

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 Exhibit

of

Dylan W. D'Ascendis, CRRA, CVA

On Behalf of

Raccoon Creek Utility Operating Company, Inc.

September 30, 2016

Raccoon Creek Utility Operating Company, Inc.
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to the Supporting Schedules
of Dylan W. D'Ascendis, CRRA, CVA

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Raccoon Creek Utility Operating Company, Inc.
Summary of Cost of Capital and Fair Rate of Return
Based upon the Target Capital Structure at December 31, 2016

<u>Type Of Capital</u>	<u>Ratios (1)</u>	<u>Cost Rate</u>	<u>Weighted Cost Rate</u>
Long-Term Debt	88.60%	14.00% (1)	12.40%
Common Equity	<u>11.40%</u>	15.75% (2)	<u>1.80%</u>
Total	<u><u>100.00%</u></u>		<u><u>14.20%</u></u>

Notes:

(1) Company provided.

(2) From page 2 of this Schedule.

Raccoon Creek Utility Operating Company, Inc.
Summary of Recommended Return on Common Equity ("ROE")

	<u>Approach 1</u>	<u>Approach 2</u>
Starting Rate of Return on Common Equity	9.625% (1)	12.15% (2)
Financial Risk Adjustment	3.745% (3)	4.34% (4)
Size Adjustment	<u>1.64% (5)</u>	<u>NA</u>
Financial and Size Adjusted ROE	<u>15.01%</u>	<u>16.49%</u>
Recommended Cost of Common Equity	<u>15.75%</u>	

Notes:

- (1) Authorized ROE for Missouri American Water in Case No. WR-2015-0301.
- (2) Staff recommended ROE.
- (3) From page 1 of Sub-Schedule DWD-3.
- (4) From Sub-Schedule DWD-4.
- (5) From page 2 of Sub-Schedule DWD-3.

Company Cost of Capital Calculation
Indicated Return on Common Equity based on
Differences in Leverage
and Weighted Average Cost of Capital

[A]	[B]	[C]	[D]	[E]
Description	Weight (%) (1)	Cost	Weighted Cost (2)	Pre-Tax Weighted Cost
ROE Applicable to Missouri American Water's Capital Structure				
Long-Term Debt	49.53%	14.00% (3)	6.93%	6.93%
Equity	50.47%	9.625% (4)	4.86%	7.98% (5)
Weighted Average Cost of Capital			<u>11.79%</u>	<u>14.91%</u>
	Weight (%) (6)	Cost	Weighted Cost (2)	Pre-Tax Weighted Cost
ROE Applicable to Raccoon Creek Capital Structure				
Long-Term Debt	88.60%	14.00% (3)	12.40%	12.40%
Common Equity	11.40%	13.37% (9)	1.52% (8)	2.50% (7)
Weighted Average Cost of Capital			<u>13.93%</u>	<u>14.91%</u>
Indicated Financial Risk Adjustment		3.745%		

- Notes:
- (1) From Missouri American Water Company's 2015 annual report as filed with the Missouri Public Service Commission. Equity ratio includes 0.12% of preferred equity.
 - (2) Column [B] * Column [C].
 - (3) Actual cost of long-term debt of Raccoon Creek.
 - (4) Midpoint of range of authorized returns in Case No. WR-2015-0301.
 - (5) Assuming a composite Federal and State income tax rate of 39.06%, the pre-tax weighted cost of common equity based on the recommended common equity cost rate of 9.625% and average proxy group capital structure is: 7.98%. $7.98\% = 4.86\% / (1 - 0.3906)$.
 - (6) Raccoon actual capital structure at the end of the test year.
 - (7) Pre-tax weighted cost rate of common equity equals the pre-tax overall weighted cost rate (14.91%) minus the weighted cost rate of debt (12.40%). $14.91\% - 12.40\% = 2.50\%$.
 - (8) Pre-tax weighted overall cost of capital multiplied by (1 - effective tax rate). $2.50\% \times (1 - 39.06\%) = 1.52\%$
 - (9) Weighted cost of common equity calculated as the pre-tax weighted cost of common equity, 1.52%, divided by the Company's actual equity ratio, 11.40%. $13.37\% = 1.52\% / 11.40\%$.

Raccoon Creek Utility Operating Company, Inc.
Portfolio Ranks by Size and Risk Premiums over CAPM Results
as Compiled by Duff and Phelps 2016 Guide to Cost of Capital

Portfolio	Average Mkt Value (Millions)	Premium Over CAPM	Average Book Value (Millions)	Premium Over CAPM	Average MVIC (Millions)	Premium Over CAPM	Average Total Assets (Millions)	Premium Over CAPM	Average Sales (Millions)	Premium Over CAPM
1	278,925	-1.70%	56,741	0.88%	312,035	-1.00%	146,329	-0.38%	112,402	1.52%
2	60,697	-0.06%	19,161	1.66%	47,582	0.30%	49,003	1.17%	36,412	2.18%
3	37,431	0.46%	12,095	1.95%	49,269	0.67%	34,696	1.42%	21,923	2.54%
4	26,583	0.82%	8,244	2.24%	34,887	0.99%	24,800	1.66%	16,015	2.75%
5	20,149	1.12%	6,030	2.45%	26,689	1.23%	17,494	1.92%	12,513	2.93%
6	15,456	1.41%	4,726	2.62%	20,105	1.49%	13,411	2.11%	10,028	3.07%
7	12,344	1.65%	4,055	2.74%	16,179	1.68%	10,878	2.26%	8,212	3.18%
8	10,412	1.83%	3,473	2.86%	13,509	1.85%	9,088	2.39%	6,813	3.29%
9	8,845	2.01%	2,810	2.98%	11,310	2.01%	7,660	2.52%	5,856	3.36%
10	7,320	2.21%	2,372	3.10%	9,460	2.17%	6,503	2.63%	4,967	3.46%
11	6,079	2.41%	2,061	3.21%	7,855	2.34%	5,585	2.74%	4,326	3.56%
12	5,096	2.60%	1,794	3.32%	6,555	2.50%	4,649	2.88%	3,671	3.67%
13	4,462	2.74%	1,586	3.41%	5,660	2.64%	4,020	2.98%	3,121	3.78%
14	3,837	2.91%	1,415	3.49%	4,934	2.76%	3,497	3.08%	2,687	3.86%
15	3,312	3.06%	1,263	3.56%	4,286	2.89%	3,050	3.18%	2,433	3.93%
16	2,898	3.21%	1,115	3.63%	3,848	2.99%	2,690	3.27%	2,185	4.00%
17	2,550	3.34%	981	3.73%	3,304	3.13%	2,200	3.42%	1,880	4.10%
18	2,160	3.52%	851	3.83%	2,734	3.30%	1,827	3.56%	1,630	4.20%
19	1,800	3.72%	695	3.96%	2,253	3.47%	1,558	3.67%	1,372	4.28%
20	1,406	3.99%	561	4.11%	1,800	3.68%	1,286	3.81%	1,110	4.41%
21	1,091	4.26%	463	4.24%	1,379	3.92%	985	4.00%	904	4.54%
22	802	4.59%	358	4.42%	1,064	4.15%	758	4.19%	753	4.65%
23	596	4.91%	284	4.60%	765	4.45%	575	4.39%	575	4.81%
24	422	5.28%	208	4.84%	513	4.82%	407	4.65%	394	5.05%
25	148	6.41%	79	5.57%	171	5.81%	147	5.38%	130	5.74%
MAWC	1,414	20	526	20-21	1,933	19-20	1,798	18	269	24-25
RCWC	0.50	25	0.19	25	2	25	2	25	0.11	25
Indicated Risk Premium		2.42%		1.40%		2.24%		1.82%		0.35%
Source of Information:					Duff and Phelps 2016 Guide to Cost of Capital				Average Size Premium	1.64%

Company Cost of Capital Calculation
Indicated Return on Common Equity based on
Differences in Leverage
and Weighted Average Cost of Capital

[A]	[B]	[C]	[D]	[E]
Description	Weight (%) (1)	Cost	Weighted Cost (2)	Pre-Tax Weighted Cost
ROE Applicable to Staff Recommended Capital Structure				
Long-Term Debt	75.00%	14.00% (3)	10.50%	10.50%
Common Equity	25.00%	12.15% (4)	3.04%	4.99% (5)
Weighted Average Cost of Capital			<u>13.54%</u>	<u>15.49%</u>
	Weight (%) (6)	Cost	Weighted Cost (2)	Pre-Tax Weighted Cost
ROE Applicable to Raccoon Creek Capital Structure				
Long-Term Debt	88.60%	14.00% (3)	12.40%	12.40%
Common Equity	11.40%	16.49% (9)	1.88% (8)	3.09% (7)
Weighted Average Cost of Capital			<u>14.28%</u>	<u>15.49%</u>
Indicated Financial Risk Adjustment		4.34%		

- Notes:
- (1) Staff recommended capital structure in this case.
 - (2) Column [B] * Column [C].
 - (3) Actual cost of long-term debt of Raccoon Creek.
 - (4) Staff recommended cost of common equity in this case.
 - (5) Assuming a composite Federal and State income tax rate of 39.06%, the pre-tax weighted cost of common equity based on the recommended common equity cost rate of 12.15% and average proxy group capital structure is: 4.99%. $4.99\% = 3.04\% / (1 - 0.3906)$.
 - (6) Raccoon actual capital structure at the end of the test year.
 - (7) Pre-tax weighted cost rate of common equity equals the pre-tax overall weighted cost rate (15.49%) minus the weighted cost rate of debt (12.40%). $15.49\% - 12.40\% = 3.09\%$.
 - (8) Pre-tax weighted overall cost of capital multiplied by (1 - effective tax rate). $3.09\% \times (1 - 39.06\%) = 1.88\%$
 - (9) Weighted cost of common equity calculated as the pre-tax weighted cost of common equity, 1.88%, divided by the Company's actual equity ratio, 11.40%. $16.49\% = 1.88\% / 11.40\%$.