BEFORE THE INDIANA UTILITY REGULATORY COMMISSION

VERIFIED PETITION OF CITIZENS WASTEWATER) OF WESTFIELD, LLC FOR (1) AUTHORITY TO) RATES **INCREASE** AND **CHARGES** FOR) WASTEWATER UTILITY SERVICE AND) APPROVAL OF A NEW SCHEDULE OF RATES AND) **CAUSE NO. 44835** CHARGES; AND (2) APPROVAL OF CERTAIN) **REVISIONS TO ITS TERMS AND CONDITIONS)** APPLICABLE TO WASTEWATER UTILITY) **SERVICE**)

VERIFIED REBUTTAL TESTIMONY AND ATTACHMENTS OF

ADRIEN M. MCKENZIE, CFA

On Behalf of Petitioner, Citizens Wastewater of Westfield

IURC PETITIONER'S EXHIBIT NO. REPORTER

Petitioner's Exhibit 7

087803A4. 22426243

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REBUTTAL TESTIMONY

of

ADRIEN M. MCKENZIE, CFA

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REBUTTAL TESTIMONY OF ADRIEN M. MCKENZIE

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Attachment:	Description
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Attachment AMM-R2 Attachment AMM-R3	Proxy Group Allowed ROEs Proxy Group Expected Earnings

1		I. INTRODUCTION
2	Q1.	PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.
3	A1.	Adrien M. McKenzie, 3907 Red River, Austin, Texas, 78751.
4	Q2.	HAVE YOU PREVIOUSLY PROVIDED TESTIMONY IN THIS
5		PROCEEDING?
6	A2.	Yes, my Direct Testimony was filed in this proceeding on June 17, 2016.
7	Q3.	WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY?
8	A3.	My purpose is to respond to the testimony of Mr. Edward R. Kaufman, submitted on
9		behalf of the Indiana Office of Utility Consumer Counselor ("OUCC"). Mr. Kaufman
10		addresses the cost of equity ("COE") that Citizens Wastewater of Westfield, LLC
11		("Westfield" or "the Company") is requesting on its original cost rate base, along with
12		the return on fair value ("RFV") that it is requesting on its fair value increment. In
13		addition, my testimony responds to several other issues discussed in Mr. Kaufman's
14		testimony including Westfield's small size relative to the water companies in the proxy
15		group. I also emphasize the importance of testing results from traditional approaches,
16		such as the discounted cash flow ("DCF") model against the results of alternative
17		methodologies. My testimony also responds to the capital structure recommendation
18		for the Company submitted on behalf of the OUCC by Mr. Edward T. Rutter.
19		A. Summary of Conclusions
20	Q4.	PLEASE SUMMARIZE THE PRINCIPAL CONCLUSIONS OF YOUR
21		REBUTTAL TO THE OUCC'S RECOMMENDATIONS.
22	A4.	Mr. Kaufman's COE recommendation is extreme and out of the mainstream. At
23		8.85%, it is below any reasonable level. Especially in combination with Mr. Rutter's
24		proposed capital structure, which includes only 3.03% common equity, OUCC's COE
25		recommendation would inflict serious damage on the financial integrity of the

1 Company and deny investors any opportunity to earn their required rate of return. 2 Taken as a whole, his recommendations are not balanced and not supportive of the 3 Company's operations in Indiana.

The significant shortfall between Mr. Kaufman's recommendations and the benchmarks discussed in my rebuttal testimony is illustrated in the figure below.

11.5% Allowed ROE-Proxy 11.0% Group (a) 10.5% Earned ROE-Proxy 10.0% Group (b) 9.5% Water/WW Utility 9.0% Authorized-Indiana (c) 8.5% Kaufman Recommended 8.0%

FIGURE R1

Notes:

(a) AUS Consultants, AUS Monthly Reports, September 2016.

(b) Value Line Investment Survey, October 14, 2016.

(c) Average results from Cause No. 44450 (Indiana-American Water, 9.75% ROE), Cause No. 44724 (Community Utilities of Indiana, 9.75% ROE), and Cause No. 44752 (Aqua Indiana, 9.70% ROE).

Mr. Kaufman claims to select a recommendation that is 36 basis points above his 7 midpoint due to Westfield's smaller size and higher Treasury yields since his analysis 8 was conducted, but as I discuss, 30-year Treasury yields alone have increased 9

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1		approximately 60 basis points and the differential in size between Westfield and large
2		publicly traded water utilities warrants an adjustment on the order of 170 basis points. ¹
3	Q5.	ARE THERE TECHNICAL FLAWS IN THE COE ANALYSIS PROVIDED BY
4		MR. KAUFMAN?
5	A5.	Yes. There are key deficiencies in his quantitative applications that lead to a
6		significant downward bias in his conclusions. My rebuttal testimony demonstrates
7 8 9 10 11		 His Discounted Cash Flow ("DCF") study is flawed because he fails to remove illogical DCF results stemming from unrealistically low growth rates. In addition, his growth analysis is misguided because it relies too heavily on historical data and on dividend and book value data.
12 13 14 15 16		• His Multi-Stage DCF results should be ignored because they are below any reasonable threshold and because they are based on the faulty assumption that investors expect long-term growth for individual utilities to converge to long-term growth in U.S. gross domestic product ("GDP");
17 18 19 20		• His Capital Asset Pricing Model ("CAPM") results are so low that they should be rejected on their face. His CAPM results are even more suspect because his approach incorporates historical data, which violates the forward-looking assumptions of this method.
21 22 23 24		• Beyond his flawed CAPM results, Mr. Kaufman has failed to include any checks of reasonableness on his DCF results, with approaches such as Empirical CAPM ("ECAPM"), utility risk premium, expected earnings, or Non-Utility DCF, as I did in my Direct Testimony.
25 26 27 28 29 30		• His criticism of my RFV analysis is flawed because he wrongly claims that 1) inflation should be excluded from the RFV on the fair value increment included in the Company's rate base; 2) historical inflation has relevance in adjusting the RFV; and 3) that inflation should be subtracted from the weighted cost of capital ("WACC") rather than from the COE.
31 32 33 34 35		• Finally, I will explain why Mr. Kaufman's recommended COE is especially harmful in combination with Mr. Rutter's proposed capital structure, which includes only 3.03% common equity. An equity balance this low is unfair and punitive and would damage the Company's financial integrity, threaten its ability to finance its Indiana

¹ Petitioner's Exhibit 2 at 21.

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operations, and deny the Company any opportunity to earn its allowed COE.

B. Comparison of OUCC COE Recommendation to Accepted Benchmarks

COE **RECOMMENDATION** COMPARE 4 Q6. HOW DOES OUCC'S TO 5 **ACCEPTED BENCHMARKS?**

6 Mr. Kaufman recommends a COE for the Company of 8.85%. This proposal is far A6. 7 below any legitimate benchmark check of reasonableness. For one, it is a significant 8 decrease from the COEs established in recent water and wastewater cases in Indiana. 9 As shown on Attachment AMM-R1, in 2015 and 2016 returns on equity ("ROEs") for Indiana water and wastewater utilities fell in the range of 9.50% to 10.50%, with 10 common equity ratios falling in the range of 50.0% to 100.0%² 11

12 Mr. Kaufman's recommendation also falls far below equity returns that have 13 been allowed for large, publicly traded water utilities by state regulatory commissions 14 around the country. The AUS Monthly Utility Report for September 2016 reports that currently allowed ROEs for water companies ranged from 9.43% to 10.00%, and 15 averaged 9.65%.³ Of course, the ROEs approved in other jurisdictions do not 16 17 constrain the decision-making in this proceeding. However, it is important to understand that there would be a disincentive for investors to provide equity capital to 18 Westfield if the Commission were to apply an unreasonably low ROE in this 19 20 proceeding, compared to entities of comparable, or in this case, lower risk. As the 21 Commission has previously recognized:

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The only evidence we are now prepared to accept as conclusive of invalidity would be a cost of equity number that would have no credibility in the capital markets and that would be well below (or

² In Cause No. 44352 the IURC observed that, "From October 2007 to present, the Commission had determined cost of equity in twenty-four water/sewer utilities cases. The cost of equity in those cases ranged from 9.50% to 12.00% ... " Pleasantview Utilities, Inc., Cause No. 44352 U (Mar. 12, 2014) at p. 7.

³ AUS Consultants, AUS Monthly Utility Reports, September 2016.

1 2 above) the cost rate which other state commissions are finding at the present time.⁴

3 Although not directly comparable, the allowed returns for other regulated entities also demonstrate that Mr. Kaufman's COE recommendation is too low. In 4 2015, the average allowed ROE for gas utilities was 9.60% and through September 30, 5 2016 the average was 9.45%.⁵ In 2015, the average allowed ROE for electric utilities 6 was 9.85%, or 9.60% excluding limited issue rider cases; and through September 30, 7 2016 the average was 9.91%, or 9.64% excluding limited issue riders.⁶ Of note, these 8 9 averages do not account for the higher risks associated with the Company's weaker credit profile or small size and, for this reason, must be considered as extremely 10 conservative comparisons to Westfield's required COE.⁷ 11

An ROE of 8.85% is far out of line with returns set in recent Indiana water and wastewater cases (9.70%-9.75%), with returns allowed for water companies followed by AUS (9.65%), and with allowed returns for other regulated utilities (9.45%-9.91%). Investors would undoubtedly consider these facts in assessing the reasonableness of the outcome in this case.

17 Q7. IN LIGHT OF THESE FACTS, CAN YOU EXPLAIN WHY MR. KAUFMAN'S 18 COE RECOMMENDATION IS SO FAR OFF-BASE?

A7. I trace Mr. Kaufman's unrealistically low COE proposal to his rigid adherence to a
 formulaic approach without regard for the end result. Instead of focusing on what
 sensible investors expect, which is the ultimate goal of any rate of return analyst, Mr.

⁶ Id.

⁴ Indiana Michigan Power Co., Cause No. 38728 (Aug. 24, 1990).

⁵ Regulatory Research Associates, *Regulatory Focus: Major Rate Case Decisions – January-September 2016* (Oct. 14, 2016).

⁷ While there have been isolated instances of allowed returns less than 9.0% in recent history, these cases typically involve a formula-rate plan. For example, under Illinois' Energy Infrastructure Modernization Act that allows simplified annual recovery of infrastructure investment costs, the COE is set using a mechanical formula whereby a pre-determined spread is added to Treasury bond yields. While this may streamline the cost recovery filing, it does not represent a determination of the current, investor-required COE as is the objective in this case.

- Kaufman mechanically applied the DCF and CAPM models to produce results that are
 well outside the bounds of reason.
- 3 Q8. ARE THERE FACTORS THAT EXPLAIN WHY A MECHANICAL
 4 APPLICATION OF THE DCF MODEL MAY PRODUCE UNRELIABLE
 5 ESTIMATES UNDER CURRENT CONDITIONS?
- A8. Yes. As I explained in my direct testimony, current capital markets are unduly
 affected by unprecedented policy measures taken by the Federal Reserve in response
 to dislocations in the economy and financial markets. Any DCF analysis may be
 impacted by potentially misleading inputs to the DCF formula caused by these
 anomalous capital market conditions. This conclusion continues to be supported by
 comparisons of the current environment to the historical record. As Mr. Kaufman
 states:
- 13Current interest rates on long term U.S. Treasuries in the high 2% low143% range are not just lower than they have been over the last 30 years;15they are also at historically low levels.8
- 16Despite the increase in interest rates since the 2016 General Election,17long-term capital costs, like interest rates are as low or are lower18today than they have been during most of the last 50 years.9

19 Q9. DOES MR. KAUFMAN ACKNOWLEDGE THAT CURRENT CAPITAL

20 MARKET CONDITIONS ARE ANOMALOUS?

- 21 A9. Yes. Mr. Kaufman (p. 58) noted his agreement with Duff & Phelps concerning
- 22 distortions in current capital markets produced by Federal Reserve actions:

To be clear, in most circumstances we would prefer using the "spot" yield (i.e. the yield available in the market) on a safe government security as a proxy for the risk-free rate. However, during times of flight to quality and/or high levels of central bank intervention (such as the period beginning with the Financial Crisis) those lower

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⁸ Public's Exhibit No. 5 at 4 (emphasis added).

 $^{^{9}}$ Id. at 6 (emphasis added).

1 observed yields imply a lower cost of capital (all other factors held the 2 same), just the opposite of what would expect in times of relative 3 economy-wide distress and uncertainty. During these periods. 4 using a non-normalized risk-free rate (with no corresponding 5 adjustments to the ERP) would lead to an underestimated cost of equity 6 capital, and so a "normalization" adjustment may be a reasonable approach to address the apparent inconsistency.¹⁰ 7 8 As Duff & Phelps recognized, "The limitations of the methods commonly used to 9 estimate the cost of capital have been magnified in the wake of the economic turbulence of the last Financial Crisis."¹¹ The sentiment expressed by Duff & Phelps 10 11 is consistent with my argument that, given current abnormal capital market conditions, 12 blindly applying models that contain suspect inputs is prone to error and warrants 13 examination of a wide range of reasonableness checks. 14 Q10. ARE MR. KAUFMAN'S RESULTS REASONABLE IN THE FACE OF 15 HIGHER LONG-TERM INTEREST RATES ANTICIPATED BY INVESTORS?

16 A10. No. Below is an update of Figure 1 (Interest Rate Trends) from my Direct Testimony:

¹⁰ Id. at 57-58 (emphasis added).

¹¹ <u>http://www.duffandphelps.com/insights/publications/cost-of-capital/index</u> (last visited Dec. 18, 2016).

FIGURE R2 INTEREST RATE TRENDS



Source:

Value Line Investment Survey, Forecast for the U.S. Economy (Dec. 2, 2016) IHS Global Insight (Aug. 2016) Energy Information Administration, Annual Energy Outlook 2016 Early Release (May 17, 2016) Wolters Kluwer, Blue Chip Financial Forecasts, Vol. 35, No. 12 (Dec. 1, 2016)

As the figure shows, investors continue to anticipate that interest rates will increase significantly from present levels. These projections are from forecasting services that are highly regarded and widely referenced, as I discuss in my Direct Testimony (at 10). The interest rate increases shown in the figure above are on the order of 200 basis points through 2021, which implies higher long-term capital costs over the period when rates established in this proceeding will be in effect.

9 Q11. WHAT HAS BEEN THE RECENT TREND IN TREASURY YIELDS SINCE

10

THE 2016 GENERAL ELECTION IN NOVEMBER?

A11. The table below summarizes the increases in long-term U.S. Treasury bonds since just
 prior to the November 2016 General Election.

1 2		TABLE R1 INTEREST RATE TRENDS (LATE 2016)
3 4 5 6		10-Yr Treasury $30-Yr$ TreasuryNov. 1, 2016 $1.83%$ $2.58%$ Dec. 9, 2016 $2.47%$ $3.16%$ Increase $0.64%$ $0.58%$
7		Source: fred.stlouisfed.org
8		As the table shows, long-term Treasury interest rates have increased significantly since
9		November 2016, on the order of 60 basis points. This is consistent with Mr.
10		Kaufman's observation that "many analysts predict that the yields on U.S. Treasury
11		securities will increase during the next few years." ¹²
12	Q12.	DOES THE FEDERAL RESERVE'S RECENT DECISION TO RAISE
13		INTEREST RATES SUPPORT YOUR CONTENTION THAT INVESTORS
14		EXPECT HIGHER CAPITAL COSTS IN THE NEAR TERM?
15	A12.	Yes. The Federal Reserve raised the target range for the federal funds rate by 25 basis
16		points to between 0.50% and 0.75% on December 14, 2016, and signaled a faster pace
17		of increases in 2017 than formerly anticipated. ¹³ However, of key importance is not so
18		much that rates change by the amount, or even the direction, forecasted. Rather, what
19		is important is that investors expect rates to increase. The COE should reflect investor
20		expectations and that is all that matters even if, in hindsight, such expectations prove
21		to be inaccurate. Mr. Kaufman's attempts to discredit my analyses by comparing
22		actual interest rates with previous forecasts are not relevant and should be ignored.
23	Q13.	WHAT DO THESE EXPECTATIONS IMPLY WITH RESPECT TO THE COE
24		FOR WESTFIELD MORE GENERALLY?
25	A13.	Largely because of unprecedented Federal Reserve policies, current capital costs are
26		not representative of what is expected to prevail over the near-term future. As

 ¹² Public's Exhibit No. 5 at 56.
 ¹³ Federal Reserve, *Transcript of Chair Yellen's Press Conference* (Dec. 14, 2016).

1 indicated in my Direct Testimony, both the Indiana Utility Regulatory Commission 2 ("IURC") and the Federal Energy Regulatory Commission ("FERC") have recognized the shortcomings of the DCF approach.¹⁴ In a more recent opinion, FERC reiterated 3 its position that current capital market conditions may undermine the reliability of the 4 DCF model, and for this reason, COE model results should be evaluated with even 5 6 more critical judgment and focus: 7 As described above, evidence in the record regarding historically low 8 interest rates and Treasury bond yields as well as the Federal Reserve's 9 large and persistent intervention in markets for debt securities are sufficient to find that current capital market conditions are 10 anomalous.¹⁵ 11 12 Similarly, while Complainants provide evidence that interest rates have 13 been trending downwards, the current levels may be so low as to cause 14 irregularities in the outputs of the DCF. Despite such yields remaining 15 low for several years, we find that they are anomalous and could distort the results of the DCF model.¹⁶ 16 17 Current capital market conditions make the process of setting a fair COE even more 18 In this environment, it is imperative that COE model results be demanding. thoroughly tested against accepted benchmarks and compared to other checks of 19 20 reasonableness. 21 014. IS THERE AN OBVIOUS SIGN THAT MR. KAUFMAN RECOGNIZED THE 22 WEAKNESS OF HIS MODEL RESULTS UNDER CURRENT CAPITAL **MARKET CONDITIONS?** 23 24 A14. Yes. In arriving at his final recommendation for the Company, Mr. Kaufman states, "I 25 recommend a cost of equity that is greater than that produced by my models because

¹⁴ Petitioner's Exhibit 2 at 14-15.

¹⁵ Opinion No. 551, 156 FERC ¶ 61,234 at P 124 (2016).

the cost of equity for the water/wastewater industry at this time is above the midpoint
 of my overall range...¹⁷

3 Q15. WHAT **OTHER BENCHMARKS INDICATE** THAT **OUCC'S** 4 RECOMMENDED COE IS TOO LOW ТО BE CONSIDERED 5 **REASONABLE?**

A15. Expected earned rates of return for other utilities provide yet another useful
benchmark to gauge the reasonableness of the OUCC's COE recommendation. The
expected earnings approach is predicated on the comparable earnings test, which
developed as a direct result of the Supreme Court decisions in *Bluefield* and *Hope*, as I
discuss in my Direct Testimony.¹⁸ This test recognizes that investors compare the
allowed COE with returns available from other alternatives of comparable risk.

12 Q16. HAS THE EXPECTED EARNINGS APPROACH BEEN RECOGNIZED AS A 13 VALID COE BENCHMARK?

A16. Yes. This method predominated before the DCF model became fashionable with academic experts, and it continues to be used around the country.¹⁹ Contradicting Mr. Kaufman's criticisms of this method,²⁰ a textbook prepared for the Society of Utility and Regulatory Analysts labels the comparable earnings approach the "granddaddy of cost of equity methods" and points out that the amount of subjective judgment required to implement this method is "minimal," particularly when compared to the

¹⁹ For example, the Virginia State Corporation Commission is required by statute (Virginia Code § 56-585.1.A.2.a) to consider the earned returns on book value of electric utilities in its region. Similarly, FERC concluded that, "The returns on book equity that investors expect to receive from a group of companies with risks comparable to those of a particular utility are relevant to determining that utility's market cost of equity." Opinion No. 531-B, 150 FERC ¶ 61,165 at P 128 (2015). Another example is the Idaho Public Utilities Commission, which also references return on book equity evidence. *See, e.g.*, Order No. 29505, Case No. IC-E-03-13 at 38 (Idaho Public Utilities Commission, May 25, 2004).

²⁰ Public's Exhibit No. 5 at 82.

¹⁷ Public's Exhibit No. 5 at 3.

 ¹⁸ Petitioner's Exhibit 2at 52-54. The *Bluefield* and *Hope* decisions refer to *Bluefield Water Works & Improvement Co. v. Pub. Serv. Comm'n*, 262 U.S. 679 (1923) and *Fed. Power Comm'n v. Hope Natural Gas Co.*, 320 U.S. 591 (1944).

1	DCF and CAPM methods. ²¹ The <i>Practitioner's Guide</i> notes that the comparable
2	earnings test method is "easily understood" and firmly anchored in the regulatory
3	tradition of the <i>Bluefield</i> and <i>Hope</i> cases, ²² as well as sound regulatory economics.
4	Similarly, New Regulatory Finance concluded that, "because the investment base for
5	ratemaking purposes is expressed in book value terms, a rate of return on book value,
6	as is the case with Comparable Earnings, is highly meaningful."23

7 Q17.

8

WHAT COE IS IMPLIED BY THE EXPECTED EARNINGS APPROACH FOR THE PROXY GROUP OF WATER UTILITIES REFERENCED BY OUCC?

A17. The year-end returns on common equity projected by the Value Line Investment
Survey ("Value Line") over its forecast horizon for the firms in the water utility proxy
group referenced by OUCC are shown on Attachment AMM-R2. As shown there,
once adjusted to mid-year, reference to expected earnings implied expected returns on
equity for the utilities referenced by Mr. Kaufman ranging from 9.3% to 13.5%, and
averaging 11.3%. This book return estimate is an "apples to apples" comparison to the
8.85% COE recommendation of OUCC.

16 Q18. BASED ON YOUR COMPARISON OF OUCC'S COE RECOMMENDATION 17 WITH ACCEPTED BENCHMARKS AND, IN LIGHT OF THE PROSPECT 18 FOR HIGHER INTEREST RATES, WHAT DO YOU CONCLUDE?

A18. Based on these comparisons, the 8.85% COE recommendation of Mr. Kaufman is below any reasonable outcome. One fundamental standard underlying the regulation of public utilities, as set forth by the Supreme Court's *Bluefield* and *Hope* decisions, requires that the Company must have the opportunity to earn an COE comparable to

²² Id.

²¹ David C. Parcell, THE COST OF CAPITAL – A PRACTITIONER'S GUIDE (2010) at 115-116.

²³ Roger A. Morin, "New Regulatory Finance," *Public Utilities Reports, Inc.* (2006) at 395.

contemporaneous returns available from alternative investments of similar risk if it is
 to maintain its financial flexibility and ability to attract capital.

If the utility is unable to offer a return similar to the returns available from other opportunities of comparable risk, investors will become unwilling to supply capital to the utility on reasonable terms. For existing investors, denying the utility an opportunity to earn what is available from other similar risk alternatives prevents them from earning their cost of capital. Both of these outcomes violate regulatory standards.

9

Q19.

10

FAR BELOW THOSE AUTHORIZED FOR OTHER UTILITIES?

WHAT OTHER PITFALLS ARE ASSOCIATED WITH A COE THAT FALLS

Adopting a COE for Westfield that is well below returns for utilities with even less 11 A19. 12 investment risk could lead investors to view the Commission's regulatory framework 13 as unsupportive, an outcome that would undermine investors' willingness to support future capital availability for investment in Indiana utilities. Security analysts study 14 regulatory orders in order to advise investors where to invest their money. Moody's 15 noted that, "[f]undamentally, the regulatory environment is the most important driver 16 outlook."24 17 of our Similarly, S&P concluded that "[t]he regulatory 18 framework/regime's influence is of critical importance when assessing regulated utilities' credit risk because it defines the environment in which a utility operates and 19 has a significant bearing on a utility's financial performance."²⁵ 20

Utilities and their investors must lock up large sums of capital and are exposed to many risks over the long time horizon when they invest in utility infrastructure. At the level proposed by Mr. Kaufman the ability of Indiana utilities to attract and retain

²⁴ Moody's Investors Service, "Regulation Will Keep Cash Flow Stable As Major Tax Break Ends," *Industry Outlook* (Feb. 19, 2014).

²⁵ Standard & Poor's Corporation, Key Credit Factors For The Regulated Utilities Industry, RATINGSDIRECT (Nov. 19, 2013).

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capital would be severely compromised leading investors to view the Commission's 1 regulatory framework as unstable.²⁶ This would have a long-term, chilling effect on 2 investors' willingness to support capital investment in utility infrastructure, not just for 3 Westfield, but for all utilities in the state. On the other hand, if Commission actions 4 5 instill confidence that the regulatory environment is supportive, investors will provide 6 the necessary capital, even in times of turmoil in the financial markets. In evaluating-7 the Company's COE in this case, the Commission has an opportunity to show that it 8 recognizes the importance of continuity and a balanced regulatory regime.

9 Q20. DO CUSTOMERS BENEFIT WHEN INVESTORS HAVE CONFIDENCE 10 THAT THE REGULATORY ENVIRONMENT IS STABLE AND 11 CONSTRUCTIVE?

A20. Yes. Customers and the service area economy enjoy the benefits that come from ensuring that the utility has the financial wherewithal to take whatever actions are required to ensure reliable service. In evaluating the Company's COE in this case, the Commission has an opportunity to show that it recognizes the importance of continuity and a balanced regulatory regime. OUCC's recommended COE falls outside the norms established for other utilities, fail to meet regulatory standards, and would be viewed negatively by investors.

19 Indeed, in other public forums Mr. Kaufman appears to recognize the 20 importance of a financially sound utility in providing safe and reliable service to 21 customers. As noted in a recent publication of the National Association of Water 22 Companies:

23 24 In emphasizing many of the points made by the presenters, the Forum Participants noted the recent tragic issues in Flint, Michigan, and

²⁶ Given the higher relative risks associated with Westfield, the COE recommendation of Mr. Kaufman implies an even more punitive COE for other utilities in Indiana. Alternatively, treating Westfield differently from other similarly situated utilities would raise issues of fairness that would violate accepted regulatory principles.

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1 quality of water public health concerns raised there; and, while this was 2 not an example of a privately held company, the Participants noted the 3 importance of quality service, infrastructure investment, and effective 4 communication. As it relates to the discussion on acquisition policies, 5 Forum Participant Kaufman noted the recent legislation passed to 6 create a utility acquisition program in Indiana to encourage the 7 acquisition of "distressed" utilities. Act No. 257 was passed March 8 2016 by the General Assembly of the State of Indiana. The Legislation 9 generally encourages the acquisition of troubled water companies by 10 valuing all property actually used and useful at its fair value. To further 11 the policy, regulators are given the authority to give weight and consideration to the reasonable cost of bringing the property into 12 compliance.²⁷ 13

14 It is ironic that OUCC's extreme recommendations in this proceeding would 15 undoubtedly promote the very sort of "troubled" utility that the Indiana Legislature 16 seeks to avoid.

17

II. RESPONSE TO MR. KAUFMAN'S COE ANALYSES

18 Q21. HOW DID MR. KAUFMAN ARRIVE AT HIS 8.85% COE FOR WESTFIELD?

19 A21. As shown in Schedule ERK 1, the range from Mr. Kaufman's DCF analysis was 7.48% to 8.69%. The lower end resulted from his multi-stage analysis, while the 20 21 upper end represented his constant growth DCF study using Value Line's average 22 current dividend yield of 2.28% and average growth in forecasted earnings per share 23 ("EPS") of 6.34% from Value Line, Yahoo.com and Zacks Investment Research 24 ("Zacks"). The range from his CAPM studies was 7.58% to 8.47%, which fell within his DCF results. Based on his conclusion that, 1) "the cost of equity for the 25 water/wastewater industry at this time is above the midpoint of my overall range,"²⁸ 2) 26 "Petitioner is smaller than the companies in my water group,"²⁹ and 3) "due to the 27 increase in long term bond U.S. Treasury yields since I conducted my analysis,"30 Mr. 28

²⁷ National Association of Water Companies, "Summary Report," Water Policy Forum (April 2016).

²⁸ Public's Exhibit No. 5 at 3.

²⁹ Id.

³⁰ Public's Exhibit No. 5 at 25.

1	Kaufman	adds	16	basis	points	to	the	top	of	his	DCF	range	to	arrive	at	his
2	recommer	ided C	OE	of 8.85	5%.											

3

A. Discounted Cash Flow Analysis

4 Q22. WHAT ARE YOUR PRIMARY CRITICISMS OF MR. KAUFMAN'S 5 APPLICATION OF THE DCF MODEL?

6 There are at least three fundamental flaws in the DCF analysis conducted by Mr. A22. 7 Kaufman. First, he relied on historical growth rates when it is clear that the DCF 8 approach calls for measuring investors' forward-looking expectations. Second, he 9 relied on growth rates in dividends and book value when it is clear that investors give 10 considerably more weight to analysts' earnings projections in forming their 11 expectations for future growth. Finally, he failed to evaluate the reasonableness of the 12 individual cost of equity estimates produced by his application of the DCF model. As 13 a result, he included data that result in illogical cost of equity estimates.

14 Q23. DO YOU BELIEVE THAT HISTORICAL TRENDS IN EARNINGS, 15 DIVIDENDS, OR BOOK VALUE PROVIDE A MEANINGFUL GUIDE TO 16 INVESTORS' EXPECTATIONS?

17 A23. No. As discussed at length in my Direct Testimony (at 33-36), it is investors' future 18 expectations – and not actual, historical results – that determine the current price they 19 are willing to pay for commons stocks. If past trends are to be representative of 20 investors' expectations for the future, then the historical conditions giving rise to these 21 growth rates should be expected to continue. That is clearly not the case for utilities, 22 which have experienced declining dividend payouts, earnings pressure, and, in certain 23 cases, significant write-offs.

While past conditions for utilities serve to depress historical growth rates, they are not representative of long-term expectations for the utility industry. Moreover, to the extent historical trends for utilities are meaningful, they are also captured in

- projected growth rates, such as those published by Value Line, Yahoo.com, and Zacks,
 since securities analysts also routinely examine and assess the impact and continued
 relevance (if any) of historical trends.
- 4

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Q24. IS THE DOWNWARD BIAS INHERENT IN HISTORICAL GROWTH RATES

FOR WATER UTILITIES EVIDENT IN MR. KAUFMAN'S DCF ANALYSIS?

6 A24. Yes, it is. For example, consider the 5-year historical dividend per share ("DPS") 7 growth measures displayed on Schedule ERK 2, page 1, of Mr. Kaufman's testimony. 8 As shown there, five of the eight individual historical DPS growth rates for the companies in the proxy group fall at or below 2.5%.³¹ Combining a growth rate of 9 10 2.5% with Value Line's dividend yield of 2.28% (Schedule ERK-2, page 1) implies a DCF cost of equity of 4.81%,³² which is barely 17 basis points above the most recent 11 vield on triple-B utility bonds and falls below near-term forecasts.³³ As a result, these 12 values provide no meaningful information regarding investors' expectations and 13 requirements. Clearly, any consideration of Mr. Kaufman's historical dividend growth 14 15 measures results in a built-in downward bias to his DCF conclusions.

16 Q25. BEYOND HIS MISGUIDED RELIANCE ON HISTORICAL MEASURES, MR.

17 KAUFMAN ALSO CONSIDERS GROWTH IN DIVIDENDS AND BOOK

18 VALUE IN HIS DCF ANALYSIS. ARE THESE VALID CONSIDERATIONS?

A25. No. As I discussed in my Direct Testimony (at 33-35), evidence supports the
 contention that investors rely primarily on EPS growth projections in forming their
 expectations. The continued success of investment services such as Value Line,
 Yahoo.com, and Zacks, and the fact that projected growth rates from such sources are

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³¹ The growth rate for Middlesex Water of 1.5% is not shown in Mr. Kaufman's schedule because he excluded growth rates below 2.0%.

 $^{^{32}}$ After increasing the dividend yield by one-half of the growth rate to convert the current yield to a forward yield.

³³ The average triple-B utility bond yield for November 2016 is 4.64% as reported by Moody's Analytics. The near-term forecast for triple-B bond yields is 6.59% as shown in Table 4 to my Direct Testimony.

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1	widely referenced, provides strong evidence that investors give considerable weight to
2	analysts' earnings projections in forming their expectations for future growth. Future
3	trends in EPS, which provide the source for future dividends and ultimately support
4	share prices, play a pivotal role in determining investors' long-term growth
5	expectations. The importance of earnings in evaluating investors' expectations and
6	requirements is well accepted in the investment community, and surveys of analytical
7	techniques relied on by professional analysts indicate that growth in EPS is far more
8	influential than trends in DPS. As explained in New Regulatory Finance:
9 10 11 12 13 14	Because of the dominance of institutional investors and their influence on individual investors, analysts' forecasts of long-run growth rates provide a sound basis for estimating required returns. Financial analysts exert a strong influence on the expectations of many investors who do not possess the resources to make their own forecasts, that is, they are a cause of g [growth]. ³⁴
15	The availability of projected EPS growth rates also is key to investors relying
16	upon this measure as compared to future trends in DPS. Apart from Value Line,
17	investment advisory services do not generally publish comprehensive DPS growth
18	projections, and this scarcity of dividend growth rates relative to the abundance of
19	EPS forecasts attests to their relative influence. The fact that analyst EPS growth
20	estimates are routinely referenced in the financial media and in investment advisory
21	publications implies that investors use them as a primary basis for their expectations.
22	As observed in New Regulatory Finance:
23 24 25 26 27 28	The sheer volume of earnings forecasts available from the investment community relative to the scarcity of dividend forecasts attests to their importance. The fact that these investment information providers focus on growth in earnings rather than growth in dividends indicates that the investment community regards earnings growth as a superior indicator of future long-term growth. Surveys of analytical techniques actually

³⁴ Roger A. Morin, "New Regulatory Finance," Public Utilities Reports, Inc. (2006) at 298.

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used by analysts reveal the dominance of earnings and conclude that 1 2 earnings are considered far more important than dividends.³⁵ While I did not rely solely on EPS projections in applying the DCF model.³⁶ my 3 evaluation clearly supports greater reliance on EPS growth rate projections than other 4 5 alternatives. HAVE OTHER REGULATORS RECOGNIZED THAT ANALYSTS' EPS 6 O26. 7 GROWTH RATE ESTIMATES ARE A MORE MEANINGFUL GUIDE TO 8 **INVESTORS' EXPECTATIONS?** 9 For example, the Kentucky Public Service Commission has indicated its A26. Yes. 10 preference for relying on analysts' projections in establishing investors' expectations: 11 KU's argument concerning the appropriateness of using investors' 12 expectations in performing a DCF analysis is more persuasive than the 13 AG's argument that analysts' projections should be rejected in favor of historical results. The Commission agrees that analysts' projections of 14 15 growth will be relatively more compelling in forming investors' 16 forward-looking expectations than relying on historical performance, especially given the current state of the economy.³⁷ 17 18 Similarly, the Public Utility Regulatory Authority of Connecticut noted that: 19 The Authority used growth in earnings exclusively based on the record 20 of this docket showing that financial literature supports security 21 analysts' EPS growth rate projections as superior for use in a DCF 22 analysis. Response to Interrogatory FI-106. The Authority takes note 23 that long-term, there is not growth in DPS without growth in EPS. 24 Market prices are more highly influenced by security analyst's earnings 25 expectations then expectations in dividends. The Authority agrees with 26 Ms. Ahern that "the use of earnings growth rates in a DCF analysis 27 provides a better matching between investors' market price 28 appreciation expectations and the growth rate component of the DCF."³⁸ 29

³⁵ *Id.* at 302-303 (emphasis added).

³⁶ As discussed in my Direct Testimony, I also examined the "br+sv", sustainable growth rates for the companies in my proxy groups.

³⁷ Order, Case No. 2009-00548 at 30-31 (Jul. 30, 2010).

³⁸ Decision, Docket No. 13-02-20 (Sep. 24, 2013).

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1		FERC has also expressed a clear preference for projected EPS growth rates in
2		applying the DCF model to estimate the cost of equity for both electric and natural gas
3		pipeline utilities, noting that, "The growth rate used in the DCF model should be the
4		growth rate expected by the market." ³⁹ As FERC concluded:
5 6 7 8 9 10		That growth rate may not necessarily prove to be the correct growth forecast, but the cost of common equity to a regulated enterprise depends upon what the market expects, not upon what ultimately happens. Accordingly, it is appropriate to look to the most recent record evidence of the growth rates actually expected by the investment community. ⁴⁰
11		FERC affirmed that "years of established Commission precedent" support the use of
12		analysts' EPS growth projections in applying the DCF model. ⁴¹
13	Q27.	MR. KAUFMAN CITES A NUMBER OF PAST DECISIONS WHERE THE
14		IURC HAS FAVORED PARTICULAR GROWTH MEASURES FOR CERTAIN
15		TYPES OF UTILITIES. SHOULD THOSE FINDINGS LOCK IN THE
16		MEASURES USED TO ESTIMATE GROWTH EXPECTATIONS NOW AND
17		IN THE FUTURE?
18	A27.	No. The quotation offered by Mr. Kaufman from Cause No. 43680, Indiana-
19		American Water Company, made clear that the IURC expects analysts to exercise
20		judgment based on the facts and circumstances of each case:
21 22		The Commission expects the parties to exercise sound judgment when deciding which inputs to include as part of their analysis. ⁴²
23		The use of historical or projected dividends and book value may have been more
24		appropriate in the past. A number of years ago, when the utility industries were more
25		stable, historical dividend and earnings records were more useful. Also, standardized

³⁹ Opinion No. 531, 147 FERC ¶ 61,234 at P 88 (2014).
⁴⁰ Id.
⁴¹ Opinion No. 531-B, 150 FERC ¶ 61,165 at P 71 (2015).
⁴² Public's Exhibit No. 5 at 38.

and objective sources of projections were not as widely available as is the case today.
 As the information environment has developed, including rules requiring security
 analysts' disclosures and compensation standards to avoid conflicts, projections have
 become more credible to investors.

Q28. DOES THE FACT THAT ANALYSTS' EPS PROJECTIONS MAY DEVIATE FROM ACTUAL RESULTS HAMPER THEIR USE IN APPLYING THE DCF MODEL, AS MR. KAUFMAN CONTENDS?⁴³

8 A28. No. Investors, just like securities analysts and others in the investment community, do 9 not know how the future will actually turn out. They can only make investment decisions based on their best estimate of what the future holds in the way of long-term 10 growth for a particular stock, and securities prices are constantly adjusting to reflect 11 12 their assessment of available information. While the projections of securities analysts 13 may be proven optimistic or pessimistic in hindsight, this is irrelevant in assessing the expected growth that investors have incorporated into current stock prices, and any 14 bias in analysts' forecasts - whether pessimistic or optimistic - is irrelevant if 15 investors share analysts' views. As New Regulatory Finance concluded, "The 16 17 accuracy of these forecasts in the sense of whether they turn out to be correct is not an issue here, as long as they reflect widely held expectations."44 18

Moreover, as discussed earlier, there is every indication that expectations for earnings growth are instrumental in investors' evaluation and the fact that analysts' projections deviate from actual results provides no basis to ignore this relationship. Comparisons between forecasts of future growth expectations and the historical trend in actual earnings are largely irrelevant in evaluating the use of analysts' projections in the DCF model. But as noted above, the investment community can only make

⁴³ Public's Exhibit No. 5 at 39; Appendix F; Appendix G.

⁴⁴ Roger A. Morin, "New Regulatory Finance," *Public Utilities Reports, Inc.* (2006) at 298.

1 decisions based on their best estimate of what the future holds in the way of long-term 2 growth for a particular stock, and the fact that projections deviate from actual results 3 says nothing about whether investors rely on analysts' estimates. In using the DCF model to estimate investors' required returns, the purpose is not to prejudge the 4 5 accuracy or rationality of investors' growth expectations. Instead, to accurately 6 estimate the cost of equity we must base our analyses on the growth expectations 7 investors actually use in determining the price they are willing to pay for common 8 stocks – even if we do not agree with their assumptions. As Robert Harris and Felicia 9 Marston noted in their article in Journal of Applied Finance:

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...Analysts' optimism, if any, is not necessarily a problem for the analysis in this paper. If investors share analysts' views, our procedures will still yield unbiased estimates of required returns and risk premia.⁴⁵

Similarly, there is no logical foundation for criticisms such as those raised by Mr. Kaufman that the purported upward bias of analysts' growth rates limits their usefulness in applying the DCF model. If investors' base their expectations on these growth rates, then they are useful in inferring investors' required returns – even if the analysts' forecasts prove to be wrong in hindsight.

18 Q29. DO THE SELECTED ARTICLES CITED BY MR. KAUFMAN IN SUPPORT
19 OF HIS CONTENTION THAT ANALYSTS ARE OVERLY OPTIMISTIC
20 PAINT A COMPLETE PICTURE OF THE FINANCIAL RESEARCH IN THIS
21 AREA?

A29. No. Peer-reviewed empirical studies do not uniformly support his contention that analysts' earnings projections are optimistically biased. For example, a study reported in "Analyst Forecasting Errors: Additional Evidence" found no optimistic bias in

⁴⁵ Robert S. Harris and Felicia C. Marston, "The Market Risk Premium: Expectational Estimates Using Analysts' Forecasts," *Journal of Applied Finance* 11 (2001) at 8

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1 earnings projections for large firms (market capitalization of \$500-\$3,000 million), 2 with data for the largest firms (market capitalization > \$3,000 million) demonstrating a *pessimistic* bias.⁴⁶ Similarly, a 2005 article that examined analyst growth forecasts 3 4 over the period 1990 through 2001 illustrated that Wall Street's forecasting is not 5 inherently optimistic, and other research on this topic also concludes that there is no clear support for the contention that analyst forecasts contain upside bias.⁴⁷ Moreover. 6 the studies cited by Mr. Kaufman do not focus on large, rate-regulated utilities in 7 8 relative stable industries, where the magnitude of any potential bias is likely to be very 9 small, if it exists at all.

Q30. IF INVESTORS SHARE MR. KAUFMAN'S CONCERN ABOUT ANY BIAS OF
 ANALYSTS WORKING FOR BROKERAGE FIRMS, IS THERE AN
 ALTERNATIVE SOURCE OF PROJECTIONS?

13 A30. Yes, Value Line. Value Line is a well-recognized source in the investment and 14 regulatory communities that does not sell or underwrite securities. The well-known fact that Value Line is not engaged in investment banking or other relationships with 15 the companies that it follows reinforces its impartiality in the minds of investors. 16 Indeed, Value Line was among the providers of "independent research" that benefited 17 from the Global Settlement cited by Mr. Kaufman in his Appendix G.⁴⁸ Given the fact 18 19 that Value Line is perhaps the most widely available source of information on common 20 stocks, the projections of Value Line analysts provide an important guide to investors'

⁴⁶ Lawrence D. Brown, "Analyst Forecasting Errors: Additional Evidence," *Financial Analysts Journal* (November/December 1997).

⁴⁷ Stephen Ciccone, "Trends in analyst earnings forecast properties," *International Review of Financial Analysis*, 14:2-3 (2005); Jeffery Abarbanell and Lehavy Reuven, "Biased forecasts or biased earnings? The role of reported earnings in explaining apparent bias and over/under reaction in analysts' earnings forecasts," *Journal of Accounting and Economics*, 36: 142 (2003); Laim Denning, "Wall Street's Missed Expectations," *Wall Street Journal* at C8 (Apr. 26, 2010).

⁴⁸ The selection of Value Line as an independent source of investment advice made under the Global Settlement is discussed in Amy Tsao, "The New Era of Indie Research," *Business Week Online Edition* (June 12, 2003).

expectations. I would note that on Schedule ERK-2, page 2 of 3, the average Value
Line Forecasted earnings per share growth reported by Mr. Kaufman is 6.36%, versus
6.28% for Yahoo.com and 6.40% for Zacks. Considering that the consensus analyst
estimates are essentially equal to those published by Value Line, which is immune to
any potential conflicts associated with investment banking operations, this undercuts
Mr. Kaufman's unsupported allegations of bias.

7 Q31. DO YOU HAVE OTHER CONCERNS WITH MR. KAUFMAN'S CONSTANT 8 GROWTH DCF ANALYSIS?

9 A31. Yes, Mr. Kaufman's decision to average all individual growth rates together, and then
10 compute a single DCF estimate for the entire proxy group, presents another serious
11 flaw in the OUCC's DCF analysis. This approach ignores the reality that each growth
12 rate represents a stand-alone estimate of investors' future expectations, and each value
13 should be evaluated on its own merits. The fact that an average of several growth
14 rates might produce a DCF estimate that could be considered reasonable does not
15 absolve the need to evaluate each underlying growth rate separately.

16 For example, consider a utility with a dividend yield of 3.5% and three hypothetical growth estimates of 0.0%, 6.5%, and 14.0%. Under the OUCC's method, 17 18 the DCF estimate would be computed by adding the 6.8% average of the three individual growth rates to the dividend yield, resulting in a cost of equity estimate of 19 10.3%. The problem with this method is that it disguises the fact that two of the 20 underlying growth rates -0.0% and 14.0% – do not provide a meaningful guide to 21 22 investors' expectations. Rather than averaging the good with the bad, each implied cost of equity estimate (in this example, 3.5%, 10.0%, and 17.5%) should be evaluated 23 on a stand-alone basis.⁴⁹ Mr. Kaufman's assertion (p. 44) that the problems created by 24

⁴⁹ The implied cost of equity estimates are calculated as the sum of the dividend yield (3.5%) and the respective growth rates (0.0%, 6.5%, and 14.0%).

- 1 "extremely low or high growth rates" can be cured simply by averaging them together 2 is incorrect and should be rejected. 3 O32. DID MR. KAUFMAN AGREE IN PRINCIPLE WITH THE NEED TO SCREEN 4 **DCF GROWTH RATES?** 5 A32. Yes. Mr. Kaufman noted that, "Very low or negative growth rates can skew the results by putting undue downward pressure on the estimated growth rate."⁵⁰ As a result, Mr. 6 Kaufman elected to exclude all growth rates below 2.0%.⁵¹ 7 DID MR. KAUFMAN'S SCREENING CRITERION CURE THE DOWNWARD 8 O33. 9 **BIAS IN HIS CONSTANT GROWTH DCF ANALYSIS?** 10 No. For example, Mr. Kaufman reports a 10-year historical dividend growth rate of A33. 2.0% for Connecticut Water.⁵² Combining this growth rate with Value Line's dividend 11 yield of 2.30% for Connecticut Water⁵³, and adjusting for a half-year's growth, results 12 13 in a cost of equity estimate of 4.32%. In fact, there are six instances where Mr. 14 Kaufman's DCF analysis incorporated Value Line growth rates in the range of 2.0% to 15 2.5%. The sub-5.0% DCF estimates implied by these growth rates do not sufficiently exceed yields on current and projected public utility bonds. As a result, these illogical 16 17 growth measures should have been removed from Mr. Kaufman's constant growth DCF analysis. 18 19 DID MR. KAUFMAN ACKNOWLEDGE THAT COE ESTIMATES AT 6.75% Q34. 20 **OR BELOW SHOULD BE REJECTED?**
- A34. Yes. Mr. Kaufman evaluates the reasonableness of applying the CAPM using current
 Treasury bond yields for the risk-free rate, which results in an implied COE of
 approximately 6.75%. He rejects this outcome, concluding that, "This is an

⁵¹ Id.

⁵³ Id.

⁵⁰ Public's Exhibit No. 5 at 34.

⁵² Public's Exhibit No. 5, Schedule ERK 2, page 1.

unrealistically low cost of equity at this time."⁵⁴ Nevertheless, 23 of the growth rates
 included in Mr. Kaufman's DCF study, or almost one-third, imply DCF values that fall
 below a level he considers to be "unrealistically low."

4 Q35. DO YOU HAVE OTHER CONCERNS WITH MR. KAUFMAN'S DCF 5 ANALYSIS?

A35. Yes. Mr. Kaufman supplemented his constant growth DCF studies with a two-stage
DCF model on the grounds that analysts' growth forecasts, like those used in his
constant growth DCF application, may be unreasonably high. As he says, a "2-stage
DCF model can use current forecasted growth rates in the near-term (over the
forecasted period), while still using a sustainable growth rate over the long-term."⁵⁵
He maintains that it is reasonable to use a forecasted growth rate of the U.S. economy
(as measured by growth in GDP) as a long-term sustainable growth rate.⁵⁶

Q36. THE DCF MODEL IS BASED ON THE ASSUMPTION OF AN INFINITE STREAM OF CASH FLOWS. WHY WOULDN'T MR. KAUFMAN'S TWOSTAGE MODEL USING GDP GROWTH MAKE SENSE?

A36. This view confuses the theory underlying the DCF model with the practicalities of its application in the real world. Analytical models such as the DCF model are inherently abstractions of reality. The underlying theory requires any number of assumptions, many of which differ considerably from the situation that confronts actual investors in the capital markets. For example, apart from a constant growth rate into perpetuity, the theory underlying the DCF model also requires that dividends, earnings, and stock prices grow at exactly the same rate forever.⁵⁷

⁵⁴ Public's Exhibit No. 5 at 57.

⁵⁵ *Id.* at 40.

⁵⁶ Id.

⁵⁷ Other theoretical models also rest on unrealistic assumptions that play no role in their practical application. For example, underpinning the CAPM is the assumption that there are no income taxes.

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1 Such strict assumptions are never met in practice. While this notion of long-2 term growth should presumably relate to the specific firm at issue, or at the very least to a particular industry, there are no long-term growth projections available for the 3 4 companies in Mr. Kaufman's proxy group or for the water utility industry as a whole. Rather than applying the DCF model in a way that is consistent with the information 5 that is available to investors and how they use it, the use of GDP growth seeks to mold 6 investor behavior around the theoretical assumptions of a financial model. Mr. 7 Kaufman wrongly asserts that the DCF growth rate "must be one that is sustainable for 8 many years,"⁵⁸ but in fact the only relevant growth rate is the growth rate used by 9 10 investors. Investors do not have clarity to see far into the future, and there is little to no evidence to suggest that investors share the view that growth in GDP must be 11 12 considered a strict limit on earnings growth for water utilities over the long-term.

Q37. ARE LONG-TERM GDP GROWTH RATES COMMONLY REFERENCED AS A DIRECT GUIDE TO FUTURE EXPECTATIONS FOR SPECIFIC FIRMS, SUCH AS WATER AND WASTEWATER UTILITIES?

A37. No. Certainly investors consider broad secular trends in economic activity as one
 foundation for their expectations for a particular industry or firm. But the idea that
 investment advisory services view GDP growth as a direct guide to long-term
 expectations for a particular firm – much less every firm in an entire industry – is not
 borne out by evidence.

In contrast to this notion, in the financial media one observes many references to three-to-five year EPS growth forecasts for individual companies and very few references to long-term GDP forecasts. Long-term GDP growth rates are simply not discussed within the context of establishing investors' expectations for individual

⁵⁸ Public's Exhibit No. 5 at 40.

1 firms. For example, Value Line reports are routinely relied on as an important guide to apply the DCF model to water utilities.⁵⁹ But despite OUCC's suggestion that GDP 2 has a fundamental role in shaping investors' growth estimates. Value Line does not 3 4 even mention trends in GDP in its evaluation of the firms in the water utility industry. 5 Value Line's singleness of purpose is to inform investors of the pertinent factors that 6 impact future expectations specific to each of the common stocks it covers. If the 7 trajectory of GDP growth out to the year 2050 and beyond had direct relevance in 8 investors' evaluation of water utility common stocks, it would be logical to assume 9 that Value Line or other securities analysts would give at least passing mention to this 10 fact. But they do not.

11 Q38. HOW MUCH CONFIDENCE WOULD INVESTORS BE LIKELY TO PLACE 12 ON LONG-TERM GDP PROJECTIONS?

13 A38. Very little. Investors understand the complexities and inherent inaccuracies involved 14 in forecasting, and that such uncertainties are significantly compounded for a long-15 term time horizon. Consider the example of IHS Global Insight, which is perhaps the 16 world's foremost econometric forecasting service. IHS Global Insight currently 17 publishes GDP projections for the U.S. economy for the next thirty years, but for other important economic variables (e.g., bond yields) their forecast simply holds projected 18 19 values constant after a five-year horizon. As a result, in addition to the fact that there 20 is no evidence to suggest that common stock investors reference GDP growth rates in 21 their analysis of a specific water utility's prospects, the difficulties in making long-22 term forecasts suggest they would be foolhardy to do so.

⁵⁹ As noted in *New Regulatory Finance*, "Value Line is the largest and most widely circulated independent investment advisory service, and influences the expectations of a large number of institutional and individual investors." Roger A. Morin, "New Regulatory Finance," *Public Utilities Reports, Inc.* (2006) at 71.

Q39. IS THERE EVIDENCE THAT LONG-TERM GDP GROWTH RATES UNDERSTATE INVESTORS' EXPECTATIONS FOR WATER UTILITIES?

3 A39. Yes. Actual historical growth rates for individual firms in Mr. Kaufman's own proxy 4 group refute the notion that long-term growth for water utilities is constrained by GDP. 5 For example, Value Line reports that American States Water and Aqua America achieved growth in EPS over the last 10 years of 12.0% and 8.5%, respectively.⁶⁰ 6 Meanwhile, SJW Corp. and American Water Works had 5-year EPS growth rates of 7 15.0% and 13.0%.⁶¹ These values for Mr. Kaufman's own proxy firms indicate that 8 9 utilities can and do achieve growth over extended periods far in excess of the GDP 10 growth rate he suggests as a limit in the multi-stage DCF model.

11 Q40. DO EXPECTATIONS FOR THE WATER UTILITIES IN MR. KAUFMAN'S 12 PROXY GROUP SUPPORT A LONG-TERM TREND TOWARDS GDP 13 GROWTH?

A40. No. Growth rates for water utilities are not expected to collapse beyond the next five years.⁶² At least in part, growth in the water utility industry is created by additional infrastructure investment. Contrary to the assumption that growth trends will somehow mirror GDP, investors recognize that the water utility industry has entered a cycle of significant capital spending on utility infrastructure. As Value Line recently noted:

Following decades of underinvestment in new water infrastructure, utilities have substantially increased capital budgets to replace aging pipelines.

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⁶⁰ Public's Exhibit No. 5, Schedule ERK 2, page 1.

⁶¹ Id.

⁶² One of Mr. Kaufman's sources recognized that practitioners view the constant growth DCF model as being particularly applicable to "mature utilities, for which the constant-growth assumption is reasonable." *See,* Response to Petitioner's Data Request 1.1.C, Appendix F1.pdf; Bradford Cornell, "The Equity Risk Premium – The Long-Run Future of the Stock Market," John Wiley & Sons, Inc. at 104.

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Currently, the average utility is in the process of replacing aging pipeline systems, upgrading and expanding wastewater facilities, and spending funds to be in compliance with EPA regulations.⁶³

Similarly, the National Association of Water Companies recently reported that,
"According to the United States Environmental Protection Agency (EPA), it is now
estimated that \$384.2 billion are needed over the next 20 years for water
infrastructure-related expenses."⁶⁴ These expectations for a long-term cycle of capital
investment in the water and wastewater industry imply higher – not lower – long-term
growth, and again contradict Mr. Kaufman's claim that investors would view GDP as a
ceiling on their growth expectations for the utilities in his proxy group.

11 Q41. DID THE FOUNDER OF THE DCF APPROACH SUPPORT THE USE OF A 12 GENERIC LONG-TERM GROWTH RATE, SUCH AS THE GDP GROWTH 13 UNDER OUCC'S TWO-STAGE APPROACH?

A41. No. Professor Myron J. Gordon, who originated the DCF approach, concluded that
reference to a generic long-term growth rate, such as Mr. Kaufman advocates, was
unsupported.⁶⁵ More specifically, Dr. Gordon concluded that any assumption of a
single time horizon for a transition to a generic long-term growth rate was highly
questionable and failed to reduce error in DCF estimates. Instead, Dr. Gordon
specifically recognized that, "it is the growth that investors expect that should be
used" in applying the DCF model, and he concluded:

21 22 A number of considerations suggest that investors may, in fact, use earnings growth as a measure of expected future growth."⁶⁶

1974).

66 Id. at 89.

⁶³ The Value Line Investment Survey at 1780 (Oct. 14, 2016) (emphasis original).

 ⁶⁴ National Association of Water Companies, "Summary Report," *Water Policy Forum* at 8 (April 2016). The report noted that this figure "does not include dollars associated with wastewater improvements."
 ⁶⁵ Gordon, Myron J., THE COST OF CAPITAL TO A PUBLIC UTILITY, at 100-01 (MSU Public Utilities Studies,

Q42. HAVE OTHER REGULATORS RECOGNIZED THAT GDP GROWTH RATES RESULT IN COST OF EQUITY ESTIMATES THAT FAIL TO REFLECT INVESTORS' EXPECTATIONS FOR UTILITIES?

4 A42. Yes. In Opinion Nos. 531 and 551 (issued June 19, 2014 and September 28, 2016), 5 FERC concluded that 9.39% and 9.29% results produced by a multi-stage DCF model 6 predicated on GDP growth were insufficient to meet regulatory standards under Hope and *Bluefield*.⁶⁷ FERC determined that a cost of equity of this magnitude "does not 7 represent a just and reasonable outcome" or "appropriately represent the utilities" 8 risks."68 In particular, FERC concluded that historically anomalous capital market 9 10 conditions are leading to unrepresentative financial inputs to the DCF formula, which 11 in turn results in a cost of equity "that does not satisfy the requirements of Hope and Bluefield."⁶⁹ In order to evaluate a fair and reasonable point-estimate COE, FERC 12 13 endorsed reliance on the same risk premium, CAPM, and expected earnings approaches presented in my testimony in this case.⁷⁰ In addition, FERC stressed the 14 relevance of returns allowed by state regulatory commissions in its evaluation of a fair 15 COE from within the zone of reasonableness.⁷¹ Based on this evidence, FERC 16 determined that COEs of 10.57% (Opinion No. 531) and 10.32% (Opinion No. 551) 17 18 from the top end of the DCF zones of reasonableness were warranted for an electric 19 utility.

⁶⁷ Opinion No. 531, 147 FERC ¶ 61,234 at P 142 (2014); Opinion No. 551, 156 FERC ¶ 61,234 at para. 135 (2016).

⁶⁸ Opinion No. 531, 147 FERC ¶ 61,234 at P 144 (2014).

⁶⁹ *Id.* at P 142.

⁷⁰ *Id.* at P 146.

⁷¹ *Id.* at P148-149. Opinion No. 551, 156 FERC ¶ 61,234 at P 250.

1		B. Capital Asset Pricing Model
2	Q43.	WHAT IS THE FUNDAMENTAL PROBLEM ASSOCIATED WITH THE
3		APPROACH THAT MR. KAUFMAN USED TO APPLY THE CAPM?
4	A43.	Like the DCF model, the CAPM is an ex-ante, or forward-looking model based on
5		expectations of the future. As a result, in order to produce a meaningful estimate of
6		investors' required rate of return, the CAPM must be applied using data that reflects
7		the expectations of actual investors in the market. However, the CAPM application
8		presented by Mr. Kaufman was based in part on historical - not projected - rates of
9		return. ⁷² Morningstar has recognized the primacy of current expectations:
10 11 12 13 14		The cost of capital is always an expectational or forward-looking concept. While the past performance of an investment and other historical information can be good guides and are often used to estimate the required rate of return on capital, <i>the expectations of future events are the only factors that actually determine cost of capital.</i> ⁷³
15		Because he failed to look directly at the returns investors are currently requiring in the
16		capital markets, the 7.58% to 8.47% CAPM range developed by Mr. Kaufman falls
17		woefully short of investors' current required rate of return.
18	Q44.	IS THERE GOOD REASON TO DISREGARD THE RESULTS OF
19		HISTORICAL CAPM ANALYSES?
20	A44.	Yes. Applying the CAPM is complicated by the impact of the recent capital market
21		turmoil and Federal Reserve policies on investors' risk perceptions and required
22		returns. As the Staff of the Florida Public Service Commission concluded regarding
23		historical applications of the CAPM:
24 25 26		[R]ecognizing the impact the Federal Government's unprecedented intervention in the capital markets has had on the yields on long-term Treasury bonds, staff believes models that relate the investor-required

⁷² Public's Exhibit No. 5, noting that, "I have calculated Petitioner's cost of equity using both a historical and a forecasted risk premium." ⁷³ Morningstar, *Ibbotson SBBI, 2013 Valuation Yearbook*, at 21 (emphasis added).
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return on equity to the yield on government securities, such as the CAPM approach, produce less reliable estimates of the ROE at this time.⁷⁴

Similarly, in Orange & Rockland Utilities, FERC determined that CAPM 4 5 methodologies based on historical data were suspect because whatever historical relationships existed between debt and equity securities may no longer hold.⁷⁵ FERC 6 concluded that historical risk premiums are downward biased given recent trends of 7 near-historic low yields for Treasury bonds,⁷⁶ and has endorsed the use of the same 8 application of the CAPM presented in my Direct Testimony to overcome the failings 9 of the historical approach exemplified by Mr. Kaufman's analysis.⁷⁷ 10

11 The CAPM cost of common equity estimate is calibrated from investors' 12 required risk premium between Treasury bonds and common stocks. In response to 13 heightened uncertainties, investors have repeatedly sought a safe haven in U.S. 14 government bonds. Coupled with the Federal Reserve's stimulus policies, this "flight to safety" has pushed Treasury yields significantly lower. This distortion not only 15 16 impacts the absolute level of the CAPM cost of equity estimate, but also affects 17 estimated risk premiums. Economic logic would suggest that investors' required risk 18 premium for common stocks over Treasury bonds has increased.

19 Meanwhile, the backward-looking historical data used by Mr. Kaufman 20 incorrectly assumes that investors' assessment of the relative risk differences, and their 21 required risk premium, between Treasury bonds and common stocks is constant and 22 equal to some historical average. As the Commission has previously noted:

⁷⁴ Staff Recommendation for Docket No. 080677-E1 - Petition for increase in rates by Florida Power & Light Company, Docket No. 080677-E1, at 280 (Dec. 23, 2009).

⁷⁵ See Orange & Rockland Utils., Inc., 40 FERC ¶ 63,053 at 65,208-09 (1987), aff'd, Opinion No. 314, 44 FERC ¶ 61,253 at 65,208 (2008). ⁷⁶ See New York Independent System Operator, Inc., 146 FERC ¶ 61,043 at P 105 (2014).

⁷⁷ See, Opinion No. 531-B, 150 FERC ¶ 61,165 at P 109 (2015); Opinion No. 551, 156 FERC ¶ 61,234 at P 165 (2016).

Rebuttal Testimony of Adrien M. McKenzie, CFA Petitioner's Exhibit 7 Page 34 of 65

Relying on historic market returns introduces some highly questionable assumptions, which must be taken on faith. Specificlaly [sic], one must assume that marketplace returns experienced historically are what investors were expecting to receive and continue to guide investor expectations today. It also assumes that asset relationships prevailing over the past 62 years continue today unchanged. Mr. Brennan provided no support for either of these assumptions. Public Witness Kahal explained why these assumptions are unlikely to hold true.⁷⁸

At no time in recent history has the fallacy of this assumption been demonstrated more concretely. The broken link between investors' current expectations and requirements and historical risk premiums is particularly relevant during periods of heightened uncertainty and rapidly changing capital market conditions, such as those experienced recently.⁷⁹ As Mr. Kaufman granted, even Dr. Roger Ibbotson, whose name is synonymous with historical rate of return data, "has expressed concerns about using historical data to estimate the risk premium."⁸⁰

Q45. MR. KAUFMAN (P. 53) CHARACTERIZES HIS ANALYSIS AS USING A "FORECASTED RISK PREMIUM." IS THERE EVIDENCE THAT THE STUDIES REFERENCED BY MR. KAUFMAN DO NOT REFLECT INVESTORS' EXPECTATIONS?

A45. Yes. Mr. Kaufman did not attempt to develop a market risk premium using current
capital market information. Rather, his Appendix I simply presented the results of
various studies based on "black box" models or conducted through surveys. The
equity risk premiums reported by Mr. Kaufman do not make economic sense in light
of current capital market conditions, and in certain cases they actually contradict his
own testimony. For example, in Appendix I, Mr. Kaufman cites an equity risk
premium from John Graham and Campbell Harvey of 4.02%. Combining a market

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⁷⁸ Indiana Michigan Power Co., Cause No. 38728 (Aug. 24, 1990).

⁷⁹ See, e.g., Opinion No. 531, at P 158 (2014), finding that, "the capital market conditions since the 2008 market collapse and the record in this proceeding have shown that there is not a direct correlation between changes in U.S. Treasury bond yields and changes in ROE."

⁸⁰ Public's Exhibit No. 5 at 53.

1		equity risk premium of 4.02% with Mr. Kaufman's risk-free rate of 4.00% results in an
2		indicated cost of equity for the market as a whole of 8.02%, which is 83 basis points
3		below Mr. Kaufman's COE recommendation for Westfield in this case. But as Mr.
4		Kaufman granted, "the water industry should have a lower expected rate of return than
5		the market."81 As a result, his implied CAPM result violates the risk-return tradeoff
6		principle that underlies investor behavior.
7	Q46.	HAVE OTHER REGULATORS RELIED ON A FORWARD-LOOKING DCF
8		APPROACH SIMILAR TO THE ONE PRESENTED IN YOUR DIRECT
9		TESTIMONY AS A MEANS OF ESTIMATING THE MARKET COST OF
10		EQUITY?
11	A46.	Yes. I based my CAPM approach on the methods used by the Staff at the Illinois
12		Commerce Commission, whose witnesses have routinely relied on a forward-looking
13		market rate of return estimate to apply the CAPM. For example, Illinois Staff witness
15		market fale of fetam estimate to appry the official for example, minors start whiless
14		Rochelle Langfeldt employed an expected market return based on an analysis
15		analogous to the approach described in my direct testimony:
16 17		Q. How was the expected rate of return on the market portfolio estimated?
18 19 20 21		A. The expected rate of return on the market was estimated by conducting a DCF analysis on the firms composing the S&P 500 Index ("S&P 500") Firms not paying a dividend as of June 28, 2001, or for which neither Zacks nor IBES growth rates were available were
22		eliminated from the analysis. The resulting company-specific estimates
23		of the expected rate of return on common equity were then weighted
24 25		using market value data from Salomon Smith Barney, Performance and Weights, of the S&P 500: Second Quarter 2001. The estimated
25 26		weighted averaged expected rate of return for the remaining 365 firms
27		composing 78.31% of the market capitalization of the S&P 500 equals
28		15.31%.82

 ⁸¹ Id. at 11.
 ⁸² Direct Testimony of Rochelle Langfeldt, Illinois Commerce Commission Docket No. 01-0423 at 23-24

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1 Moreover, the market cost of equity relied on in my analysis represents a 2 weighted average expected return for the dividend paying firms in the S&P 500. 3 Growth expectations for some firms fall below expected trends in GDP, while 4 projections for other firms are considerably more optimistic. Similarly, the 5 composition of the S&P 500 is not static and growth rates for one company may moderate over time, while for others they may increase. On balance, however, the 6 7 growth rates used in my study are representative of the consensus expectations for the 8 dividend paying firms in the S&P 500 Index as a whole. This contradicts Mr. 9 Kaufman's position that investors' growth expectations should be constrained by a "speed limit" based on GDP growth when estimating the market cost of equity.⁸³ 10

11 Q47. DID MR. KAUFMAN FAIL TO CONSIDER OTHER IMPORTANT FACTORS 12 IN APPLYING THE CAPM?

13 Yes. As noted in my Direct Testimony, empirical research indicates that the CAPM A47. does not fully account for observed differences in rates of return attributable to firm 14 size.⁸⁴ To account for this, Duff & Phelps has developed size premiums that need to 15 be added to the theoretical CAPM cost of equity estimates to account for the level of a 16 17 firm's market capitalization in determining the CAPM cost of equity. The size adjustment corrects for an observed inability of the CAPM to fully reflect the risks 18 perceived by investors. Because he ignored this fundamental relationship, Mr. 19 20 Kaufman's results are downward biased.

⁸³ Public's Exhibit No. 5 at 55.

⁸⁴ Petitioner's Exhibit 2 at 38-39.

Q48. DOES MR. KAUFMAN ACCURATELY CHARACTERIZE THE SIZE
 ADJUSTMENT, AS IT PERTAINS TO THE CAPM MODEL?

A48. No. As explained in my Direct Testimony,⁸⁵ the need for the size adjustment in 3 4 applying the CAPM arises because differences in investors' required rates of return 5 that are related to firm size are not fully captured by beta. This refinement to the CAPM is distinct from a generalized risk premium for firm size, as discussed on pages 6 19-22 of my Direct Testimony. Similarly, the "Business Valuation Alert" cited by Mr. 7 8 Kaufman acknowledges that "as a general proposition, smaller companies are riskier than larger companies,"86 and merely confirms that risk premiums for a water utility 9 are below those of the "average company."⁸⁷ I agree, and this industry-specific risk 10 assessment is considered in my CAPM analysis through the use of beta values that are 11 12 specific to the water utilities in my proxy group. The size adjustment merely refines 13 the CAPM by adjusting for the impact of size that is *not accurately reflected in beta*.

Mr. Kaufman also places significant weight on a 1992 study by Annie Wong,⁸⁸ 14 but a closer examination of this research reveals that it is largely inconclusive, and 15 inconsistent with the CAPM. In fact, her results demonstrate no material difference 16 17 between utilities and industrial firms with respect to size premiums, and her study finds no significant relationship between beta and returns, which contradicts modern 18 portfolio theory and the CAPM. A more recent study published in the Quarterly 19 20 Review of Economics and Finance reconsiders Wong's evidence and concludes that "new information . . . indicates there is a small firm effect in the utility sector."⁸⁹ 21

⁸⁵ Id. at 44.

⁸⁶ Public's Exhibit No. 5 at 66.

⁸⁷ *Id.* at 66.

⁸⁸ *Id.* at 66.

⁸⁹ Thomas M. Zepp, "Utility stocks and the size effect—revisited," Quarterly Review of Economics and Finance, 43 (2003) 578-582.

Q49. IS THERE ANY MERIT TO MR. KAUFMAN'S CONTENTION (AT 64) THAT A SIZE ADJUSTMENT SHOULD NOT BE APPLIED TO REGULATED UTILITIES?

A49. No. Again, Mr. Kaufman implies that I am proposing to apply a general size risk
premium in arriving at a fair COE for Westfield; but this is not correct. Rather, this
adjustment merely corrects for an observed inability of the CAPM to fully reflect the
impact of size distinctions by market capitalization that the beta value does not
otherwise capture, but which is acknowledged by empirical research.

9 The IURC decisions and articles cited on pages 64-65 of Mr. Kaufman's 10 testimony pertain to a proposed small stock risk premium that would be added to the COE determined for the proxy companies. In other words, this adjustment was meant 11 12 to reflect a purported risk difference between the individual water utility at issue, and 13 the overall COE indicated by the underlying analyses. This is not at all what I am proposing in this case. My consideration of the impact of firm size does not adjust for 14 15 the Company's size relative to the proxy group; nor is it applied to the results of the 16 DCF, risk premium, or expected earnings approaches. Rather, it is specifically tied to 17 the CAPM because empirical research indicates that beta does not capture an 18 increment of risk related to firm size. Nor does the highlighted quotation from the 19 article on business valuation cited by Mr. Kaufman (p. 66) have any relevance to a fair 20 COE for Westfield in this case. Clearly, Westfield's position within the industry is not one of "very low risk," and the Company does not have any "near-guarantee" of 21 22 earning a fair COE.

23 Mr. Kaufman's observation (at 67) that "water utilities are not exposed to the 24 same risks as unregulated companies" says nothing at all about the relevance of a size 25 adjustment. Of course, there are any number of specific factors that distinguish a 26 utility's risks from other firms in the non-regulated sector, just as there are important

1 distinctions between the circumstances faced by airlines and drug manufacturers. But 2 under the assumptions of modern capital market theory on which the CAPM rests. 3 these considerations are reduced to a single risk measure – beta – which captures stock 4 price volatility relative to the market. Within the CAPM paradigm, the degree of 5 regulation, the nature of competition in the industry, the competence of management, 6 and every other firm-specific consideration is boiled down to a single question; 7 namely, how much does the stock's price fluctuate in relation to the market as a 8 whole? Beta is the measure of that variability, and research demonstrates that beta 9 does not fully account for the impact of firm size. As FERC concluded in adopting a 10 size adjustment when using the CAPM to estimate the cost of equity for electric 11 utilities, "[t]his type of size adjustment is a generally accepted approach to CAPM analyses.",90 12

Q50. MR. KAUFMAN ARGUES THAT SOME OF THE PROXY COMPANIES THAT ARE CATEGORIZED AS "SMALL" WITHIN DUFF & PHELPS' RANKING SYSTEM ARE NOT REALLY "SMALL" COMPANIES.⁹¹ HOW DO YOU RESPOND?

17 A50. Mr. Kaufman is confusing his personal notion of what defines a "small" company with 18 the market capitalization deciles used by Duff & Phelps. Under Duff & Phelps' 19 classification system, a company with a market capitalization of \$375 million (like 20 York Water) is classified as "small" because it is being compared to a universe of 21 publicly traded companies such as Apple and Exxon, with market capitalizations in the 22 hundreds of billions. In this context, York Water is a "small" company. In Mr. 23 Kaufman's world, York Water may not be a "small" company, but this difference is just semantics. Duff & Phelps considered them "small" for the purposes of their size 24

⁹⁰ Opinion No. 531-B, 150 FERC ¶ 61,165 at P 117 (2015).

⁹¹ Public's Exhibit No. 5 at 63-64.

premia study and this designation is nothing more than a label to differentiate them
 from other firms in the study. Mr. Kaufman's concern in this area is misguided.

Q51. WAS MR. KAUFMAN JUSTIFIED IN RELYING ON GEOMETRIC MEANS AS A MEASURE OF AVERAGE RATE OF RETURN WHEN APPLYING THE HISTORICAL CAPM?⁹²

6 A51. No. While both the arithmetic and geometric means are legitimate measures of 7 average return, they provide different information. Each may be used correctly, or 8 misused, depending upon the inferences being drawn from the numbers. The 9 geometric mean of a series of returns measures the constant rate of return that would 10 vield the same change in the value of an investment over time. The arithmetic mean 11 measures what the expected return would have to be each period to achieve the realized change in value over time. 12

In estimating the cost of equity, the goal is to replicate what investors expect going forward, not to measure the average performance of an investment over an assumed holding period. When referencing realized rates of return in the past, investors consider the equity risk premiums in each year independently, with the arithmetic average of these annual results providing the best estimate of what investors might expect in future periods. *New Regulatory Finance* had this to say:

19The best estimate of expected returns over a given future holding20period is the arithmetic average. Only arithmetic means are correct for21forecasting purposes and for estimating the cost of capital. There is no22theoretical or empirical justification for the use of geometric mean rates23of returns as a measure of the appropriate discount rate in computing24the cost of capital or in computing present values.

25 Similarly, *Morningstar* concluded that:

⁹² *Id.* at Schedule ERK 3, page 2.

⁹³ Roger A. Morin, "New Regulatory Finance" *Public Utilities Reports, Inc.* (2006) at 116-117, (emphasis added).

For use as the expected equity risk premium in either the CAPM or the 1 2 building block approach, the arithmetic mean or the simple difference 3 of the arithmetic means of stock market returns and riskless rates is the 4 relevant number. ... The geometric average is more appropriate for reporting past performance, since it represents the compound average 5 return.⁹⁴ 6 WHAT DOES THIS IMPLY WITH RESPECT TO MR. KAUFMAN'S CAPM 7 O52. 8 **ANALYSES?** 9 A52. For a variable series, such as stock returns, the geometric average will *always* be less 10 than the arithmetic average. Accordingly, Mr. Kaufman's reference to geometric average rates of return provides yet another element of built-in downward bias. 11 12 C. Other Cost of Equity Issues Q53. MR. KAUFMAN CLAIMS THAT REGULATION REDUCES THE RISKS 13 14 FACED BY WESTFIELD AND THIS MITIGATES THE NEED TO IMPACT OF THE COMPANY'S SIZE WHEN 15 RECOGNIZE THE COMPARED TO THE PROXY GROUP?⁹⁵ IS THIS A VALID ARGUMENT? 16 17 A53. No, Mr. Kaufman is mixing up two distinct considerations. The first consideration, that regulation reduces the risks faced by the Company, is not relevant. This is 18 19 because all of the proxy companies relied on by Mr. Kaufman (and myself) have highly regulated operations. By using the proxy companies to set Westfield's COE, 20 21 the impact of regulation has already been accounted for. No additional adjustment to the Company's COE is necessary to account for the presence of regulation. 22 23 The second consideration, that Westfield is much smaller than the companies 24 in the proxy group and thus possesses higher relative risk, is a legitimate one. As I 25 pointed out in my Direct Testimony, Westfield has total assets of approximately \$82.4 26 million, while the average market capitalization for the firms in the proxy group is

⁹⁴ Morningstar, Ibbotson SBBI 2013 Valuation Yearbook at 56.

⁹⁵ Public's Exhibit No. 5 at 64, fn 12.

\$2.8 billion.⁹⁶ This size difference deserves some consideration in evaluating a fair 1 2 COE in this case. I am not proposing a specific adjustment to the Company's COE to 3 account for its smaller size. Rather, I have recommended that the Commission adopt an COE at the upper end of the range that is indicated for large, publicly traded water 4 5 utilities, which represents a modest acknowledgement of the higher returns required to 6 compensate for Westfield's relative size and weaker credit standing. One thing is 7 clear, however, and that is that the size risk faced by the Company is not offset by the 8 fact that it is regulated, since that risk has already been accounted for by referencing a 9 proxy group of other regulated water utilities.

Q54. MR. KAUFMAN CITES THE INCREASED PREVALENCE OF TRACKERS IN THE WATER UTILITY INDUSTRY AND INFERS THAT THIS REDUCES THE COMPANY'S RISK AND, THEREFORE, OFFSETS ITS SMALL SIZE RISK.⁹⁷ HOW DO YOU RESPOND?

14 A54. This argument is similar in nature to Mr. Kaufman's "regulatory risk" argument I 15 discussed above, and my rebuttal to this argument is the same. As discussed in my Direct Testimony,⁹⁸ the proxy companies used to set Westfield's COE all have a broad 16 17 array of regulatory mechanisms, including revenue decoupling, future test years, operating cost trackers, and factors that provide for recovery of infrastructure 18 19 investments. Because of this, the impact of regulatory mechanisms is already built into the COE recommended for Westfield and no further adjustment, either up or 20 21 down, is necessary.

⁹⁶ Petitioner's Exhibit 2 at 19.

⁹⁷ Public's Exhibit No. 5 at 65.

⁹⁸ Petitioner's Exhibit 2 at 23-27.

Q55. DID MR. KAUFMAN CONSIDER OTHER CHECKS OF REASONABLENESS IN FORMING HIS RECOMMENDED COE?

A55. No. Beyond his flawed application of the CAPM, Mr. Kaufman did not provide any
meaningful checks of reasonableness on his DCF result. This approach is in stark
contrast to my COE analysis, which considered reasonableness checks such as a
forward-looking CAPM, the ECAPM, a bond yield plus risk premium approach, an
expected earnings approach, and a Non-Utility DCF approach.

8 Q56. HOW COULD COMPARISONS TO THE RESULTS FROM OTHER COE 9 ESTIMATION METHODS HAVE SIGNALED TO MR. KAUFMAN THAT HIS 10 DCF RESULTS WERE OUT OF THE RANGE OF REASONABLENESS?

- 11 A56. Current capital market conditions continue to reflect the impact of unprecedented 12 policy measures taken in response to recent dislocations in the economy and financial 13 markets, and are not representative of what is likely to prevail over the near-term 14 future. As a result, the DCF model may be affected by potentially unrepresentative 15 financial inputs. The Commission has previously expressed reservations regarding 16 blind adherence to the results of the DCF model, concluding that:
- There are three principal reasons for our unwillingness to place a great 17 deal of weight on the results of any DCF analysis. One is the reason 18 19 given by Mr. Brennan: the failure of the DCF model to conform to empirical reality. The second is the undeniable fact that rarely if ever 20 do two expert witnesses agree on the terms of a DCF equation for the 21 22 same utility -- for example, as we shall see in more detail below, projections of future dividend cash flow and anticipated price 23 appreciation of the stock can vary widely. And, the third reason is that 24 the unadjusted DCF result is almost always well below what any 25 informed financial analyst would regard as defensible, and therefore 26 requires an upward adjustment based largely on the expert witness' 27 judgment. In these circumstances, we find it difficult to regard the 28 results of a DCF computation as any more than suggestive.⁹⁹ 29

⁹⁹ Indiana Michigan Power Co., Cause No. 38728 (Aug. 24, 1990).

1		In this light, it is important to consider alternatives to the DCF model. As				
2		shown in Attachment AMM-2 to my Direct Testimony, risk premium models (like the				
3		CAPM, ECAPM and utility risk premium approaches) all show estimated COE results				
4		in the 10.5% to 11.5% range. As mentioned earlier in this rebuttal testimony, the				
5		expected earnings approach (as shown in Attachment AMM-R3) using OUCC's proxy				
6		group implies an average COE of 11.3%. A simple examination of alternative				
7		methodologies such as these would have demonstrated that Mr. Kaufman's 8.85%				
8		recommendation was below any basic range of reasonableness.				
9	Q57.	HAVE SUCH ALTERNATIVE COE METHODS BEEN ACCEPTED BY				
10		OTHER REGULATORS?				
11	A 57	Yes In its recent Opinion 551 issued September 28 2016 FERC reiterated its				
12	1107.	support for several of the very same reasonableness checks that I referenced above and				
12		support for several of the very same reasonableness checks that i referenced above and				
13		employed in my Direct Testimony. For example, FERC determined:				
14		For the reasons discussed below, we conclude that the record in this				
15		proceeding demonstrates the presence of unusual capital market				
16		conditions, such that we have less confidence that the central tendency				
17		of the DCF zone of reasonableness (the midpoint in this case)				
18		accurately reflects the equity returns necessary to meet Hope and				
19		Bluefield. ¹⁰⁰				
20		Rather, that finding supports a consideration of other cost of equity				
21		estimation methodologies in determining whether mechanically setting				
22		the ROE at the central tendency satisfies the capital attraction standards				
23		of <i>Hope</i> and <i>Bluefield</i> . ¹⁰¹				
24		We therefore find it necessary and reasonable to consider additional				
25		record evidence, including evidence of alternative methodologies and				
26		state-commission approved ROEs, to gain insight into the potential				
27		impacts of these unusual capital market conditions on the				
28		appropriateness of using the resulting midpoint. ¹⁰²				

¹⁰⁰ Opinion No. 551, 156 FERC ¶ 61,234 at P 119 (2016). ¹⁰¹ *Id.* at P 120. ¹⁰² *Id.* at P 122.

1 The "alternative methodologies" referred to above include the very same CAPM, 2 utility risk premium, and expected earnings approaches that I utilize in my Direct 3 Testimony.

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Q58. MR. KAUFMAN CITES OUTSIDE SOURCES AS SUPPORT FOR HIS COE RECOMMENDATION.¹⁰³ ARE THESE SOURCES LEGITIMATE?

- A58. Not for the purpose at hand. The surveys and studies he cites are generic and not specific to the Company or even to the water and wastewater industry. They refer to implied returns for the S&P 500 and "large cap" stocks. They do not appear to be based on the rigorous methodologies and analyses employed by state regulatory commissions in settings such as this one. These non-specific, non-related reports and studies provide no legitimate input to the determination of Westfield's required COE for its wastewater operations in Indiana.
- Q59. DOES THE DUKE UNIVERSITY CFO SURVEY CITED BY MR. KAUFMAN
 (AT 16), PROVIDE ANY MEANINGFUL CORROBORATION OR GUIDANCE
 AS TO INVESTORS' REQUIRED RATE OF RETURN?

16 A59. No. According to Mr. Kaufman, the survey apparently predicts that equity returns for 17 the stock market as a whole will amount to 5.8% over the next 10 years. This figure 18 falls 305 basis points below the return that Mr. Kaufman recommends for Westfield in 19 this case. Similarly, Mr. Kaufman's reference to returns for large-cap stocks of 6.9% 20 is far out of line with any meaningful benchmark for a fair COE for a utility. 21 Considering that these returns also fall far below Mr. Kaufman's own downward 22 biased cost of equity recommendation for Westfield, they are clearly nonsensical and 23 have no relevance in this case.

¹⁰³ Public's Exhibit No. 5 at 16.

Q60. ARE YOU IN ANY WAY ALLEGING THAT THIS SURVEY IS INHERENTLY FLAWED?

3 A60. No, not at all. However, a general survey of selected corporate executives does not 4 substitute for a comprehensive analysis of investors' required returns for a specific 5 industry or company like Westfield. The data cited by Mr. Kaufman are for the S&P 6 500 or for "large-cap" stocks over the next 10 years. They certainly do not appear to 7 come from any sort of detailed COE analysis specific to the water utility industry (as 8 presented in my Direct Testimony). The link that Mr. Kaufman tries to make between unknown, untested, and unrelated survey data and the required COE for a water utility 9 10 like Westfield is the very definition of an "apples to oranges" comparison. As such, 11 his conclusions based on this data should be rejected.

12 Q61. MR. KAUFMAN CRITICIZES THE REMOVAL OF OUTLIERS FROM YOUR 13 DCF RESULTS BECAUSE THE APPROACH YOU TOOK WAS "NOT 14 BALANCED."¹⁰⁴ IS THIS A REASONABLE ARGUMENT?

Not at all. Mr. Kaufman claims that because I removed seven low-end outliers and 15 A61. 16 only one high-end outlier, that my analysis is flawed. I should first point out that, in 17 his DCF analysis, Mr. Kaufman eliminated only low-end growth rates (those below 2.0%) from his study.¹⁰⁵ He did not remove any high-end outliers. Second, and more 18 19 importantly, it is not the number of outliers that is important but rather how reasonable 20 is the data being used to estimate the equity return. Take the following example: the 21 DCF outcomes for six companies in a hypothetical proxy group under capital market 22 conditions similar to today's are 3%, 4%, 9.8%, 10%, 10.1%, and 30%. It is clear the two low-end outliers of 3% and 4% and the one upper-end outlier at 30% should be 23 24 eliminated. Under Mr. Kaufman's concept of a "balanced" test, however, since three

 $^{^{104}}$ Id. at 43.

¹⁰⁵ *Id.* at 34.

low-end outliers were removed, three upper-end values should also be stricken. This
 would imply eliminating a reasonable estimate of 10.1% which clearly is not illogical.
 This example illustrates the absurdity of Mr. Kaufman's "balanced" outlier test.

4 Q62. MR. KAUFMAN HAS A CONCERN WITH YOUR USE OF MIDPOINTS TO

5 DESCRIBE YOUR COE RESULTS.¹⁰⁶ IS THIS A VALID CONCERN?

A62. No. The midpoint is merely another measure of central tendency for a range of data.
In my attachments, I consistently showed the average of the data along with the
midpoint. Mr. Kaufman references the midpoint of his output ranges several times
throughout his testimony. On page 3, he says his recommendation is "36 basis points
above the midpoint," the cost of equity for the water/wastewater industry at this time
is "above the midpoint of my overall range," and excluding his CAPM analysis his
COE range is 8.29% to 8.69% "with a midpoint of 8.49%."

13 Q63. MR. KAUFMAN HAS CONCERNS WITH YOUR UTILITY RISK PREMIUM 14 MODEL, CLAIMING IT IS "CIRCULAR."¹⁰⁷ HOW DO YOU RESPOND?

In establishing authorized ROEs, regulators typically consider the results of 15 A63. independent market-based approaches, beyond comparing allowed returns. These 16 17 market-based methodologies include DCF and CAPM models. Because allowed risk premiums consider the objective market data (e.g., stock prices, dividends, beta, and 18 19 interest rates) that are part of these independent, market-based approaches, and are not 20 based strictly on past actions of other regulators, concerns over any potential for 21 circularity are resolved. Similarly, Mr. Kaufman's statement that authorized returns may include incentives is one-sided, as they may also include penalties.¹⁰⁸ 22

¹⁰⁶ Id. at 43.

 107 Id. at 81.

¹⁰⁸ For example, the IURC reduced its authorized return for Indianapolis Power & Light Company from 10.00% to 9.85% in Cause No. 44602. Mr. Kaufman specifically mentions incentive returns authorized by the Virginia Corporation Commission, but these are for electric generation assets and do not impact the allowed COEs for gas utilities used in my study.

 1
 III.RESPONSE TO MR. KAUFMAN'S RFV RECOMMENDATION

 2
 Q64.
 WHAT IS THE PRIMARY DISAGREEMENT BETWEEN YOU AND MR.

 3
 KAUFMAN REGARDING FAIR VALUE AND THE RETURN ON FAIR

 4
 VALUE?

5 A64. I explain in my direct testimony why it is consistent and fair economic and regulatory 6 policy to apply the Company's overall cost of capital, or 8.76%, to the unamortized 7 balance of the fair value increment on the Company's books. Mr. Kaufman 8 recommends that the cost of capital should be reduced by historical inflation before it 9 is applied to the fair value increment. He determines that a rate of 2.45% is a 10 reasonable representation of historical inflation and this is the amount by which he 11 would reduce the WACC applied to the fair value increment.

12 Q65. WHAT IS WRONG WITH MR. KAUFMAN'S POSITION?

13 There are three fundamental fallacies associated with Mr. Kaufman's arguments. A65. 14 First, because of the specific nature of the fair value increment established for 15 Westfield, investors receive no protection from future changes in price levels. As a 16 result, there is no basis to subtract inflation, however measured, in arriving at the RFV 17 in this proceeding. Second, Mr. Kaufman mistakenly claims that it is appropriate to subtract an historical inflation rate from the cost of capital in computing a RFV. 18 19 Finally, Mr. Kaufman erroneously suggests that the inflation rate should be subtracted 20 from the WACC, rather than from the equity component cost (COE) in arriving at a RFV. 21

Q66. MR. KAUFMAN PROVIDES AN EXTENDED DISCUSSION OF FAIR VALUE STANDARDS AS THEY RELATE TO THE DETERMINATION OF RATE BASE.¹⁰⁹ IS THIS RELEVANT TO THE SITUATION CONFRONTING WESTFIELD AND ITS INVESTORS IN THIS PROCEEDING?

5 A66. No. The fair value increment was established under the terms of the Stipulation and 6 Settlement Agreement ("Settlement Agreement") approved by the Commission in 7 Cause No. 44273. Westfield is not seeking a fair value determination and there is no 8 "method of valuation, be it prudent investment, original cost, present value, or cost of reproduction" being applied in this case.¹¹⁰ Nor will such valuation methods ever be 9 10 applied to reevaluate the stipulated amount of the fair value increment. This is 11 because the Settlement specifies a fixed amount for the fair value increment. This fixed value is not subject to any future reappraisal and it will be reduced and 12 eliminated through annual amortization over a 40-year period.¹¹¹ 13

14 Q67. UNDER THE TERMS OF THE SETTLEMENT AGREEMENT, WILL 15 WESTFIELD'S SHAREHOLDERS RECEIVE THE BENEFIT OF ANY 16 ADJUSTMENT TO RATE BASE FOR INFLATION IN THIS CASE?

A67. No. Again, the fair value increment was an agreed-to amount specified in the 2013
Settlement Agreement. There have been no previous modifications to this amount to
reflect changes in price levels since that time, nor will any adjustments be made to this
amount for historical inflation during the intervening period in this proceeding.

¹⁰⁹ Public's Exhibit No. 5 at 21-23.

¹¹⁰ Id. at 21, citing, Pub. Serv. Comm'n v. City of Indianapolis, 131 N.E.2d 3308, 318 (Ind. 1956).

¹¹¹ This amortization is ignored for ratemaking purposes, so there is no "return of capital" associated with the fair value increment.

Q68. MR. KAUFMAN REFERENCES THE IURC'S FINDINGS IN CAUSE NO. 38728.¹¹² DOES THIS SUPPORT HIS POSITION IN THIS PROCEEDING?

3 A68. No. Mr. Kaufman cites the IURC's prior findings as support for his contention that 4 because historic inflation is considered in arriving at the fair value rate base, it must be 5 removed from the RFV. I will address the fallacy underlying Mr. Kaufman's reference 6 to historical inflation rates later. As for his claim that recognition of past inflation is 7 leading to a "double counting" here, he is mistaken because he ignores the 8 fundamental difference between the fair value increment in this case and a consistent 9 application of fair value ratemaking standards, as was contemplated in Cause No. 10 38728.

11 When rate base is adjusted to fair value on an ongoing basis, the value of a 12 utility's plant in service is regularly modified to reflect changes in price levels between 13 rate proceedings. As a result, an adjustment to remove inflation from the RFV is 14 warranted because this inflation will be captured through price level adjustments to the 15 current value rate base in the next rate case (*i.e.*, net utility plant at current value will 16 reflect inflation between rate cases). I agree with the IURC that, to the extent the fair 17 value rate base incorporates the effects of actual inflation on an ongoing basis, failing 18 to adjust the RFV to remove inflation would result in double-counting inflation.

But that is not the case in this proceeding. The fair value increment is a stipulated amount fixed through the terms of the Settlement Agreement. The only adjustment to this value is to reduce it through annual amortization. Even if the U.S. economy were to experience hyperinflation akin to the 400%-plus rate plaguing Venezuela, for example, the gross amount of the fair value increment established in the Settlement Agreement will remain unchanged. Thus, Westfield's investors are not

¹¹² Public's Exhibit No. 5 at 23.

sheltered from the impact of price inflation over time; nor do they benefit in this 1 2 proceeding from any adjustment for historical inflation since the fair value increment 3 was established. While the fair value increment was one component of an agreement 4 that established the fair value of Westfield's utility plant in service, there are no 5 ongoing adjustments for inflation, and so no basis to reduce the RFV by inflation. 6 Contrary to Mr. Kaufman's position, there is no basis to subtract inflation from the 7 return applied to the fair value increment because there is no ongoing recognition of 8 inflation in the value of Westfield's rate base.

9 Q69. MR. KAUFMAN CONTENDS THAT THE RFV SHOULD BE REDUCED BY 10 SOME MEASURE OF HISTORICAL INFLATION.¹¹³ IS THERE ANY MERIT 11 TO THIS ARGUMENT?

12 There is no economic justification for referencing historical inflation when A69. No. 13 determining the fair RFV. Deducting historical inflation – however measured – from 14 the COE would result in a mismatch because the only inflation rate incorporated into 15 the cost of equity is based on forward-looking expectations. Nor is there any basis to 16 adjust the debt cost for historical inflation, since interest expense is a fixed cost of the 17 utility that is unaffected by adjustments to original cost rate base to account for price level changes. Adjusting the COE by subtracting a measure of historical inflation to 18 19 arrive at a fair RFV is inconsistent with economic and financial principles, the logic 20 underlying fair value ratemaking, and the facts presented in this proceeding.

¹¹³ Id. at 24-25.

Q70. IS IT WELL UNDERSTOOD THAT THE INFLATION RATE CONSIDERED BY INVESTORS WHEN DETERMINING THEIR REQUIRED COE IS PROSPECTIVE, AND NOT HISTORICAL?

- A70. Yes. The concept that required returns (be they debt returns or equity returns) contain
 a factor for expected inflation is a basic principle taught in every financial theory
 textbook. For example, in the textbook, *Financial Management, Theory and Practice*,
 the authors state:
- 8 The four most fundamental factors affecting the cost of money are (1) 9 production opportunities, (2) time preferences for consumption, (3) 10 risk, and (4) inflation.¹¹⁴
- 11It is important to note that the inflation rate built into interest rates is12the *inflation rate expected in the future*, not the rate experienced in the13past.¹¹⁵
- Historical inflation actually experienced over some past period is not part of the returns proposed in this case, which are forward-looking estimates of the cost of equity.

17 Q71. WHAT INFLATION MEASURE IS BUILT INTO THE COE 18 RECOMMENDATIONS PROPOSED IN THIS CASE?

A71. The only compensation for inflation risk built into the COE analyses that Mr.
Kaufman and I conducted is based on investors' estimates of future inflation. The cost
of equity estimation process is undoubtedly a forward-looking process. Both Mr.
Kaufman and I apply quantitative methods based on current capital market data that is
based on investors' future expectations. In describing the DCF model, for example,
Mr. Kaufman recognizes that:

¹¹⁴ Eugene F. Brigham, Louis C. Gapenski, and Michael C. Ehrhardt, "Financial Management, Theory and Practice," Ninth Edition (1999) at 126.

¹¹⁵ Id. at 133 (emphasis in original).

This model assumes the price of a security should be determined by its *expected* cash flows discounted by the company's cost of equity.¹¹⁶

3 In estimating the COE, what matters is investors' expectations going forward. 4 Built into investors' return expectations is their outlook for future risks, which 5 includes an assessment of the impact that future inflation will have on their ability to 6 earn the required real rent for the capital they provide to the utility. Actual inflation 7 rates experienced during some past period, whether higher or lower, are irrelevant in 8 this determination. As Mr. Kaufman granted, "Bond investors and equity investors seek compensation for anticipated inflation as part of their required return."¹¹⁷ So, by 9 10 Mr. Kaufman's own definition, the COEs estimated in this case contain an inflation 11 component based on expectations for the future. This is true of my COE estimate and 12 that of Mr. Kaufman.

Q72. IF THE RETURN CONTAINS AN INFLATION FACTOR BASED ON EXPECTED INFLATION, IS IT APPROPRIATE TO REDUCE IT BY HISTORICAL INFLATION WHEN SETTING THE RFV?

16 A72. No. Setting aside the fact that there is no basis to reduce the return for Westfield's 17 unique fair value increment for inflation in the first place, this is a key flaw in Mr. 18 Kaufman's analysis. Rather than adjusting his RFV to remove the impact of future inflation that is built into this forward-looking estimate, he wrongly deducts an 19 20 historical inflation rate. Such an adjustment is not proper and does not conform to 21 financial theory. It is logically impossible to "double-count" something that is nonexistent in the first place, and Mr. Kaufman has created a mismatch by subtracting 22 23 historical inflation from a return that does not consider historical inflation. On these 24 grounds, his RFV calculation should be ignored.

¹¹⁷ *Id.* at 4.

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¹¹⁶ Public's Exhibit No. 5 at 30 (emphasis supplied).

Q73. THE HISTORICAL AND FUTURE INFLATION RATES PRESENTED BY MR. KAUFMAN ARE QUITE SIMILAR.¹¹⁸ WHY SHOULD THE IURC EVEN CONCERN ITSELF WITH THIS ISSUE?

A73. The IURC should reject Mr. Kaufman's position because it is economically unsound,
violates the standards underlying fair value ratemaking, and could result in highly
distorted, unfair outcomes in other proceedings. As Mr. Kaufman explained, under his
theory the inflation adjustment is determined based on the age of the utility's plant, not
on the actual inflation rate incorporated into estimates of the utility's required
return.¹¹⁹ Thus, in cases where historical inflation rates since acquisition have been
significantly higher, the return to investors would be punitively distorted.

11 This is demonstrated in the illustration below, which assumes an historical 12 inflation rate of 5.5%. Meanwhile, investors' required return is made up of:

- 1. The "real" rate of return investors require in exchange for the use of their money on a riskless basis. This is represented by the risk-free rate, which is assumed to be 2.5%.
- Compensation for the additional risks associated with the uncertainties over the timing and amounts of future payments from the investment. This is assumed to be 6.0%
- The expected inflation rate, which reflects the expected depreciation in purchasing power over the life of the investment. This is assumed to be 2.2%

As shown in the first column in the figure below, this results in a total nominal return

23 of 10.7%.

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¹¹⁸ Mr. Kaufman states (p. 4) that forecasted inflation is expected to remain "between 2.1% - 2.3%," and he ultimately selected an historical inflation rate of 2.45% (pp. 24-25) based on a gross approximation presumably tied to the age of Westfield's utility plant. Thus, in this particular instance, the distinction between the historical and expected inflation rates is small.

¹¹⁹ Public's Exhibit No. 5 at 24-25. Mr. Kaufman noted that "if the average age of the Petitioner's plant at the time it was acquired is more than 21 years that would lead to a higher average inflation rate and a lower fair rate of return."



The second column in the chart illustrates the impact of Mr. Kaufman's proposed adjustment for historical inflation. As shown there, subtracting a 5.5% historical inflation rate results in an adjusted return of 5.2%. Not only has the 2.2% expected inflation rate been removed from the nominal return, but the implicit risk premium has been cut from the 6.0% required by investors to only 2.7%. In other words, investors will be denied the opportunity to earn their required return.¹²⁰

9 Q74. IS THERE ANY JUSTIFICATION TO CUT INVESTORS' REQUIRED RISK 10 PREMIUM UNDER FAIR VALUE RATEMAKING?

11 A74. No. When consistently applied, fair value ratemaking addresses the potential loss of 12 value associated with future changes in price levels, but it does nothing to alter the 13 various operating, financial, and regulatory risks assumed by investors when they 14 purchase utility common stocks. Removing the *expected* inflation rate that is 15 incorporated in the nominal return may be justified to avoid double-counting under

¹²⁰ The opposite is also true. In a period of very high expected inflation, an adjustment based on historical inflation rates would lead to a windfall for investors.

1 fair value ratemaking, but considering historical inflation rates only distorts the 2 resulting return.

Q75. MR. KAUFMAN DEDUCTS INFLATION FROM THE WACC, NOT FROM THE COE.¹²¹ IS THIS JUSTIFIED?

5 A75. No. Again, setting aside the fact that no inflation adjustment is warranted for 6 Westfield's fair value increment, inflation should only be removed from the COE, not 7 from the WACC. Common shareholders are the only investors that are impacted by the inflation protections offered by fair value ratemaking. 8 The Company is 9 contractually obligated to pay debtholders interest expense pursuant to the related 10 bond indentures, and these payments are fixed and independent of any change in rate base related to consideration of historical price changes on the value of a utility's 11 investment in utility property. 12

Indeed, the IURC has implicitly recognized this economic distinction in its 13 determination of net plant fair valuation in Indianapolis Power & Light Company's 14 15 ("IPL") last rate proceeding through its weighting of net original cost using the debt component of the capital structure.¹²² Removing investors' expected inflation rate 16 17 from the WACC, rather than from the COE, would amount to a "double-dip." The only cost component of the WACC that includes compensation for the risks of future 18 19 inflation addressed by fair value ratemaking is the COE. Subtracting an inflation adjustment from the WACC, rather than from the COE component cost, ignores this 20 21 economic reality.

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Indeed, the Commission has correctly acknowledged that the effects of inflation are properly considered in the equity component of the cost of capital:

¹²¹ Public's Exhibit No. 5 at 25.

¹²² Indianapolis Power & Light Co., Cause No. 44576 at 32-33 (Mar. 16, 2016).

1 2 3 4 5		As discussed earlier, the Court has directed that we must consider inflation in our determination of fair value. We have long recognized that the effects of inflation are considered in calculating the weighted cost of capital. <i>These effects are considered in that calculation in the fixing of the equity component.</i> ¹²³			
6		In Indianapolis Water, the Commission noted that:			
7 8 9		Mr. Mulle recommended that the fair value cost rate should reflect a reduction in the common equity cost rate by the prospective rate of inflation. The Commission concurs. ¹²⁴			
10		Similarly, the expected rate of inflation was also used in Westfield Gas. On page 30 of			
11		the final order in that case, the Commission stated:			
12 13 14		Petitioner's formula indeed reduces the cost of capital rate by the <i>expected</i> rate of <i>future</i> inflation and multiplies the net rate by the fair value rate base amount [Emphasis added]			
15 16 17 18 19		Petitioner has proposed reducing cost of capital by an inflation amount of 2.54%, and the OUCC did not challenge the amount, instead proposing its original cost methodology. Accordingly, using the 10.1% cost of equity determined above in consideration of an inflation factor of 2.54%, we find the fair rate of return is $7.49\% \dots$ ¹²⁵			
20		Clearly, the utility proposed to reduce only the equity cost rate by the amount of			
21		expected inflation and the Commission accepted that proposal.			
22	2 IV. RESPONSE TO MR. RUTTER'S RECOMMENDED CAPITAL STRUCTURE				
23	Q76.	WHAT CAPITAL STRUCTURE DOES THE COMPANY PROPOSE IN THIS			
24		CASE?			
25	A76.	As discussed in the Direct Testimony of Company witness Sara J. Mamuska-Morris,			
26		the Company's proposed capital structure consists of 75.14% common equity and			
27		24.86% long-term debt. This is the Company's actual capital structure at December			
28		31, 2015, the date matching its proposed general rate base cutoff period.			

 ¹²³ Suburban Utilities, Cause Nos. 38233/38234 (Dec. 16, 1987) [emphasis added].
 ¹²⁴ Indianapolis Water Co., Cause No. 38868 (May 16, 1990).
 ¹²⁵ Westfield Gas Corporation, Cause No. 43624 (Mar. 10, 2010).

Q77. IS THIS CAPITAL STRUCTURE IN ACCORDANCE WITH THE DEBT AND EQUITY AUTHORIZATIONS APPROVED BY THE COMMISSION IN CAUSE NO. 44273?

A77. Yes. The order in Cause No. 44273, found "that the debt and equity issuances
described by Mr. Lukes in his case-in-chief are reasonable and should be
authorized."¹²⁶ Those proposed financings are consistent with the actual capital
structure of the Company presented in this case.

8 Q78. WHAT CAPITAL STRUCTURES DO THE COMPANIES IN THE PROXY 9 GROUP OF WATER UTILITIES MAINTAIN?

A78. I presented this data in my Direct Testimony as Attachment AMM-3. As shown there,
common equity ratios for the individual firms in the Utility Group ranged from a low
of 42.2% to a high of 58.9% at the most recent fiscal year-end, and averaged 51.5%.
Meanwhile, Value Line's three-to-five year forecast indicates an average common
equity ratio of 51.4% for the Utility Group, with the individual equity ratios ranging
from 43.0% to 61.5%.

16 Q79. WHAT CAPITAL STRUCTURE DOES MR. RUTTER RECOMMEND IN THIS 17 CASE?

A79. Mr. Rutter has proposed a hypothetical capital structure consisting of 3.03% common
stock, 72.11% preferred stock, and 24.86% long-term debt.

20 Q80. CAN YOU EXPLAIN THE DRASTIC REDUCTION IN COMMON EQUITY 21 PROPOSED BY MR. RUTTER?

A80. Mr. Rutter has reclassified \$44.3 million that is reflected as common equity on
 Westfield's accounting records to preferred stock. He claims that this \$44.3 million in
 common equity does not represent the "true nature" of the capital contributed from the

¹²⁶ Cause No. 44273, Order of the Commission, approved November 25, 2013, p. 16.

1 Company's parent, Citizens Westfield Utilities, LLC ("Parent"), due to certain 2 dividend payment provisions related to the Parent's debt obligations. Petitioner's 3 witness Ms. Mamuska-Morris responds to the specifics of Mr. Rutter's allegations in 4 her rebuttal testimony.

Q81. DOES THE FACT THAT WESTFIELD IS OWNED BY THE PARENT IN ANY WAY ALTER THE STANDARDS THAT UNDERLIE THE DETERMINATION OF A FAIR RETURN ON INVESTED CAPITAL FOR THE COMPANY?

8 A81. No. While Westfield has no publicly traded common stock and all equity capital is 9 ultimately provided from its Parent or retained earnings, this does not change the 10 standards governing the determination of a fair return on invested capital for the Company. Ultimately, the rate of return, including the capital structure, should be 11 12 reflective of other risk-comparable alternatives. As the Supreme Court noted in Hope, 13 "the return to the equity owner should be commensurate with returns on investments in other enterprises having corresponding risks."¹²⁷ At the time of the rate case at 14 issue in the Supreme Court's decision, Hope Natural Gas Company ("Hope") was a 15 subsidiary of Standard Oil Company of New Jersey (the predecessor of 16 ExxonMobil).¹²⁸ The standard of a fair rate of return articulated in the *Hope* case did 17 not relate to the parent, but to the utility. Hope was the entity that undertook the utility 18 19 obligations and the benchmark for the adequacy of returns was the end result for the 20 utility, not for Standard Oil.

The logic underlying the Supreme Court's determination is consistent with financial principles, which hold that the required rate of return is determined by the risk of the investment, and not by the manner in which the investment is financed. In

¹²⁷ *Hope*, 320 U.S. 603.

¹²⁸ John D. Rockefeller's Standard Oil of New Jersey formed Hope in 1898. Standard Oil's natural gas subsidiaries (including Hope) were eventually spun off as Consolidated Natural Gas Company, which was ultimately acquired by Dominion Resources, Inc. in 2000.

- 1 other words, the cost of capital is dependent upon the *use* of the funds and not the 2 *source* of the funds. As noted in *New Regulatory Finance*, "...an investment's 3 required return depends on its particular risks."¹²⁹
- 4 Q82. IS IT REASONABLE FOR A SMALL UTILITY TO MAINTAIN A
 5 RELATIVELY HIGH EQUITY RATIO?

6 A82. Yes. As discussed in my Direct Testimony, small utilities such as Westfield do not 7 have ready access to the public capital markets in which to sell debt securities and 8 other sources of additional debt capital may also be limited. Although in some cases 9 the utility may be able to place debt privately with insurance companies or pension 10 funds, these sources may not always be available. And while banks may provide 11 another potential source of debt financing, their loans are often relatively short-term 12 and carry a variable interest rate tied to the prime rate. Moreover, small utilities face 13 greater uncertainties than do their larger counterparts, which also supports a 14 conservative financial posture. The facts and circumstances of this case support the 15 use of Westfield's actual capital structure, with no reference to its parent company or 16 the "hypothetical" assumed by Mr. Rutter.

17 Q83. WHAT WOULD BE THE CONSEQUENCES TO WESTFIELD OF A 18 HYPOTHETICAL CAPITAL STRUCTURE WITH ONLY 3% COMMON 19 EQUITY?

A83. The result would be devastating to the Company's financial integrity and would make it impossible for it to actually earn its investors' required rate of return. As illustrated below, after paying interest expense on long-term debt, income available for common equity under OUCC's recommended capital structure would be approximately \$2.8

¹²⁹ Roger A. Morin, "New Regulatory Finance," Public Utilities Reports, Inc. (2006) at 528.

million. Dividing this by Westfield's actual book common equity balance of \$46.2
 million results in an implied return on common equity of 6.00%.

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TABLE R1OUCC IMPLIED RETURN ON COMMON EQUITY

	(a)			
	(Mil.)			Weighted
	<u>Amount</u>	<u>Weight</u>	<u>Cost</u>	<u>Cost</u>
Common Equity	\$ 1.86	3%	10.70% (b)	0.32%
Preferred Stocks	\$44.30	72%	6.61% (c)	4.77%
Debt	<u>\$15.27</u>	<u>25%</u>	2.89% (b)	<u>0.72%</u>
	\$61.43	100%		5.81%
Rate Base	<u>\$ 55.19</u>			
Net Opera	\$ 3.21			
Interest Ex	<u>\$ 0.44</u>			
Income Av	\$ 2.77			
Actual Con	<u>\$ 46.16</u>			
Implied F	6.00%			

(a) Public's Exhibit No. 4, Attachment ETR-1.

(b) Petitioner's Exhibit 3, p. 9.

(c) Public's Exhibit No. 4, Attachment ETR-2.

(d) Petitioner's Exhibit 4, Attachment SEK-4.

5	This is well below the 6.75% COE rejected by Mr. Kaufman as "an unrealistically low
6	cost of equity," ¹³⁰ and would deny the Company the opportunity to earn a fair rate of
7	return. Decreasing the return that is realistically achievable would harm customers in
8	the long-run because the utility would not be able to maintain its financial integrity
9	and raise capital on reasonable terms. In combination with Mr. Kaufman's harsh COE
10	recommendation, a capital structure containing only 3% equity would be even more
11	punitive and unfair to the Company.

¹³⁰ Public's Exhibit No. 5 at 57.

1 Q84. WHAT ARE THE IMPLICATIONS OF A 3% COMMON EQUITY RATIO?

A84. Common equity provides a "cushion" against variability in operating results and the fixed financial obligations associated with debt (or preferred stock) financing. As the level of common equity in a firm's capital structure declines, this "cushion" shrinks and its financial risks increase. For a given firm, higher financial risks also imply higher borrowing costs and a higher required return on common equity in order to compensate for the greater risks of rising debt leverage.

8 At an extreme level, such as that exemplified by Mr. Rutter's recommendation, 9 debtholders (and the hypothetical preferred stockholders) would effectively become 10 the equity owners of the business. This is because there is virtually no buffer to shield 11 them from the risks of fluctuations in earnings or insulate against default. In such a 12 situation, the level of risks assumed by investors rises dramatically, as does the returns 13 they require to compensate for these risks.

14 Q85. DID OUCC CONSIDER THESE FUNDAMENTAL PRINCIPLES IN THEIR 15 RECOMMENDATION?

No. Mr. Rutter gave no consideration whatsoever to the implications of a 3% common 16 A85. 17 equity ratio on Westfield's financial strength or investors' required returns. Similarly, while Mr. Kaufman has previously noted that the costs of debt and equity move 18 inversely with the percent of common equity in a utility's capital structure,¹³¹ he made 19 no mention of these effects in his testimony in this proceeding. Instead, OUCC 20 21 erroneously combined a COE estimated using a group of large, publicly traded water 22 utilities and Westfield's debt cost of 2.89% with a hypothetical capital structure that is unprecedented in the utility industry and indicative of highly speculative risks.¹³² 23

¹³¹ Cause No. 44273, *Prefiled Testimony of Edward R. Kaufman – Public's Exhibit No. 1* at 18 (May 8, 2013). ¹³² In contrast, one of Mr. Kaufman's sources recognized that "you should also review the capital structures of comparable companies.... [C]omparing the capital structure of the company you are valuing with those of similar companies will help you understand whether your current estimate of capital structure is unusual." *See,*

1Q86.HAS MR. KAUFMAN RECOGNIZED THE EFFECT OF THE EQUITY2RATIO ON THE RELATIVE RISK OF A UTILITY IN PAST CASES?

A86. Yes. In Cause No. 44576, Mr. Kaufman eliminated two companies from his proxy
group in that case as being "not reasonably comparable" because their equity ratios (at
31.3% and 30.9%) were "much lower than Petitioner's common equity ratio, which
indicates a measurably higher level of financial risk."¹³³ Mr. Kaufman clearly grants
that the relative equity ratio impacts risk, yet he makes no attempt in this case to
acknowledge the extreme financial risk implicit in Mr. Rutter's proposed 3% common
equity ratio or reflect this higher risk in his COE recommendation.

10 Q87. IS MR. RUTTER'S RECOMMENDATION CONSISTENT WITH FINANCIAL
 11 POLICIES IN THE UTILITY INDUSTRY?

12 A87. No. As I indicated earlier, his recommendation is at odds with the capitalizations 13 maintained by other water utilities, especially in light of the greater risks associated with Westfield's small size.¹³⁴ In addition, stable and predictable dividend policies are 14 the rule, not the exception, in the utility industry. Thus, the fact that Westfield remits 15 16 dividends to its Parent is consistent with industry policies - both for publicly traded 17 companies to stockholders, and among operating companies and their parent holding 18 companies. In fact, if Westfield were not making these payments to its Parent, the 19 common equity balance in its capital structure would be substantially higher than the 20 actual balances reflected on its accounting records.

Response to Petitioner's Data Request 1.1.C, Appendix H1.pdf; Tom Copeland, Tim Koller, & Jack Murrin, "Valuation – Measuring and Managing the Value of Companies, Second Edition," John Wiley & Sons, Inc. at 249.

¹³³ Cause No. 44576, Public's Exhibit No. 13 at 61-62.

¹³⁴ Meanwhile, Mr. Rutter asserted that capital structures for other utilities were "not an issue in this proceeding." Response to Westfield Request No. 1.10. When asked if he was aware of any other instance in which a common equity ratio of less that 10% was used to compute the overall return that served to established a utility's rates, Mr. Rutter asserted that capital structures approved for other utilities by the IURC or other state regulators were "irrelevant to this utility and provide no useful precedent." Response to Westfield Request No. 1.14.

Q88. CAN YOU ELABORATE ON THE DIVIDEND EXPECTATIONS THAT ACCOMPANY UTILITY EQUITY INVESTMENTS?

Investors generally purchase utility stocks with the expectation that they will receive 3 A88. sizeable portion of their return in the form of dividend payments that will grow year 4 5 after year. The average dividend yield of the utility sector perpetually ranks at, or 6 near, the top of the industries that comprise the U.S. economy and most utilities have paid healthy and stable dividends for years. Utilities understand that, in order to 7 attract equity capital, they must offer the prospect of a steady dividend. So while a 8 9 dividend may not be contractually guaranteed it is, in effect, a "requirement" to meet 10 the expectations of the utility investment community.

This dividend "obligation" is akin to the situation here. In return for its equity 11 investment, Westfield's Parent expects a dividend from its subsidiary. 12 This expectation is not unusual or out of the ordinary, but in keeping with the nature of the 13 utility industry and investor expectations. The dividends paid by the Company to its 14 15 Parent should be considered in this light. The investment in Westfield by its Parent is 16 subject to equity-like risks. That is, dividends are paid only after operating expenses, 17 taxes, and debt interest have been paid. These dividends are subject to fluctuating revenues, changes in operating costs, and shifting regulatory parameters. It is not 18 19 logical to think that the Parent would make an investment and assume these equitylike risks and not expect equity-like returns. A return on the order of 6.11%, as 20 21 suggested by Mr. Rutter, is well below any reasonable cost of equity and, as such, is 22 not a meaningful or fair return for the equity investment in the Company.

Q89. IS A 3% COMMON EQUITY RATIO CONSISTENT WITH WHAT OUCC REGARDS AS REPRESENTATIVE FOR A WATER UTILITY SUCH AS WESTFIELD?

No. In Cause No. 44273 Mr. Kaufman examined industry benchmarks for the water 4 A89. 5 industry, including authorized capital structures for other water utilities approved by the IURC and the average capitalization for publicly traded water utilities, comparable 6 to evidence presented in my Direct testimony.¹³⁵ Based on his evaluation, Mr. 7 Kaufman concluded that a 60% equity ratio for Westfield "is a reasonable compromise 8 . . . and provides a reasonable cushion above the current industry norm."¹³⁶ 9 Meanwhile, Mr. Rutter made no reference to any industry benchmarks and his 10 recommendation in this case is diametrically opposed to any notion of "compromise." 11 As noted above, a common equity ratio of 3% provides no cushion whatsoever. It is 12 unreasonable and inconsistent with regulatory standards and the IURC should 13 summarily reject it. 14

15 Q90. DOES THIS CONCLUDE YOUR PREFILED REBUTTAL TESTIMONY?

16 A90. Yes.

 ¹³⁵ Cause No. 44273, Prefiled Testimony of Edward R. Kaufman – Public's Exhibit No. 1 at 18 (May 8, 2013).
 ¹³⁶ Id. at 21.

VERIFICATION

The undersigned, Adrien M. McKenzie, affirms under the penalties for perjury that the foregoing testimony is true to the best of his knowledge, information and belief.

Adrien M. McKenzie

Dated: January 3, 2017

INDIANA WATER & WASTEWATER UTILITIES

Attachment AMM-R1 Page 1 of 1

ROE & CAPITAL STRUCTURE FINDINGS

<u>Utility</u>	<u>Type</u>	<u>Cause No.</u>	<u>Date</u>	<u>COE</u>	<u>Equity Ratio</u>	Notes
Community Utilities of Indiana	Water & Wastewater	44724	Pending	9.75%	50%	COE and capital structure based on stipulation between utility and OUCC
Aqua Indiana, Inc.	Wastewater	44752	Pending	9.70%	50%	COE and capital structure based on stipulation between utility and OUCC
American Suburban Utilities	Wastewater	44676	Nov-16	9.50%	67%	COE based on bottom of OUCC range of 9.5% to 11.0%. Not contested or rebutted by utility.
Hamilton SE Utilities	Wastewater	44683	Nov-16	9.60%	100%	COE based on stipulation between utility and OUCC
Kingshury Utility Corp	Water	44589-U	Mar-16	10.00%	80%	Phase 1
Kingsbury Ounty Corp.				10.50%	59%	Phase 2
Indiana-American Water Co.	Water	44450	Jan-15	9.75%	50%	Settlement

PROXY GROUP ALLOWED ROEs

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OUCC PROXY GROUP

		(a)
		Allowed
	Company	ROE
1	American States Water Co.	9.43%
2	American Water Works Co.	9.75%
3	Aqua America Inc.	9.76%
4	California Water Service	9.43%
5	Connecticut Water Service	9.63%
6	Middlesex Water Co.	9.75%
7	SJW Corp.	9.43%
8	York Water Co.	NA
	Average	9.60%

(a) AUS Consultants, AUS Monthly Reports , September 2016.
PROXY GROUP EXPECTED EARNINGS

OUCC PROXY GROUP

	(a)	(b)	(c)
		Mid-Year	
	Expected Return	Adjustment	Adjusted Return
Company	on Common Equity	Factor	<u>on Common Equity</u>
American States Water Co.	13.5%	0.9982	13.5%
American Water Works Co.	10.5%	1.0261	10.8%
Aqua America Inc.	12.5%	1.0361	13.0%
California Water Service	10.0%	1.0217	10.2%
Connecticut Water Service	11.0%	1.0207	11.2%
Middlesex Water Co.	9.5%	1.0247	9.7%
SJW Corp.	9.0%	1.0293	9.3%
York Water Co.	12.5%	1.0112	12.6%
Average	11.1%		11.3%
	Company American States Water Co. American Water Works Co. Aqua America Inc. California Water Service Connecticut Water Service Middlesex Water Co. SJW Corp. York Water Co. Average	(a) Expected Return on Common Equity American States Water Co. American Water Works Co. Aqua America Inc. California Water Service California Water Service Connecticut Water Service Middlesex Water Co. SJW Corp. York Water Co. Average (a) Expected Return on Common Equity 13.5% 10.5% 10.5% 10.0% 10.0% 10.0% 10.0% 11.0% 11.0%	(a) (b) Mid-Year Expected Return Adjustment On Common Equity Factor American States Water Co. 13.5% 0.9982 American Water Works Co. 10.5% 1.0261 Aqua America Inc. 12.5% 1.0361 California Water Service 10.0% 1.0217 Connecticut Water Service 11.0% 1.0207 Middlesex Water Co. 9.5% 1.0247 SJW Corp. 9.0% 1.0293 York Water Co. 12.5% 1.0112 Average 11.1% York

(a) The Value Line Investment Survey (October 14, 2016).

(b) Computed using the formula 2*(1+5-Yr. Change in Equity)/(2+5 Yr. Change in Equity).

(c) (a) x (b).