALL ASPECTS OF DR. BLANK'S OR MR. PATIN'S TESTIMONY MEAN THAT YOU AGREE?

A17. Not necessarily.

Q18. DOES THIS CONCLUDE YOUR REBUTTAL TESTIMONY?

A18. Yes.

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 DISTRICT AS FILED UNDER ADVICE NOTICE NO. 32, **NEW MEXICO-AMERICAN WATER COMPANY, INC., Petitioner.**	**Case No. 11-00196-UT**

AFFIDAVIT OF BENTE VILLADSEN

COMMONWEALTH OF MASSACHUSETTS)
) ss.
COUNTY OF MIDDLESEX)

I, Bente Villadsen, being first duly sworn, depose and state that the foregoing Rebuttal Testimony of Dr. Bente Villadsen constitutes my prepared rebuttal testimony in this proceeding, my answers to the questions posed therein are true and correct to the best of my knowledge, information and belief, and the exhibits and schedules attached thereto were prepared or compiled by me or under my direction and supervision.

Date: November 21, 2011

BENTE VILLADSEN

SUBSCRIBED AND SWORN TO before me this 21st day of November, 2011.

Notary Public

My Commission Expires: November 7, 2014

MARJORIE J. FISCHER
Notary Public
COMMONWEALTH OF MASSACHUSETTS
My Commission Expires
November 7, 2014

EXHIBIT BV-R1: RESPONSE TO CITY 1-58

COMPANY: NEW MEXICO AMERICAN WATER COMPANY
GENERAL RATE CASE – YEAR - 2011
CASE NO: 11-00196-UT

Response provided by: Dr. Bente Villadsen
Title: Consultant for New Mexico American Water

Address: 44 Brattle Street
Cambridge, MA 02138.

Company Response Number: CITY 1-58

Q. **CITY OF CLOVIS INTERROGATORY/ REQUEST FOR PRODUCTION 1-58 (NM-AW):**

Direct Testimony of Dr. Bente Villadsen: Please indentify any specific changes in financial market conditions and/or changes specific to NMAW that would suggest that the reasonable return on equity has increased since the Commission's last decision in Case No. 08-00134-UT.

A. Dr. Villadsen has not estimated the return on equity as of May 2009, when the decision in Case No. 08-00134-UT was issued. Therefore, the response below does not speak to the reasonableness of the allowed return on equity in Case No. 08-00134-UT, but exclusively to the relative return on equity in May 2009 and now. In addition, Dr. Villadsen has not studies all financial market conditions and therefore only provides examples.

In May 2009, financial markets were starting to recover from the financial crisis that engulfed the world in the late summer / early fall of 2008. As shown on the attached Figure "Attachment: Response to CITY 1-58, page 1, VIX Index", the VIX index, which is a commonly used measure of market volatility and an indicator of investor nervousness, is higher now than in May 2009.[1] An increase in the volatility of financial markets leads investors to demand a higher risk premium to invest in equity, so an increase in the VIX index indicates an increase in the cost of equity capital.[2] The impact that markets have taken longer to recover than in past recessions has yet to be studied by researchers, increase the return investors require to provide equity capital. This notion is consistent with the finding by the Investment Company Institute[3] that cash flows into mutual funds' domestic equity generally are negative and have been negative since the start of the financial crisis. The attached figure "Attachment: Response to CITY 1-58, page 2, Net New Fund Flow" further demonstrates that the cash flow in the

[1] See Bente Villadsen Direct Testimony (Villadsen Direct) pp. 23-24 for further information on the VIX index. The data was obtained from Bloomberg.

[2] Villadsen Direct p. 24 and the referenced article, "Expected Stock Return and Volatility," by K. French, W. Schwert and R. Stambaugh *in Journal of Financial Economics* 1997.

[3] The Investment Company Institute is the national association of investment companies and includes mutual funds, closed-end funds, and exchange-traded funds among others. It provides statistical data and research on investors and retirement plans.

Response provided by: Dr. Bente Villadsen
Title: Consultant for New Mexico American Water

Address: 44 Brattle Street
Cambridge, MA 02138.

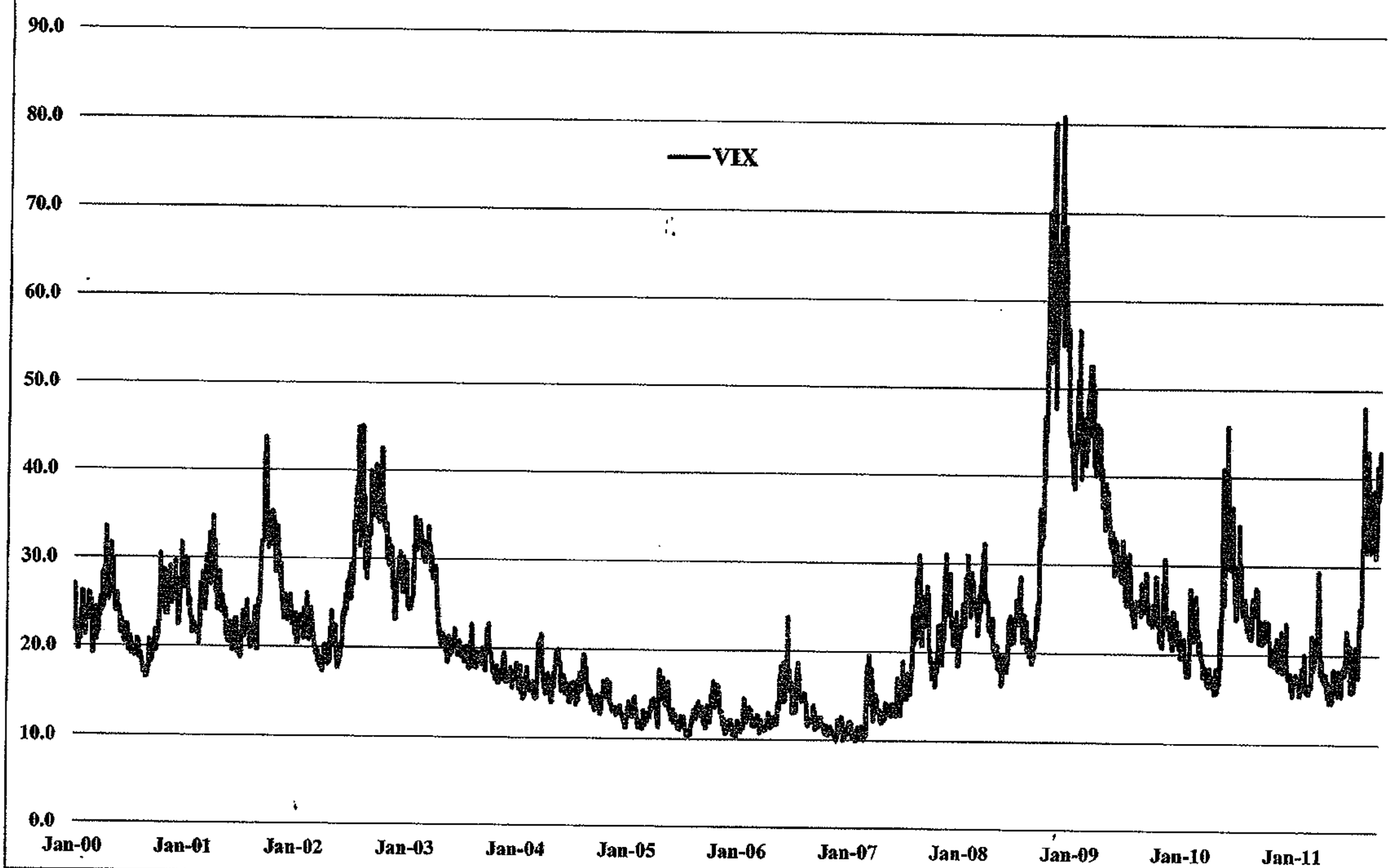
Company Response Number: CITY 1-58

late summer 2011 was more negative than at any point since the start of the financial crisis. The pattern is consistent with the observation that the average investor's risk aversion is high and that investors continue to be reluctant to provide equity capital. The rate at which they withdraw such equity capital is higher now than in May 2009.

Regarding company specific issues, I note that back in 2009, the Company had earned below its allowed return for the past 8 years and below the cost of debt for the past 5 years. By the end of 2010, the Company had experienced 10 years of earning below its allowed cost of equity and 7 years of earning below the cost of debt. The low earned return has weakened the Company's credit metric and for the Company to get back to being a solid investment grade company on a stand-alone basis, it needs to improve its cash flow. I therefore find stronger evidence today than a couple of years back that it is necessary to allow a return on equity that provides the Company an opportunity to earn a return consistent with being an investment grade entity.[4]

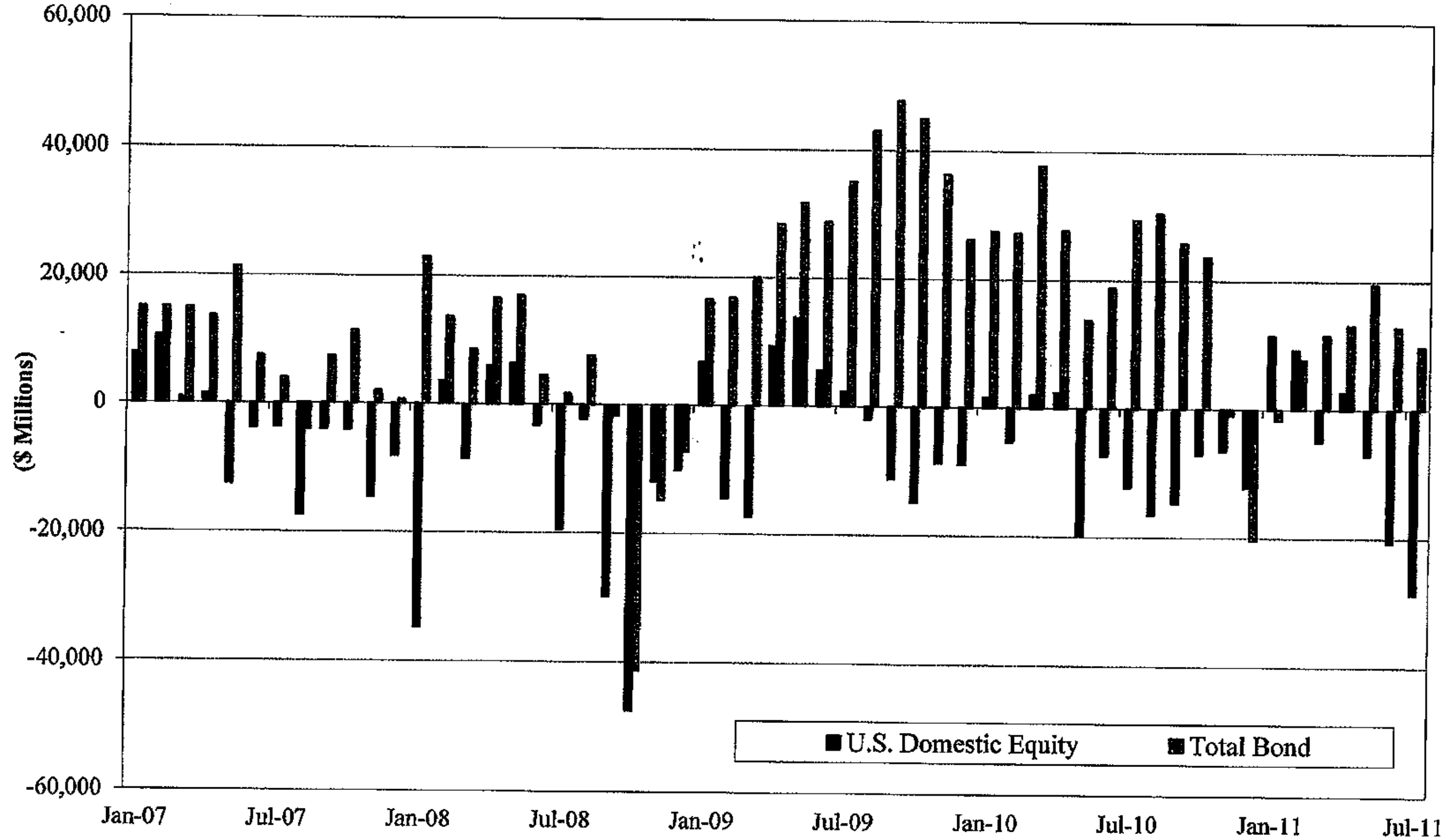
[4] Dr. Villadsen is aware that New Mexico-American Water's assets are expected to be acquired by Epcor in early 2012. She does not believe that a change of ownership affects the cost of capital.

Attachment: City 1-58, page 1
Chicago Board Options Exchange SPX Volatility Index



Attachment: City 1-58, Page 2

Net New Fund Flow



Source: Investment Company Institute, accessed on September 2011.