Exhibit No.
Issue: Cost of Capital
Witness: Dylan W. D'Ascendis
Type of Exhibit: Direct Testimony
Sponsoring Party: Raccoon Creek
Case No.: SR-2016-0202
Date: September 30, 2016

Missouri Public Service Commission

Direct Testimony

of

Dylan W. D'Ascendis, CRRA, CVA

On Behalf of

Raccoon Creek Utility Operating Company, Inc.

September 30, 2016

AFFIDAVIT

STATE OF NEW JERSEY)
) ss
COUNTY OF BURLINGTON)

I, Dylan W. D'Ascendis, state that the answers to the questions posed in the attached Direct Testimony are true to the best of my knowledge, information and belief.

Subscribed and sworn to before me this 30th day of September, 2016.

Notary Public

My Commission Expires: DANA DiDONATO
NOTARY PUBLIC OF NEW JERSEY
My Commission Expires 9/18/2020

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DIRECT TESTIMONY OF
DYLAN W. D'ASCENDIS, CRRA, CVA

WITNESS INTRODUCTION AND PURPOSE

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Dylan W. D'Ascendis. I am a Director at ScottMadden, Inc. My business address is 1900 West Park Drive, Suite 250, Westborough, MA 01581.

Q. PLEASE SUMMARIZE YOUR PROFESSIONAL EXPERIENCE AND EDUCATIONAL BACKGROUND.

A. I offer expert testimony on behalf of investor-owned utilities on a variety of regulatory subjects including rate of return issues. I have previously testified to rate of return before regulatory commissions on fifteen separate occasions in ten different regulatory jurisdictions. I am a graduate of the University of Pennsylvania, where I received a Bachelor of Arts degree in Economic History. I also hold a Master of Business Administration from Rutgers University with a concentration in Finance and International Business, which was conferred with high honors. I am a Certified Rate of Return Analyst ("CRRA") and a Certified Valuation Analyst ("CVA"). My full professional qualifications are provided in Appendix A.

Q. WHAT IS THE PURPOSE OF YOUR DIRECT TESTIMONY?

A. The purpose is to provide testimony on behalf of Raccoon Creek Utility Operating Company, Inc. ("Raccoon Creek" or the "Company") relative to the appropriate capital structure and corresponding cost rates which it should be afforded the opportunity to earn on its jurisdictional rate base.

Q. HAVE YOU PREPARED AN EXHIBIT IN SUPPORT OF YOUR TESTIMONY IN THIS CASE?

A. Yes. It is designated as Schedule DWD-01 and consists of Sub-Schedules DWD-1 through DWD-4.

SUMMARY

Q. WHAT IS YOUR RECOMMENDED COST OF CAPITAL FOR RACCOON CREEK?

A. I recommend that the Missouri Public Service Commission ("MO PSC" or the "Commission") authorize the Company the opportunity to earn an overall rate of return of 14.20% based on its actual capital structure as of the end of the test year. The capital structure consists of 88.60% long-term debt at an embedded debt cost rate of 14.00% and 11.40% common equity at my recommended common equity cost rate of 15.75%. My recommended overall rate of return is summarized on page 1 of Sub-Schedule DWD-1 and in Table 1, below:

Table 1: Summary of Overall Rate of Return

Type of Capital	Ratios	Cost Rate	Weighted Cost Rate
Long-Term Debt	88.60%	14.00%	12.40%
Common Equity	11.40%	15.75%	1.80%
Total	100.00%		14.20%

Q. DO YOU HAVE ANY GENERAL COMMENTS REGARDING STAFF'S COST OF CAPITAL RECOMMENDATION IN THIS CASE?

A. Yes. The 13.54% overall rate of return, which is derived using a hypothetical capital structure of 75.00% long-term debt and 25.00% common equity, the Company's long-term debt cost rate of 14.00%, and a cost of common equity of 12.15%, is inadequate for ratemaking purposes. Staff's recommendation ignores the basic financial precept that debt investments are less risky than equity investments. Staff itself recommends to add a 3.00% to 4.00% premium to a small water or sewer company's cost of debt in its own published methodology, yet they discount the cost of common equity in this case. Raccoon Creek's request for relief is both reasonable and conservative given the Company's significant risks and is consistent regarding the relative riskiness of long-term debt versus common equity.

CAPITAL STRUCTURE

Q. WHAT CAPITAL STRUCTURE ARE YOU RECOMMENDING FOR RACCOON CREEK IN THIS CASE?

A. As stated previously, I am recommending the actual capital structure of Raccoon Creek in this Case. Raccoon Creek's actual capital structure consists of 88.60% long term debt and 11.40% common equity.

Q. WHAT CAPITAL STRUCTURE IS STAFF RECOMMENDING IN THIS CASE?

A. Staff is recommending a hypothetical capital structure of 75.00% long-term debt and 25.00% common equity in this Case.

Q. HAS THIS COMMISSION RECENTLY RULED IN FAVOR OF USING ACTUAL CAPITAL STRUCTURES IN SMALL WATER UTILITY RATE CASES?

A. Yes. In a Report and Order in Case No. WR-2016-0064, issued on July 12, 2016, this Commission authorized the actual capital structure of Hillcrest Utility Operating Company, Inc.,[1] which consisted of 81.00% long-term debt and 19.00% common equity. The Commission stated:

The Commission concludes that in calculating Hillcrest's cost of capital and cost of debt, the appropriate capital structure to use is the

[1] Hillcrest Utility Operating Company is a sister company to Raccoon Creek.

actual capital structure of Hillcrest as of September 2015, which was 19: equity and 81% debt.

Staff in that case recommended a hypothetical capital structure consisting of 75.00% long-term debt and 25.00%, consistent with their approach in this Case.

Q. GIVEN THE RATIONALE OF THE COMMISSION'S ORDER IN THE HILLCREST CASE, IS STAFF'S USE OF A HYPOTHETICAL CAPITAL STRUCTURE REASONABLE?

A. No. In view of the Commission's action roughly three months ago, Staff should have used Raccoon Creek's actual capital structure in its analysis.

COST OF COMMON EQUITY

Q. HOW DID YOU DERIVE YOUR RECOMMENDED COST OF COMMON EQUITY OF 15.75% IN THIS CASE?

A. I have approached the derivation of my recommended cost of common equity in two ways. First, I applied leverage and size adjustments to the return on common equity in a recent water utility case involving Missouri American Water Company ("MAWC").[2] Second, I applied a leverage

[2] File No. WR-2015-0301 Stipulation and Agreement dated April 6, 2016. Adopted May 26, 2016.

adjustment to Staff's recommended cost of common equity of 12.15%[3] to arrive at my recommended common equity cost rate.

Q. PLEASE DESCRIBE THE BASIS OF YOUR FIRST APPROACH.

A. I relied on the Modigliani / Miller leverage adjustment to measure the relationship between leverage and financial risk. Franco Modigliani and Merton Miller[4] demonstrated that the cost of common equity may be expressed as:

$$k_{e,L} = k_{e,U} + (k_{e,U} - k_d)(1-T)(D/E) \qquad \text{Equation [1]}$$

where

$k_{e,U}$ = Cost of common equity for an unlevered firm

$k_{e,L}$ = Cost of common equity for a levered firm

k_d = Cost of debt (interest rate)

D = Level of debt

E = Level of equity

T = Income tax rate

Equation [1] expresses the cost of common equity for a levered firm as the cost of common equity for an unlevered firm, which reflects business risk only, plus a premium for financial risk. Financial risk, or

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3 I replaced Staff's recommended cost of debt of 8.15% with Raccoon Creek's actual cost of debt of 14.00%. It is also my opinion that Staff's recommended cost of common equity is significantly understated as described below.

4 F. Modigliani and M. Miller, "The Cost of Capital, Corporation Finance, and the Theory of Investment", The American Economic Review 48 No. 3, June 1958,261-297; F. Modigliani and M. Miller, "Corporate Income Taxes and the Cost of Capital: A Correction", The American Economic Review 53 No. 3, June 1963, at 433-443.

leverage, has an effect on the cost of capital, including the cost of common equity: the greater the degree of financial leverage, the greater the concentration of business risk on common shareholders, increasing their required return to compensate them for bearing that risk. Indications of the magnitude of the effect upon common equity cost rate due to financial leverage is given by the Modigliani/Miller ("M&M") method as shown on page 1 of Sub-Schedule DWD-2.

I relied on the Stipulation and Agreement in Case No. WR-2015-0301 for MAWC as my base return on common equity because it was a recent water case in Missouri and it provides insight into both the current regulatory climate in Missouri and specific risks of the water/wastewater industry. The stipulation prescribed a range of common equity cost rates from 9.50% to 9.75%, so I assumed the midpoint, or 9.625% in my analysis. Unfortunately, the stipulation did not indicate a capital structure, so I used the 2015 year-end operating capital structure of MAWC which consists of 49.53% long-term debt and 50.47% equity[5] for the analysis, along with Raccoon Creek's 14.00% actual long-term debt cost rate. I assumed a composite state and federal corporate income tax rate to be 39.06%[6] for this analysis.

The M&M method holds the pretax weighted average cost of capital ("WACC") constant regardless of capital structure. As shown and

5 MAWC's capital structure includes preferred equity of $1.2M, or 0.12%
6 Missouri corporate tax rate of 6.25% and Federal corporate tax rate of 35% = 39.06%.

explained on page 1 of Sub-Schedule DWD-2, applying the M&M method results in an indicated effect upon common equity cost rate is 3.745% relative to the common equity cost rate based on the Company's actual capital structure. In other words, applying the common equity cost rate of 9.625% (which reflects the financial risk of MAWC's 2015 capital structure), results in a WACC of 14.91%[7] as shown in the top half of page 1 of Sub-Schedule DWD-2. Applying that 14.91% WACC to Raccoon Creek's actual capital structure, which contains greater financial risk than the MAWC's actual capital structure, results in a common equity cost rate of 13.37% which properly reflects the increased financial risk of the Company's capital structure as shown in the lower half of page 1. The indicated effect on common equity cost rate is the difference between the 9.625% and 13.37% common equity cost rates, 3.745%.[8]

Q. IS ANOTHER ADJUSTMENT NEEDED TO REFLECT THE INCREASED RISK OF RACCOON CREEK RELATIVE TO MAWC?

A. Yes. Since total risk is the sum of financial and business risk, there still needs to be an adjustment to MAWC's authorized return to account for the smaller size of Raccoon Creek compared with MAWC.

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[7] This WACC includes the implied 14.00% Raccoon Creek long-term debt cost rate.
[8] 3.745% = (13.37% - 9.625%).

Q. WHICH MEASURES OF SIZE DID YOU COMPARE RACCOON CREEK TO MAWC?

A. I compared Raccoon Creek and MAWC using various measures of size as described by Duff and Phelps' 2016 Valuation Yearbook. The measures are listed below:

- Market Value of Common Equity
- Book Value of Common Equity
- Market Value of Invested Capital
- Total Assets
- Total Sales

As shown on page 2 of Sub-Schedule DWD-2, by all measures, Raccoon Creek was determined to be smaller than the MAWC with associated size premiums ranging from 0.35% to 2.42%, averaging 1.64%. In view of these results, in my opinion, a 1.64% size adjustment to the indicated cost of common equity is both appropriate and conservative. Applying the 1.64% size adjustment to the financial-risk adjusted cost of common equity of 13.37% results in a 15.01% financial- and size-risk adjusted return on common equity applicable to Raccoon Creek.

Q. PLEASE DESCRIBE THE BASIS OF YOUR SECOND APPROACH.

A. I again applied the M&M method, this time to Staff's recommended overall return and capital structure. The adjustment to Staff's indicated 12.15% common equity cost rate based on the M&M approach is 4.34%, resulting in an indicated common equity cost rate of 16.49% as shown on Sub-Schedule DWD-3.

Q. WHAT IS YOUR CONCLUSION REGARDING COMMON EQUITY COST RATE?

A. I averaged the two approaches outlined above to arrive at a common equity cost rate of 15.75%.

Q. DO YOU HAVE ANY GENERAL COMMENTS REGARDING STAFF'S RECOMMENDED COMMON EQUITY COST RATE?

A. Yes. Staff's recommended common equity cost rate of 12.15%, which was derived by adding 4% risk premium to a B rated bond yield of 8.15%, is unreasonable on its face because it is less than Raccoon Creek's actual, contracted, long-term debt cost rate of 14.00%. As stated in Staff's "Small Utility Return on Equity (ROE)/Rate of Return (ROR) Methodology" published in September 2010 and updated in January 2016, Staff was 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)" and then apply a risk premium of 3.00% to 4.00% to that yield to arrive at their recommended ROE. As demonstrated in the Order in Case No. WR-2016-0064, the Commission ruled that a long-term debt cost rate of 14.00% was in fact, reasonable. Staff should have applied the 3.00% to

4.00% risk premium to the 14.00% debt, resulting in a common equity cost rate ranging from 17.00% to 18.00%.

Q. WHAT IS THE IMPACT OF APPLYING THE 3.00% TO 4.00% RISK PREMIUM TO THE COMPANY'S LONG-TERM COST OF DEBT TO DERIVE A 17.00% TO 18.00% ROE ON THE OVERALL RETURN FOR RACCOON CREEK?

A. Applying Staff's own methodology to derive a range of common equity cost rates from 17.00% to 18.00% into Staff's hypothetical capital structure would result in a range of overall cost of capital between 14.75% and 15.00%[9], significantly higher than their original overall return of 13.54%. Applied to Raccoon Creek's actual capital structure, the resultant overall rate of return would range from 14.34% to 14.45%[10], which is similar, but higher than, my recommendation.

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[9] 75% long-term debt ratio x 14% debt cost rate = 10.50% weighted cost of debt. 25% common equity ratio x 17% - 18% common equity cost rate = 4.25% - 4.50% weighted common equity cost rate. 10.50% weighted debt cost rate + 4.25% - 4.50% weighted common equity cost rate = 14.75% - 15.00% overall return on capital.

[10] 88.60% long-term debt ratio x 14% debt cost rate = 12.40% weighted cost of debt. 11.40% common equity ratio x 17% - 18% common equity cost rate = 1.94% - 2.05% weighted common equity cost rate. 12.40% weighted debt cost rate + 1.94% - 2.05% weighted common equity cost rate = 14.34% - 14.45% overall return on capital.

Q. WOULD THESE OVERALL RATES OF RETURN ALLOW RACCOON CREEK TO SERVICE ITS DEBT AND COMPENSATE EQUITY INVESTORS?

A. Yes. Based on Staff's recommended rate base of $1,657,308, overall rates of return of 14.34% to 14.45% generate operating incomes of $237,658 to $239,481[11], enough to cover debt service of $205,181 and provide for $32,476 to $34,300 in earnings for shareholders.[12]

CONCLUSION

Q. PLEASE SUMMARIZE YOUR CONCLUSIONS.

A. I recommend that the Commission authorize the Company the opportunity to earn an overall rate of return of 14.20% based on its actual capital structure as of the end of the test year. The capital structure consists of 88.60% long-term debt at an embedded debt cost rate of 14.00% and 11.40% common equity at my recommended common equity cost rate of 15.75%.

Staff's overall return recommendation of 13.54% includes a cost of equity recommendation which ignores its own cost of capital methodology published specifically for small water and wastewater companies. Staff's recommended common equity cost rate also ignores the basic financial

[11] 14.34% x $1,657,308 and 14.45% x $1,657,308, respectively.
[12] $237,658 - $205,181 and $239,481 - $205,181, respectively.

precept that common equity is a riskier investment than long-term debt, necessitating a higher investor-required return.

My overall rate of return of 14.20% provides enough operating income to service the Company's debt and compensate its equity investors, and is consistent with established financial precepts.

Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

A. Yes, it does.

Resume of:

Dylan W. D'Ascendis
Director

Summary

Dylan is an experienced consultant and a Certified Rate of Return Analyst (CRRA) and Certified Valuation Analyst (CVA). He has served as a consultant for investor-owned and municipal utilities and authorities for 8 years. Dylan has extensive experience in rate of return analyses, class cost of service, rate design, and valuation for regulated public utilities. He has testified as an expert witness in the subjects of rate of return, cost of service, rate design, and valuation before 10 regulatory commissions in the U.S. and an American Arbitration Association panel.

He also maintains the benchmark index against which the Hennessy Gas Utility Mutual Fund performance is measured. He serves on the Rates and Regulatory Committee of the National Association of Water Companies (NAWC).

Areas of Specialization

- Regulation and Rates
- Utilities
- Mutual Fund Benchmarking
- Capital Market Risk
- Capital Market Risk
- Financial Modeling
- Regulatory Strategy and Rate Case Support
- Valuation
- Rate of Return
- Cost of Service
- Rate Design

Recent Expert Testimony Submission/Appearances

Jurisdiction	***Topic***
Regulatory Commission of Alaska	Return on Common Equity & Capital Structure
New Jersey Board of Public Utilities	Cost of Service, Rate Design
Pennsylvania Public Utility Commission	Return on Common Equity
South Carolina Public Service Commission	Return on Common Equity
American Arbitration Association	Valuation

Recent Assignments

- Provided expert testimony on the cost of capital for ratemaking purposes before numerous state utility regulatory agencies
- Maintains the benchmark index against which the Hennessy Gas Utility Mutual Fund performance is measured
- Advised the Board of Directors of a publicly traded electric and natural gas combination utility on dividend policy issues, earnings payout trends and related capital market considerations
- Sponsored valuation testimony for a large municipal water company in front of an American Arbitration Association Board to justify the reasonability of their lease payments to the City
- Co-authored a valuation report on behalf of a large investor-owned utility company in response to a new state regulation which allowed the appraised value of acquired assets into rate base

Recent Publications and Speeches

- Co-author of: "Comparative Evaluation of the Predictive Risk Premium Model™, the Discounted Cash Flow Model and the Capital Asset Pricing Model", co-authored with Richard A. Michelfelder, Ph.D., Rutgers University, Pauline M. Ahern, and Frank J. Hanley, The Electricity Journal, May, 2013.
- Contributing author to <u>Trademark Valuation: A Tool for Brand Management,</u> Second Edition, Gordon V. Smith and Susan Richey (2013).
- "Decoupling: Impact on the Risk and Cost of Common Equity of Public Utility Stocks", before the Society of Utility and Regulatory Financial Analysts: 45th Financial Forum, April 17-18, 2013, Indianapolis, IN.
- "Application of a New Risk Premium Model for Estimating the Cost of Common Equity", Co-Presenter with Pauline M. Ahern, CRRA, AUS Consultants, Edison Electric Institute Cost of Capital Working Group, October 3, 2012, Webinar.