Exhibit No.:
Issue: *Rate of Return and Capital Structure*
Witness: *Zephania Marevangepo*
Sponsoring Party: *MoPSC Staff*
Type of Exhibit: *Surrebuttal Testimony*
Case No.: *SR-2013-0016*
Date Testimony Prepared: *April 29, 2013*

MISSOURI PUBLIC SERVICE COMMISSION

UTILITY SERVICES DIVISION

SURREBUTTAL TESTIMONY

OF

ZEPHANIA MAREVANGEPO

EMERALD POINTE UTILITY COMPANY

CASE NO. SR-2013-0016

Jefferson City, Missouri
April 29, 2013

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OF THE SURREBUTTAL TESTIMONY OF

ZEPHANIA MAREVANGEPO

EMERALD POINTE UTILITY COMPANY

CASE NO. SR-2013-0016

SURREBUTTAL TESTIMONY

OF

ZEPHANIA MAREVANGEPO

EMERALD POINTE UTILITY COMPANY

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INTRODUCTION

Q. Please state your name.

A. My name is Zephania Marevangepo.

Q. Please state your business address.

A. Missouri Public Service Commission, P.O. Box 360, Jefferson City, MO 65102.

Q. By whom are you employed and in what capacity?

A. I am employed by the Missouri Public Service Commission (Commission) as a Utility Regulatory Auditor III in the Financial Analysis Unit of the Utility Services Department, Regulatory Division.

Q. What is your educational background?

A. In July of 2007, I earned my Bachelor of Science degree in Business Administration, with a double major in Accounting and Financial Services, from Columbia College in Columbia, Missouri. I also earned a Masters in Business Administration with an emphasis in Accounting from Lincoln University in May of 2009.

On June 21, 2010, I was awarded the Certified Rate of Return Analyst (CRRA) professional designation by the Society of Utility and Regulatory Financial Analysts (SURFA). This designation is awarded based upon experience and successful completion of

a written examination - which I took and passed during my first attendance of a SURFA conference in April of 2010.

Q. Have you filed testimony in other cases before this Commission?

A. Yes. Please see Schedule ZM - 1.

Q. Have you made recommendations in any other cases before this Commission?

A. Yes. I have made numerous recommendations in finance cases, acquisition cases, small water and sewer rate cases, and telephone certificate cases.

Q. What is the purpose of your surrebuttal testimony?

A. To respond to Section IV CAPITAL STRUCTURE/ RETURN ON EQUITY/ DEBT COST of the rebuttal testimony filed by the Office of the Public Counsel (OPC) witness, Mr. Ted Robertson.

CAPITAL STRUCTURE AND RATE OF RETURN (ROR)

Staff's recommendation

Q. Before you respond to Section IV of Mr. Robertson's rebuttal testimony, can you please summarize Staff's capital structure and ROR recommendation that was filed as part of the Staff/Company Partial Disposition Agreement on March 13, 2013?

A. Yes. Staff recommended a hypothetical ratemaking capital structure, with 75 percent debt and 25 percent equity, for Emerald Pointe Utility Company's (Emerald Pointe) water and sewer operations. Staff also recommended a 13.26 percent return on equity (ROE) and a 7.34 percent ROR or weighted average cost of capital (WACC) for Emerald Pointe.

Q. Has Staff made any updates to the recommendations presented in the Disposition Agreement?

A. Yes. Staff updated its weighted average cost of debt, capital structure and resulting ROR since Staff's calculations were originally based on the *pro forma* financial information provided by Emerald Pointe at the time.

Emerald Pointe's finance application (SF-2013-0346), filed on January 22, 2013, contemplated issuing $62,000 of debt to White River Valley Electric Cooperative and $1,000,000 to Hawthorn Bank. However, the final terms and conditions that were filed on April 4, 2013, indicated an actual debt issuance of $66,860 to White River Valley Electric Cooperative, which was $4,860 more than Emerald Pointe's initial projection.

Staff updated Emerald Pointe's rate base, which caused Staff to also update its recommended capital structure to reflect the additional information that was made available by the company after the filing of the partial stipulation and agreement.

Tables 1 and 2 below show Staff's updated weighted average cost of debt and resulting ROR.

Table 1

Emerald Pointe Weighted Average Cost of Capital

Capital Component	Percentage of Capital	Cost	Weighted Cost
Common Equity	29.80%	13.26%	3.9515%
Debt	70.20%	5.35%	3.7574%
Total(Rate Base)	100.00%		7.7089%
ROE = **13.26%**			
ROR = **7.71%**			

Continued on next page

Table 2

Emerald Pointe Weighted Average Cost of Debt

	Debt Capital	Debt Weight	Cost of Debt	Weighted Average Cost of Debt
Hawthorn Bank Loan	$1,000,000	93.73%	5.50%	5.1553%
White River Loan	$66,860	6.27%	3.15%	0.1974%
	$1,066,860	100.00%		5.3527%

Source (Table 1&2): Schedule ZM - 2

Q. Can you please explain the changes to the Capital Structure?

A. Emerald Pointe's updated actual capital structure now has a debt ratio of less than 75 percent. Therefore, Staff no longer recommends the use of a hypothetical capital structure anymore.

Q. Can you please explain the effect of the extra debt and capital structure changes on Staff's recommendation?

A. Emerald Pointe's weighted average cost of debt changed from 5.36 percent to 5.35 percent and the resulting ROR changed from 7.34 percent to 7.71 percent. Because Staff's ROE recommendation was not dependent on the company's cost of debt information, Staff's ROE remained unchanged.

OFFICE OF THE PUBLIC COUNSEL'S (OPC) POSITION

Q. How does Mr. Robertson characterize Staff's overall ROR analysis and recommendation?

A. On page 20 of his rebuttal testimony, Mr. Robertson states his belief that Staff's analysis and recommendation is "nonsensical."

Q. What are Mr. Robertson's specific issues with Staff's recommendation?

A. Staff can discern, from the rebuttal testimony filed on behalf of OPC, Mr. Robertson's strong opposition to the following: (1) Staff's use of what Mr. Robertson characterizes as a "consolidated" approach to the capital structure of Emerald Pointe's water and sewer operations, (2) Staff's recommended use of a hypothetical capital structure, and (3) Staff's methodology for estimating Emerald Pointe's ROE.

STAFF'S RESPONSES TO SECTION IV OF OPC REBUTTAL TESTIMONY

Consolidated Capital Structure:

Q. Can you please elaborate on Mr. Robertson's concern about what he characterizes as Staff's "consolidated" capital structure recommendation for Emerald Pointe's water and sewer operations?

A. On page 14, lines 13 through 15, and page 16, lines 1 through 4, of his rebuttal testimony, Mr. Robertson opposes Staff's use of a "consolidated" capital structure. Mr. Robertson claims that Staff's consolidated approach infuses equity for one utility and reduces it for another. He went on to claim that the water utility does not have any debt but Staff imputed the sewer operations debt cost to the water operations capital structure.

Q. Do you view the capital structure you recommended as a "consolidated" capital structure?

A. No. Staff views it as a company-specific capital structure. Besides, Emerald Pointe is simply one utility company that provides two services - water and sewer.

A "consolidated" capital structure, in a simplified sense, is a collective representation of a holding company's individual subsidiaries' capital structures.

Q. Do you believe it is appropriate to have separate capital structures for Emerald Pointe's water and sewer operations?

A. Absolutely not. An attempt to develop separate water and sewer capital structures would otherwise suggest that Emerald Pointe, as an entity, should be 'deconsolidated' and hypothetically assume that there are two financially independent subsidiaries that should be viewed separately for ratemaking purposes. They are not.

Q. Are there any examples of large Missouri utilities that illustrate the fallacy of Mr. Robertson's logic?

A. Yes. Ameren Missouri provides electric and gas services but uses one capital structure. Ameren Missouri does not create two capital structures, electric operations capital structure and gas operations capital structure, for ratemaking purposes. This same situation applies to Emerald Pointe.

Q. Considering your disagreement with Mr. Robertson about the classification of your recommended capital structure as "consolidated," how would you classify the capital structure(s) being proposed by Mr. Robertson?

A. Operation/segment-specific assigned capital structure rather than an actual company capital structure.

Q. Can you please explain the specific reasons why Staff recommends the use of a company-specific capital structure for Emerald Pointe rather than an operation/segment-specific capital structure as proposed by Mr. Robertson?

A. Sure. Staff considered the following factors in its decision to recommend the use of a company-specific capital structure for Emerald Pointe for ratemaking purposes:

> (1) While Staff ascertains separate rate base values for Emerald Pointe's water and sewer operations, Staff understands that Emerald Pointe's financing and credit abilities are based on Emerald Pointe's, as a whole, cash flows and revenues.

> (2) While it is true that the proceeds from recent loans made to Emerald Pointe were primarily for investments in its sewer operations, this loan was not issued to Emerald Point "Sewer Company" because no such company exists. Staff believes that this is the very basic corporate structure that must be in place before one even considers separate capital structures for two operations within the same company.
>
> (3) Because Emerald Pointe does not have separate subsidiaries for its water and sewer operations, there is no way to even consider restrictions to ensure that cash flows or revenues generated by the water or sewer assets are kept separate. Moreover, there are currently no conditions that bar the use of sewer generated cash flows from financing water operations expenses or vice-versa.

Consequently, Staff computed its recommended ROR based on the evaluation of Emerald Pointe's company-specific capital structure rather than an operation/segment-specific, capital allocated capital structure as Mr. Robertson recommends.

Consolidated Hypothetical Capital Structure:

Q. Can you please state the capital structure Staff recommended and used to determine the updated ROR applied to Emerald Pointe's water and sewer operations?

A. An updated actual capital structure with 70.20 percent debt and 29.80 percent equity[1].

Q. How did Staff determine this actual capital structure?

A. Staff used Emerald Pointe's total rate base of $1,519,847 - as of March 31, 2013, as a proxy for total capital invested in the Company. Staff then deducted the debt capital of $1,066,860 to estimate the equity capital of $452,987 ($1,519,847-$1,066,860).[2]

Q. Can you please state the capital structure Staff initially recommended and used to determine the initial ROR applied to Emerald Pointe's water and sewer operations?

[1] See Schedule ZM -2
[2] *Id.*

A. Staff recommended, based on the test year (June 30, 2012) rate base *and pro forma* debt information, a hypothetical structure with 75 percent debt and 25 percent equity

Q. What was Emerald Pointe's *pro forma* capital structure based on the test year rate base and *pro forma* debt information?

A. 80.23 percent debt and 19.77 percent equity.

Q. Can you please explain why Staff recommended a hypothetical capital structure instead of Emerald Pointe's *pro forma* capital structure?

A. Staff's Small Utility Return on Equity (ROE)/ Rate of Return (ROR) Methodology states the following:

> In situations in which a small water and sewer utility has debt capital in excess of 75%, the FA Department believes it is appropriate to use a hypothetical capital structure that limits debt to 75% of total capital. Although it could be argued that Staff should also use a hypothetical capital structure if a company's capital structure is not cost efficient due to a high equity ratio, the FA Department decided not to limit the amount of equity in the capital structure. If a company shows that its capital structure consists of more than 75% debt, then a hypothetical capital structure of 75% debt and 25% equity will be assumed. For all situations wherein a small water and sewer company has debt capital less than 75%, the company's actual capital structure will be used in determining the company's ROR. [3]

Q. Why does Staff's methodology propose the use of a hypothetical capital structure in situations where small water and sewer utility companies' debt to capital ratio exceed 75 percent?

A. Staff does not believe that it is reasonable to assume that regulated small water and sewer utility companies, Emerald Pointe in this case, can support its operations

[3] Schedule ZM - 3, Page 4 of 7.

with a greater than 75 percent debt capital structure on an ongoing basis or for extended periods of time.

Q. What was Emerald Pointe's capital structure before issuing $1,066,860 of debt in March 2013?

A. 100 percent equity.

Q. What can Staff generally conclude regarding the effects of significant debt issuance by small water and sewer companies?

A. In the case of most small water and sewer companies, one-time investments can cause wild swings that can result in lop-sided capital structures. It is unreasonable to assume that Emerald Pointe's capital structure, affected by a single wild swing, will exist on an ongoing basis. Remember, Emerald Pointe had a 100 percent equity capital structure before the debt issuance.

Q. What makes Emerald Pointe's case different from that of publicly-traded companies?

A. Publicly-traded companies have more sources of capital. It is easier for them to issue equity along with debt to maintain a balanced capital structure.

Q. Do you wish to provide further support for the use of a hypothetical capital structure in cases where actual capital structures are lopsided?

A. Sure. Privately held small water and sewer utility companies do not typically manage a capital structure to a target in order to achieve a reasonable balance between a low cost of capital and sound credit quality. Unfortunately, many small water and sewer utilities in Missouri are troubled systems that are unable to attract capital without restrictive terms, such as shorter maturity dates and amortization requirements.

Q. Why are targeted capital structures important?

A. Entities attempting to maximize shareholder value will target capital structures that achieve the lowest cost of capital. However, because utilities provide an essential service, it is important to balance the use of leverage in order to achieve or maintain a desirable credit rating. As a result, actual capital structures of investment-grade, value maximizing, publicly-traded utilities tend to be less volatile and managed to a target; and on most occasions, they are used for purposes of ratemaking.

Q. Are you therefore implying that capital structures of privately held small water and sewer utilities are typically not consistently managed over time?

A. Yes. The very nature of the terms of the debt raised by small water and sewer utilities makes it difficult to do so. For example, Emerald Pointe's debt service payments require the payment of principal as well as interest. This is in stark contrast to typical balloon debt issued directly by Missouri's larger, publicly-traded utility companies. These larger companies are able to attract balloon debt because investors have a certain amount of confidence that these utilities will be able to refinance the principal when it comes due.

Q. What is Staff's basis for the 75 percent debt to capital cap used in its hypothetical capital structure approach?

A. Please see David Murray's surrebuttal testimony for a more thorough discussion of this issue, but it is my general understanding that it is based on Staff's understanding of S&P's benchmarks as it relates to actual realized capital structures.

Q. Mr. Robertson suggests in his rebuttal testimony, on page 21, lines 6-10, that a hypothetical capital structure is a product of Staff's reassignment of Emerald Pointe's actual structure and that the reassignment creates both higher and lower equity components. Did

you reassign any capital in your process of determining an appropriate ratemaking capital structure for Emerald Pointe?

A. No.

While it appears that a majority of the debt proceeds received by Emerald Pointe were used for the sewer operations, Staff did not assign this debt to the sewer operations. For the same reasons explained earlier, Staff treated it as Emerald Pointe debt. Mr. Robertson's suggested approach is impractical.

Q. Is the use of a hypothetical capital structure inappropriate?

A. No. While Staff does not dispute that a hypothetical capital structure is not representative of a company's actual capital structure, this does not render a hypothetical capital structure inappropriate.

Hypothetical capital structures have been accepted and used at state levels in situations where actual capital structures did not provide a reasonable representation of a firm's capital structure on an ongoing basis. Consequently, the use of hypothetical capital structures is not something that is outside the norm, especially for small water and sewer utility companies. It is simply a matter of stepping outside the box and attempting to balance what is fair and reasonable given a peculiar situation.

Return on Equity:

Q. How did Staff estimate Emerald Pointe's ROE?

A. Staff added a 4 percent risk premium to a 3-month average of the yields on *'B+'* rated 30-year public utility bonds.

Q. Is it Staff's understanding that Mr. Robertson, on page 19 and 20 of his testimony, does not agree with Staff's ROE estimation approach of adding a 4 percent risk

premium to a 3-month average of the yields on *'B+'* rated 30-year public utility bonds instead of Emerald Pointe's actual debt cost?

A. Yes.

Q. Can you please explain why Staff did not use Emerald Pointe's actual debt cost to estimate Emerald Pointe's cost of equity?

A. Emerald Pointe's cost of debt is based on a commercial loan with more restrictive terms than typical for long-term debt that a larger utility can issue directly to investors, either in a public or a private placement.

The source Staff relied on for an appropriate risk premium to apply to debt yields specifically anticipates adding the risk premium to yield-to-maturity rates, which are only applicable to debt issued directly by the company, not commercial loans.

Q. Is it Staff's position that Emerald Pointe's debt is not debt that would have an observable yield-to-maturity, and, therefore, not appropriate for use in estimating the cost of equity for Emerald Pointe?

A. That is correct. It does not have the characteristics of standard public utility debt. Hence, public utility debt issued directly to investors can have maturities of up to 30-years and typically don't require principal payments until maturity. Emerald Pointe's debt is a 5-year term commercial loan based on a 20-year amortization schedule. A five-year maturity with a requirement to pay down part of the principal during this period is not typical for an entity with strong credit quality. Emerald Pointe faces significant refinancing risk at the end of 5 years when it will be expected to refinance or to pay off its debt.

Q. Could Emerald Pointe have received a commercial loan that allows for more flexibility?

A. Apparently not. Emerald Pointe's response to Staff's data request three (3) states the following:

> ***Staff's Request No. 3***
> *Please explain Emerald Pointe's reasons and rationale in agreeing to execute a 5-year term loan based on a 20-year amortization instead of a 20-year loan based on a 20-year amortization.*
>
> ***Emerald Pointe's Response***
> *Response Emerald Pointe Utility Company made inquiries to several conventional lending institutions as well as SBA and USDA. A 20-year term with a 20-year amortization was not an option made available to Emerald Pointe. The current commercial lending environment for Emerald Pointe is such that the 5-year term based on a 20-year amortization was the only viable option.*

Q. What uncertainties or risks does Emerald Pointe face as a result of the nature of its debt?

A. Emerald Pointe's financial risk is consistent with the "highly-leveraged" risk profile as defined by Standard & Poor's financial ratio benchmarks.[4]

In order to put Emerald Pointe's extremely leveraged capital structure in perspective, the median for the 3-year average (2009-2011) of debt-to-capital ratios for water utility companies rated by S&P was 53.4% with the a range of 49.9% to 60.4%.

Q. If Staff was concerned about using Emerald Pointe's actual cost of debt to estimate the cost of equity, why did Staff still use this cost of debt in its recommended ROR?

A. Staff's Small Utility Return on Equity (ROE)/ Rate of Return (ROR) methodology states the following:

[4] Standard and Poor's, "Methodology: Business Risk/Financial Risk Matrix Expanded," September 18, 2012.

> Assuming the company's current cost of debt is reasonable for a hypothetical capital structure of 75% debt and 25% equity, Staff may use this current cost of debt. If the company's current cost of debt is unreasonable due to over use of leverage, Staff may use a hypothetical cost of debt.

Q. Can you please explain why Staff uses public utility bond yields in its risk premium approach to estimate the cost of equity for small water and sewer utility companies, such as Emerald Pointe?

A. Long-term utility bond yields are often used as benchmark by investors to determine how much additional return they will require for purchasing a utility's stock. It is important to use long-term utility bonds, in the 20 to 30-year maturity range, because utility stocks are viewed as long-term investments. Published average long-term utility bond yields are also preferred because the volume of yields gives assurance that it is a function of *market-driven* prices on utility debt.

EMERALD POINTE'S CREDIT RATING

Q. How did Staff decide on which class of public utility bonds to use for Emerald Pointe's ROE estimate?

A. Staff's cost of equity estimate for Emerald Pointe was premised on the Company being assigned a credit rating of *'B+'*, which was based on a (1) '*Strong'* Business Risk Profile estimate, (2) *'Highly Leveraged'* Financial Risk profile (FRP) and (3) the hypothetical capital structure. Consequently, Staff used an average for *'B+'* rated public utility bonds.[5]

Q. Please explain how you incorporated the two risk components (BRP and FRP) listed above to assign a *'B+'* rating?

[5] Schedule ZM – 4.

A. With components (1), (2) and (3) above, Staff used Schedule ZM - 4, attached to this testimony, to determine where Staff's assigned *'Strong'* BRP and *'Highly Leveraged'* FRP intersected in the chart.

Q. What was the basis for Emerald Pointe's *'Strong'* BRP?

A. It was based on Staff's understanding of Emerald Pointe's company-specific circumstances with regards to Emerald Pointe's ability to attract debt capital. This includes the fact that Emerald Pointe relies exclusively on the owners for equity capital and willing commercial banks for debt equity.

While admittedly subjective, Staff believed it was important to consider small water and sewer companies' actual experiences with attracting debt capital and the type of debt capital when assessing how risky their business profiles may be. Staff also understands that Emerald Pointe, at least, has the ability to take out commercial loans. This indicates that Emerald Pointe is more appealing than an entity that has utility assets that are not even valuable enough to be used as collateral but, on the other hand, less appealing than an entity that can issue debt directly to institutional investors.

Q. What was the basis for Emerald Pointe's *'Highly Leveraged'* FRP?

A. According to the financial risk indicators, which are based on *Standard and Poor's Business/ Financial Risk Matrix,* Staff assigned a *'Highly Leveraged'* status due to the extreme amount of debt represented in Emerald Pointe's capital structure.

SMALL UTILITY RETURN ON EQUITY (ROE)/RATE OF RETURN (ROR) METHODOLOGY

Q. In his rebuttal testimony, Mr. Robertson cites several concerns he has with Financial Analysis' Small Utility Return on Equity (ROE)/ Rate of Return (ROR) Methodology. Who was involved with the development of this methodology?

A. The entire Financial Analysis Unit contributed to the development of this methodology.

Q. Who supervised the development of this methodology?

A. David Murray, Utility Regulatory Manager of the Financial Analysis Unit.

Q. Is Mr. Murray sponsoring testimony in this proceeding?

A. Yes. Mr. Murray is sponsoring testimony in this proceeding due to the fact that much of Mr. Robertson's testimony addresses his concerns about a methodology the Financial Analysis Unit applies to all small water and sewer rate cases. Mr. Murray made the decision to implement the current policy the Financial Analysis Unit uses for purposes of recommending a ROR in these cases. Mr. Murray can answer any questions about the reasons for the implementation of this methodology in 2010.

CONCLUSION

Q. Is a 13.26 percent ROE reasonable for Emerald Pointe?

A. Yes. While this ROE may seem high compared to Staff's recommendations in larger utility rate cases, it is reasonable considering the nature of risks faced by Emerald Pointe.

Emerald Pointe is a small privately-held company. Equity interests of privately-held utilities are not liquid and therefore, cannot be sold with relative ease in the event that the owners want to exchange them for immediate cash, which usually is one of the imperative factors considered by some investors.

Consequently, there are certain practical limitations to estimating the cost of capital for such entities because they do not have a market driven cost of equity as is the case with publicly-traded utility companies.

Q. Is the use of hypothetical structure in cases where companies have a lopsided or volatile capital structure considered out of the norm?

A. Definitely not.

Q. What is Staff's final and updated capital structure, ROE and ROR recommendation for Emerald Pointe?

A. Staff's final recommendation is as follows:

(1) Actual capital structure with 70.20 percent debt and 29.80 percent equity,

(2) Consolidated ROE of 13.26 percent,

(3) Consolidated ROR of 7.71 percent.

Q. Does this conclude your surrebuttal testimony?

A. Yes.

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of the Request for an Increase in Sewer Operating Revenues of Emerald Pointe Utility Company	))))	Case No. SR-2013-0016

AFFIDAVIT OF ZEPHANIA MAREVANGEPO

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

Zephania Marevangepo, of lawful age, on his oath states: that he has participated in the preparation of the foregoing Surrebuttal Testimony in question and answer form, consisting of 17 pages to be presented in the above case; that the answers in the foregoing Surrebuttal Testimony were given by him; that he has knowledge of the matters set forth in such answers; and that such matters are true and correct to the best of his knowledge and belief.

ZEPHANIA MAREVANGEPO

Subscribed and sworn to before me this 29th day of April, 2013.

D. SUZIE MANKIN
Notary Public - Notary Seal
State of Missouri
Commissioned for Cole County
My Commission Expires: December 12, 2016
Commission Number: 12412070

Notary Public

SUMMARY OF CASE PARTICIPATION

ZEPHANIA
MAREVANGEPO

Date Filed	Issue	Case Number	Exhibit	Case Name
08/08/2011	Rate of Return	HR-2011-0241	Cost of Service Report	Veolia Energy Kansas City, Inc.
11/08/2010	Rate of Return	GR-2010-0363	Cost of Service Report	Union Electric Company d/b/a AmerenUE
07/20/2010	Rate of Return	GR-2010-0171	Surrebuttal	Laclede Gas Company
06/24/2010	Rate of Return	GR-2010-0171	Rebuttal	Laclede Gas Company
06/04/2010	Rate of Return/ Cost of Capital	GR-2010-0192	Cost of Service Report	Atmos Energy Corporation
05/24/2010	Rate of Return/ Cost of Capital	GR-2010-0171	Cost of Service Report	Laclede Gas Company
03/16/2010	Finance Case	GR-2009-0450	Rebuttal	Laclede Gas Company
02/23/2010	Finance Case	GR-2009-0450	Direct	Laclede Gas Company
3/20/2012	DSIM	EO-2012-0009	Rebuttal	KCP&L Greater Missouri Operations Company

Small Utility

Return on Equity (ROE)/Rate of Return (ROR)

Methodology

Prepared by

Financial Analysis Department
(Shana Atkinson, Zephania Marevangepo and David Murray)
Utility Services Division
Missouri Public Service Commission
September 2010
(updated in August 2011)

Financial Analysis Small Water and Sewer Return on Equity (ROE) Determination

Although the Financial Analysis (FA) Department's small water and sewer (W&S) rate case procedure had been premised on adding a range of risk premiums to the FA Department's cost of equity estimate in the most recent Missouri-American rate case, the FA Department decided to revise its generic procedure to allow cost of equity estimates for small water and sewer companies to be more responsive, current and specific than its old procedure. The FA Department's new procedure is based on a fairly generic risk premium methodology. Staff will apply a "standard" risk premium to a reasonable estimate of the current cost of debt for the subject company to arrive at an estimated cost of equity. Because small water and sewer companies typically don't issue debt that is actively traded, the FA Department must rely on its estimate of the subject company's credit rating and then determine a recent average cost of utility debt for this rating based on data the FA Department receives from its current source for utility debt yields, BondsOnline. The Department then adds the "standard" risk premium to this current cost of debt to estimate the cost of common equity. These capital costs are then applied to the appropriate weights in the capital structure to estimate a fair and reasonable rate of return.

Recommended Formula:

Recommended Return on Common Equity = Reuters Public Utility Bond Yield average of the past three months from BondsOnline + 3-4% risk premium.

This formula is based on the bond yield risk premium method for estimating the cost of equity. According to the textbook *Analysis of Equity Investments: Valuation* (2002) by John D. Stowe, Thomas R. Robinson, Jerald E. Pinto and Dennis W. McLeavey (used as part of the curriculum in the Chartered Financial Analyst Program), a typical risk premium added to the yield-to-maturity (YTM) of a company's long-term debt is in the 3 to 4 percent range. For purposes of estimating the cost of common equity for Missouri's larger electric, gas and water utilities, FA Staff believes at least the low end of this risk premium range is appropriate considering publicly-traded utility stocks exhibit investment characteristics very similar to bonds. Consequently, the low end of the risk premium estimate will be considered for companies that are not privately held or are subsidiaries of publicly-traded parent companies. However, the high end of the risk premium estimate may be used for privately owned small water and sewer companies that are not considered to be marketable from an acquisition standpoint.

Estimated Bond Rating:

In order to estimate the cost of debt for the subject company (assuming there is no current reasonable yield on the subject company's cost of debt), the FA Department must estimate the credit rating of the subject company. The FA Department's estimate of the subject company's credit rating will be restricted to credit ratings within the range of 'AAA' to 'B'. Because most regulated small water and sewer companies in Missouri do not issue debt either directly or indirectly (through a parent company), they do not have a published credit rating. Therefore, in such cases the FA Department will use the May

27, 2009 Standard & Poor's ratings matrix as a guide to estimate the water and sewer utility's credit rating. This guide allows the FA Department to estimate a credit rating based on an assessment of the business and financial risks of the small water and sewer utility. Based on S&P data available for the water companies it rates, these companies have a financial risk profile ("FRP") no lower than "Aggressive" and business risk profiles ("BRP") of "Excellent."[1] Although S&P assigns an "Excellent" BRP to all of the water and sewer companies it rates, Staff believes that due to the fact that some small water and sewer companies have trouble receiving debt financing, this should be considered in assigning BRPs for purposes of estimating the cost of equity for small water and sewer companies. Staff will determine the BRP of a company by assessing the company's access or potential access to debt capital. If a company proves to Staff that they cannot obtain a loan or the company can obtain a loan but has to pledge personal assets in order to do so, then Staff would classify the company's BRP as "Satisfactory." If the company can obtain a commercial loan without having to pledge personal assets, then Staff would classify the company as having a "Strong" BRP. If a company or its parent can issue debt directly to capital providers, then Staff would classify the company as having an "Excellent" BRP. The FRP of a company will be estimated by determining the company's Debt/Capital ratio and comparing it to the following S&P's benchmark ratios:

Financial Risk Indicative Ratios (Corporates)

	Debt/Capital (%)
Minimal	less than 25
Modest	25-35
Intermediate	35-45
Significant	45-50
Aggressive	50-60
Highly Leveraged	greater than 60

 [2]

S&Ps Business and Financial Risk Profile Matrix states that the ratings indicated in each cell of the matrix are the midpoints of a range of likely rating possibilities. This range would ordinarily span one notch above and below the indicated rating. For example, an "Aggressive" FRP and a "Strong" BRP is indicative of a 'BB' rating according to the matrix. The 'BB' rating is the midpoint, meaning the suggested range would be 'BB+' to 'BB-'. Staff will determine which indicative rating to use by evaluating the Debt/Capital ratio. For example, an "Aggressive" FRP has a Debt/Capital ratio of 50%-60% according to the financial risk indicative ratios. Staff would divide the 50%-60% into thirds to represent 3 notches in the range. Therefore, using an "Aggressive" FRP and a "Strong"

[1] "Excellent" is considered to be the least risky of all of S&P's business risk profiles.

[2] S&P RatingsDirect, May 27, 2009, "Criteria Methodology: Business Risk/Financial Risk Matrix Expanded" (Attachment A).

BRP as an example, the midpoint of 'BB' may be represented by a Debt/Capital ratio of 53.33%-56.66%, 'BB+' may be represented by a Debt/Capital ratio of 50.00%-53.32% and 'BB-' may be represented by a Debt/Capital ratio of 56.67% - 60%.

Capital Structure Determination:

In situations in which a small water and sewer utility has debt capital in excess of 75%, the FA Department believes it is appropriate to use a hypothetical capital structure that limits debt to 75% of total capital. Although it could be argued that Staff should also use a hypothetical capital structure if a company's capital structure is not cost efficient due to a high equity ratio, the FA Department decided not to limit the amount of equity in the capital structure. If a company shows that its capital structure consists of more than 75% debt, then a hypothetical capital structure of 75% debt and 25% equity will be assumed. For all situations wherein a small water and sewer company has debt capital less than 75%, the company's actual capital structure will be used in determining the company's ROR. Assuming the company's current cost of debt is reasonable for a hypothetical capital structure of 75% debt and 25% equity, Staff may use this current cost of debt. If the company's current cost of debt is unreasonable due to over use of leverage, Staff may use a hypothetical cost of debt.

The FA Department will rely on the company's financial statements to estimate the ratemaking capital structure if these financial statements provide an accurate and reliable representation of the capital that supports the company's investment in the utility's assets. However, if a company's rate base is not consistent with the carrying value of the assets in the financial statements, Staff will impute the rate base number as plant and subtract the amount of debt from rate base to estimate the amount of equity in the capital structure.

Cost of Common Equity:

The Department recognizes that the estimation of the cost of common equity for a utility is not an exact science. Therefore, the Department will recommend a reasonable ROE range based on the specific circumstances of each case. For example, absent specific circumstances, the Department usually recommends an ROE range of no more than 100 basis points in major rate cases. Staff may recommend the higher end of its range if the company is privately held and not marketable. Staff may recommend the low end of its range if the water and sewer operations are owned by a larger parent company that is publicly-traded or the company is considered to be marketable from an acquisition perspective.

Disclaimer:

This procedure may be subject to change at any time based on Staff's research on other approaches to address small water and sewer ROE recommendations and the availability

of additional and/or better resources that may allow for improvement to the determination of appropriate rates of return for small water and sewer.

Examples:

75.00% to 100% Equity: According to Table 1 in the May 27, 2009 S&P report, this is indicative of a "Minimal" FRP. Depending on the BRP, the benchmark credit rating could be anywhere from 'AAA' to 'A-'.

65.00% to 74.99% Equity: According to Table 1 in the May 27, 2009 S&P report, this is indicative of a "Modest" FRP. Depending on the BRP, the benchmark credit rating could be anywhere from 'AA' to 'BBB+'.

55.00% to 64.99% Equity: According to Table 1 in the May 27, 2009 S&P report, this is indicative of a "Intermediate" FRP. Depending on the BRP, the benchmark credit rating could be anywhere from 'A' to 'BBB'.

50.00% to 54.99% Equity: According to Table 1 in the May 27, 2009 S&P report, this is indicative of a "Significant" FRP. Depending on the BRP, the benchmark credit rating could be anywhere from 'A-' to 'BB+'.

40.00% to 49.99% Equity: According to Table 1 in the May 27, 2009 S&P report, this is indicative of a "Aggressive" FRP. Depending on the BRP, the benchmark credit rating could be anywhere from 'BBB' to 'BB-'.

25.00% to 39.99% Equity: According to Table 1 in the May 27, 2009 S&P report, this is indicative of a "Highly Leveraged" FRP. Depending on the BRP, the benchmark credit rating could be anywhere from 'BB-' to 'B+'.

Case Example for WACC Recommendation

Test year of Dec. 31, 200X for this case indicates the following regarding capital structure:

XYZ Sewer Systems, Inc
12/31/200X

Common Stock	$47,056	40%
Debt	$70,584	60%
Total Capital	$117,640	100%

Most of the time the amount of common stock will be broken down by par value of common stock, other paid in capital and retained earnings. One should make sure to include all components of common equity in this balance.

Debt Issuance	Amount	Cost	Percent	Weighted Cost of Debt
N/P United Bank of Union	$44,007.08	6.25%	62.34%	3.90%
N/P Jane Doe Corp.	$23,276.92	5.50%	32.98%	1.81%
N/P Doe Construction, Inc.	$ 3,300.00	5.50%	4.68%	0.26%
	$70,584.00		**100.00%**	**5.97%**

As you can see, the weighted cost of debt is figured the same as the overall weighted cost of capital. Based on the S&P ratings matrix the company has an "Aggressive" FRP and based on the company's ability to obtain a commercial loan from United Bank of Union, the BRP is considered "Strong". Based on Staff's determination of an "Aggressive" FRP and a "Strong" BRP, XYZ Sewer Systems credit profile is indicative of a 'BB-' rating.

Now that we have an estimated credit rating we need to determine a current yield on debt of the same rating. Staff currently obtains such data through its subscription to BondsOnline. Because yields can fluctuate from month-to-month, Staff believes it is appropriate to use a 3-month average yield. Staff uses 30-year utility bond yields because it is assumed that utility stock investors' required returns are closely tied to required returns for long-term bond investments.

Although the following example is only based on the debt yield for one month, May 2011, simply use the same methodology for the other two months and average the 3 yields to determine the appropriate reference yield.

Based on the methodology discussed above, the risk premium would be added to the reference yield consistent with a 'BB-' rating for a 30-year bond, which is 4.29% + 3.71% = 8.00% (see table below). Because the company is a privately-owned enterprise that doesn't issue its own debt or its parent company doesn't issue debt, you add a 4% risk premium to arrive at a cost of equity recommendation of 12%.

Reuters Corporate Spreads for Utilities
May 2011 Average

Rating	1 yr	2 yr	3 yr	5 yr	7 yr	10 yr	30 yr
Aaa/AAA	13	20	22	27	29	36	39
Aa1/AA+	22	28	32	37	69	74	79
Aa2/AA	27	32	37	47	77	79	84
Aa3/AA-	28	39	53	58	85	90	95
A1/A+	32	42	56	77	93	103	114
A2/A	37	47	62	87	104	109	116
A3/A-	47	57	82	97	114	119	129
Baa1/BBB+	77	82	97	122	119	124	159
Baa2/BBB	95	102	122	142	149	154	179
Baa3/BBB-	97	117	127	147	159	164	194
Ba1/BB+	101	121	131	151	161	181	216
Ba2/BB	121	146	161	191	201	231	271
Ba3/BB-	131	156	166	196	231	351	371
B1/B+	166	171	191	271	286	381	441
B2/B	171	201	296	371	421	511	641
B3/B-	191	346	471	571	621	676	761
Caa/CCC+	366	471	572	636	646	761	861
US Treasury Yield	0.19	0.56	0.94	1.84	2.51	3.17	4.29

XYZ Sewer Systems, Inc.
Cost of Capital as of 12/31/200X

Capital Component	Amount	%Capital	Cost	Weighted Cost
Common equity	$ 47,056	40.00%	12.00%	4.80%
Long-term debt	$ 70,584	60.00%	5.97%	3.58%
	$117,640	100.00%		8.38%

Emerald Pointe Utility Company
Case Nos. SR-2013-0016 and WR-2013-0017

Table 1
Business And Financial Risk Profile Matrix

Business Risk Profile	Financial Risk Profile											
	Debt/Capital	Minimal	Debt/Capital	Modest	Debt/Capital	Intermediate	Debt/Capital	Significant	Debt/Capital	Aggressive	Debt/Capital	Highly Leveraged
Excellent	0 - 8.33%	**AAA**	25 - 28.33%	**AA+**	35 - 38.33%	**A+**	45 - 46.67%	**A**	50 - 53.33%	**BBB+**		
Excellent	8.33 - 16.67%	**AAA**	28.33 - 31.67%	**AA**	38.33 - 41.67%	**A**	46.67 - 48.34%	**A-**	53.33% - 56.67%	**BBB**		**--**
Excellent	16.67 - 25%	**AA+**	31.67 - 35%	**AA-**	41.67 - 45%	**A-**	48.34 - 50%	**BBB+**	56.67% - 60%	**BBB-**		
Strong	0 - 8.33%	**AA+**	25 - 28.33%	**A+**	35 - 38.33%	**A**	45 - 46.67%	**BBB+**	50 - 53.33%	**BB+**	60 - 65%	**BB**
Strong	8.33 - 16.67%	**AA**	28.33 - 31.67%	**A**	38.33 - 41.67%	**A-**	46.67 - 48.34%	**BBB**	53.33% - 56.67%	**BB**	65% - 70%	**BB-**
Strong	16.67 - 25%	**AA-**	31.67 - 35%	**A-**	41.67 - 45%	**BBB+**	48.34 - 50%	**BBB-**	56.67% - 60%	**BB-**	70 - 75%	**B+**
Satisfactory	0 - 8.33%	**A**	25 - 28.33%	**A-**	35 - 38.33%	**BBB+**	45 - 46.67%	**BBB-**	50 - 53.33%	**BB**	60 - 65%	**BB-**
Satisfactory	8.33 - 16.67%	**A-**	28.33 - 31.67%	**BBB+**	38.33 - 41.67%	**BBB**	46.67 - 48.34%	**BB+**	53.33% - 56.67%	**BB-**	65% - 70%	**B+**
Satisfactory	16.67 - 25%	**BBB+**	31.67 - 35%	**BBB**	41.67 - 45%	**BBB-**	48.34 - 50%	**BB**	56.67% - 60%	**B+**	71 - 75%	**B**
Fair		--		BBB-		BB+		BB		BB-		B
Weak		--		--		BB		BB-		B+		B-
Vulnerable		--		--		--		B+		B		CCC+

Financial Risk Indicative Ratios (Corporates)

	Debt/Capital (%)
Minimal	less than 25
Modest	25-35
Intermediate	35-45
Significant	45-50
Aggressive	50-60
Highly Leveraged	greater than 60