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INDIANA UTILITY
REGULATORY COMMISSION

STATE OF INDIANA

INDIANA UTILITY REGULATORY COMMISSION

VERIFIED PETITION OF WESTFIELD GAS, LLC, D/B/A CITIZENS GAS OF WESTFIELD FOR (1) AUTHORITY TO INCREASE RATES AND CHARGES FOR GAS UTILITY SERVICE AND APPROVAL OF A NEW SCHEDULE OF RATES AND CHARGES; (2) APPROVAL OF CERTAIN REVISIONS TO ITS TERMS AND CONDITIONS APPLICABLE TO GAS UTILITY SERVICE; AND (3) APPROVAL PURSUANT TO INDIANA CODE SECTION 8-1-2.5-6 OF AN ALTERNATIVE REGULATORY PLAN UNDER WHICH IT WOULD CONTINUE ITS ENERGY EFFICIENCY PROGRAM PORTFOLIO AND ENERGY EFFICIENCY RIDER	)	**CAUSE NO. 44731**

INDIANA OFFICE OF UTILITY CONSUMER COUNSELOR

PUBLIC'S EXHIBIT NO. 5

TESTIMONY OF BRADLEY E. LORTON

SEPTEMBER 28, 2016

Respectfully submitted,

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TESTIMONY OF OUCC WITNESS
BRADLEY E. LORTON, CRRA
CAUSE NO. 44731
WESTFIELD GAS, LLC, D/B/A CITIZENS GAS OF WESTFIELD

I. INTRODUCTION

Q: Please state your name and business address.

A: My name is Bradley E. Lorton, and my business address is 115 W. Washington Street, Suite 1500 South, Indianapolis, Indiana, 46204.

Q: By whom are you currently employed and in what capacity?

A: I am a Utility Analyst in the Natural Gas Division of the Indiana Office of Utility Consumer Counselor ("OUCC"). For a summary of my education and professional experience, and general preparation for this case, please see the Appendix attached to my testimony.

Q: What is the purpose of your testimony?

A: I testify on the cost of common equity capital, sometimes referred to as the authorized return on equity ("ROE"). Westfield Gas, LLC, d/b/a Citizens Gas of Westfield ("Petitioner" or "Westfield Gas") has asked for a return on its fair value determined in an accounting report prepared by Umbaugh and Associates. Petitioner has estimated a 10.7% cost of equity, which it has reduced to 9.0% for purposes of applying a rate of return to its estimated fair value. In this testimony, I discuss that when applying a rate of return to a fair value, which includes value created by inflation, it is necessary and appropriate to factor inflation out of the fair rate of return to be applied to that value. I explain why the 10.7% ROE

Westfield Gas proposes is unreasonably high. I further explain why the 9.0% fair rate of return Westfield Gas proposes to apply to its fair value determination is likewise unreasonably high. Based on the results of the Discounted Cash Flow ("DCF") method and Capital Asset Pricing Model ("CAPM"), I conclude that a cost of equity of 8.8% would be a reasonable and appropriate ROE for Petitioner to apply to its original cost rate base. I explain that when using Petitioner's proposed fair value to establish its return, the fair rate of return should be 6.14%.

II. PETITIONER'S PROPOSED COST OF EQUITY IS TOO HIGH

Q: What is Petitioner's current authorized ROE?

A: Petitioner's current ROE of 10.4% was approved by the Commission in Petitioner's last rate case in 2008 (Cause No. 43624).

Q: What is Petitioner's proposed ROE?

A: Petitioner's witness Adrian M. McKenzie recommends a return on equity from "the upper end of his reasonable range of 10.7%."

Q: Do you agree with Mr. McKenzie's recommendation?

A: No.

Q: What level of ROE do you recommend?

A: Based on an application of rate of return to Petitioner's original cost, I recommend an ROE of 8.8% for purposes of determining a return on Petitioner's original cost.

Q: Why do you recommend reducing the authorized ROE at this time?

A: Neither my DCF nor my CAPM analyses yield a return nearly as high as Petitioner's current 10.4%, let alone Petitioner's proposed 10.7% cost of equity. The current economic condition, both nationally and in the State of Indiana, is best described as a mature and slow recovery. Data on bond yields, dividend yields and economic growth do not support projections of double-digit rates of return. Moreover, regulated public utilities tend to be less risky than the market as a whole.

Lower ROEs have become more common, and less threatening to public utilities, over the past decade. In March 2015, *Moody's Investors Service* issued an in-depth report titled, "Lower Authorized Equity Returns Will Not Hurt Near-Term Credit Profiles," in which *Moody's* posited that lowering authorized ROE's will not inhibit the flow of cash to the utility:

> The credit profiles of US regulated utilities will remain intact over the next few years despite our expectation that regulators will continue to trim the sector's profitability by lowering its authorized returns on equity (ROE). Persistently low interest rates and a comprehensive suite of cost recovery mechanisms ensure a low business risk profile for utilities, prompting regulators to scrutinize their profitability, which is defined as the ratio of net income to book equity. We view cash flow measures as a more important rating drive than authorized ROEs, and <u>we note that regulators can lower authorized ROEs without hurting cash flow</u>, (emphasis added) for instance by targeting depreciation, or through special rate structures. Regulators can also adjust a utility's equity capitalization in its rate base. All else being equal, we think most utilities would prefer a thicker equity base and a lower authorized ROE over a small equity layer and a high authorized ROE.
>
> (*Moody's Investors Service,* "Lower Authorized Equity Returns Will Not Hurt Near-Term Credit Profiles," Sector In-Depth, March 10, 2015, p. 1.) (Emphasis added.)

Moody's goes on to point out that local distribution companies' financial performance has remained stable, even with declining authorized ROEs:

> Utilities' actual financial performance remains stable. (Emphasis added by author.) Earned ROEs, which typically lag authorized ROEs, have not fallen as much as authorized returns in recent years. Since 2007, vertically integrated utilities, transmission and distribution only utilities, and natural gas local distribution companies have maintained steady earned ROEs in the 9% - 10% range.
>
> (*Id.)* (Emphasis added.)

Q: Why is an 8.8% ROE reasonable for Petitioner's original cost rate base?

A: Neither my CAPM analysis nor my DCF model analysis supports an ROE higher than 8.8%. In fact, my analyses and calculations may be considered to justify a lower rate of return, as an 8.8% ROE is the higher end of the range of results in my DCF and CAPM analyses. While my DCF model indicated an ROE of 8.8%, my CAPM results indicated an ROE of 7.52%. Moreover, my CAPM result could have been lower, but I considered recent trends in 30 year Treasury bonds along with A and BBB rated Utility Bonds into the calculation of my risk free rate. In previous years I have reviewed only 5, 10 and 20 year constant maturity Treasury bonds to derive my CAPM risk free rate. However, bond yields continue to fall and the addition of 30 year Treasuries and Utility bonds allow me more flexibility. Long term bond yields have slumped since the December 16, 2015 Fed increase. Corporate bond yields and Utility bond yields have also fallen since then (http://www.federalreserve.gov/releases/h15/data.htm). The Consumer Price Index has risen only 2.1 index points since December (less than a 1.0% increase).

(http://www.bls.gov/news.release/cpi.t01.htm.) These trends do not indicate an improvement in overall market conditions. They more accurately portray a longer term change in macroeconomic conditions, with lower interest rates. The result of this change is lower expectations of rates of return. (I elaborate on these trends below and explain that my proposal for ROE is well above the return expectations of corporate Chief Financial Officers for the coming years.) The Duke University CFO Magazine Survey for the first quarter of 2016 reveals expectations of an average 5.7% return on S&P 500 stocks, and only 7.2% on stocks in the "Transportation and Public Utilities" industry group.

III. OUTLOOK FOR CAPITAL COSTS

Q: What is Mr. McKenzie's outlook for capital costs as reflected in his analysis?

A: Mr. McKenzie believes that "current capital costs are not representative of what is likely to prevail over the near-term future." (Petitioner's Exhibit 5, p. 13, lines 10 -11.) Thus he appears to believe that moves toward "normalization" (*Id.*, p. 11.) are imminent in the near-term and have an inflationary impact on cost of capital.

Q: Do you agree with Mr. McKenzie's expectation of higher interest rates and capital costs in the near term?

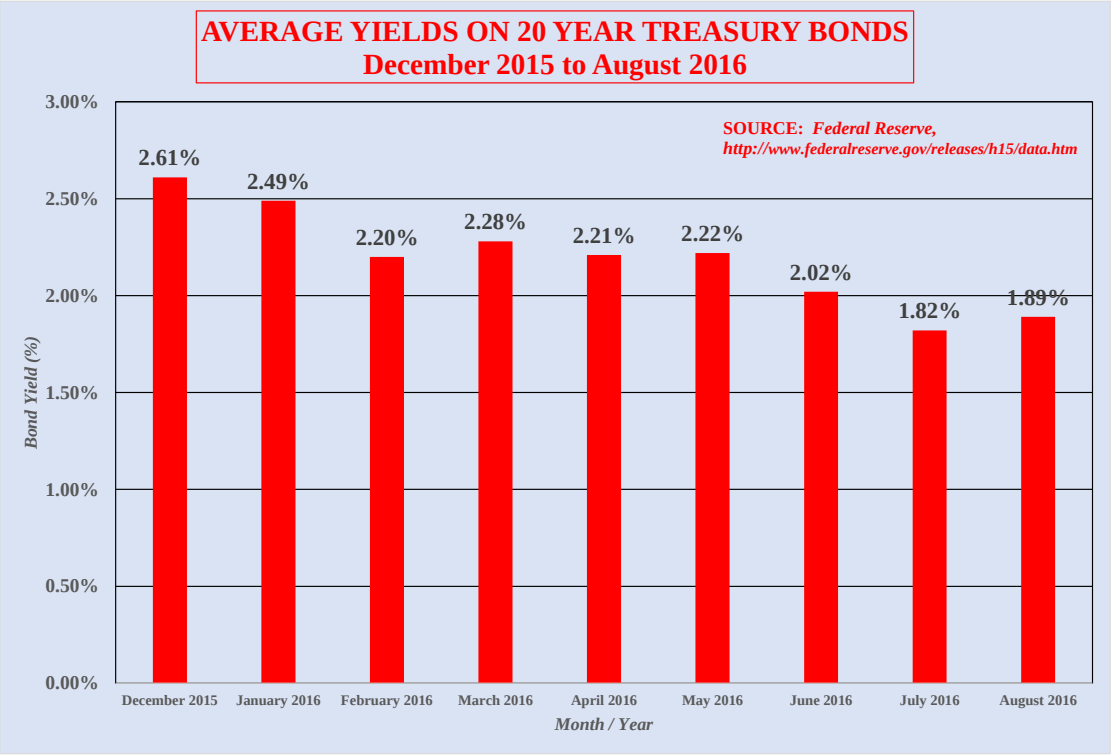
A: No. I agree economic uncertainty affects the expectations of investors and forecasters, but I do not agree with Mr. McKenzie that in the near future we will experience inflation in the bond markets and higher capital costs for business firms. In encouraging the Commission to consider forecasts for higher public utility bond yields, Mr. McKenzie leans too heavily on an end to the Federal

Reserve's policy of "easing," which has been in effect since the recession of 2008-2009.

Q: Mr. McKenzie describes the Federal Reserve's action of December 16, 2015, raising the Federal Funds rate by 25 basis points, as a "first, and very modest step towards implementing the process of monetary policy normalization." Do you agree that this indicates higher capital costs in the near future?

A: No. Despite the Federal Reserve's action, market performance since December has not resulted in increased bond yields. Graph 1 depicts the further declines in the yield on 20 Year Treasury bonds since the Federal Reserve's action. The yield on the 20 Year Treasury has fallen from 2.61% to 1.89% in the period between December 2015 and August 2016. That is a drop of 72 basis points, or 27.6%.

GRAPH 1



Q: Have Public utility bonds shown similar declines over the past year?

A: Yes. The September 16, 2016 edition of Value Line *Selection and Opinion* revealed that on September 7 the yield for A rated 25/30 year utility bonds was 3.60%. A year earlier, the yield on these bonds was 4.40%. On September 7, the yield on Baa/BBB rated 25/30 year public utility bonds was 4.05%, as compared with 4.80% for the same week in 2015. (Attachment BEL-1). So, if as Mr. McKenzie suggests, "the Commission should consider near-term forecasts for higher public utility bond yields in assessing the reasonableness of individual cost of equity estimates and in evaluating the COE for Westfield" then consideration of the actual performance of those yields following the very type of Federal Reserve action that Mr. McKenzie sees as a threat, is also necessary.

Q: Is the U.S. economy on the verge of an expansion that would drive up the cost of capital?

A: Such an expansion does not appear likely in the near-term. I go into greater detail in my macroeconomic analysis in Section VIII. The economic recovery that began in 2009 has lasted for seven years (Graph 7 in Section VIII). The U.S. Bureau of Labor Statistics reports that the unemployment rate was 4.9% in August – well down from the 10.0% level of October, 2009 (http://www.bls.gov/news.release/empsit.toc.htm). With a recovery lasting this long, and an unemployment rate only half of its recessionary level, it is possible to consider the current economy as being in the mature stages of the recovery. Nevertheless, as I show in Section VIII, inflation remains very low.

Mr. McKenzie points to the Federal Reserve's purchases of Treasury Bonds, and Mortgage-Backed Securities (Petitioner's Exhibit 5, pp. 11-12) as the main feature of the Fed's "highly accommodative monetary policy." (*Id*. p. 11.) Even with such monetary policy, inflation has remained near 2.0% and the Fed has been reluctant to raise interest rates or engage in any significant tightening of monetary policy. Even longer term inflation forecasts cited by Mr. McKenzie on page 66 of his Direct Testimony average only 2.17%. Neither recent experience, nor the forecasts cited by Mr. McKenzie describe an economy on the verge of a credit crunch or run up in interest rates. Rather, they describe a maturing and modest recovery.

IV. CAPITAL STRUCTURE AND LEVERAGE

Q: Please describe Petitioner's capital structure.

A: According to the Direct Testimony of Petitioner's witness Sabine E. Karner, Petitioner's capital structure as of December 31, 2015 was 99.18% common equity and 0.82% customer deposits. (Pet. Exh. 3, p. 29, lines 13 – 16.)

Q: Who owns Westfield Gas?

A: Petitioner is owned by Citizens Westfield Utilities, LLC.

Q: Is Citizens Westfield Utilities, LLC primarily equity financed?

A: No. Citizens Westfield Utilities, LLC is 86.2% debt financed. As of September 30, 2015, Citizens Westfield Utilities, LLC had $88,695,000 in Long-term debt and $14,103,000 in Member's equity (Attachment BEL-2).

Q: Have any credit rating agencies described the relationship between Petitioner and Citizens Westfield Utilities, LLC?

A: Yes. Fitch Ratings' issued a letter pertaining to Citizens Westfield Utilities, LLC, dated February 2, 2016 (Attachment BEL-3). Fitch Ratings described Citizens Westfield Utilities, LLC as "the holding company." Fitch described the relationship between Citizens Westfield Utilities, LLC and its operating companies (also including Citizens Water of Westfield, LLC and Citizens Wastewater of Westfield, LLC) as follows: "Each operating company is required to pay dividends to the holding company in amounts sufficient to pay the obligations of the holding company, although dividend payments from Water and Wastewater are subordinate in payment to these entities' own bonds." (Attachment BEL 3).

Q: Is Petitioner obligated to pay dividends to the holding company?

A: Yes. In the "Amended and Restated Operating Agreement for Westfield Gas, LLC, d/b/a Citizens Gas of Westfield" Article VI contains the following agreement on distributions:

> Section 6.02 Distributions. Cash or other property shall be distributed to the Member at such time or times as the Board of Directors shall determine. To the extent permitted by law, the Company shall pay dividends to the Member which are at least sufficient to allow the Member to pay its obligations.
>
> (Attachment BEL-4.)

Q: How much does Petitioner pay in dividends to the holding company?

A: In 2015, dividend payments from Petitioner to Citizens Westfield Utilities, LLC amounted to $775,000. I have attached copies of the Board of Directors minutes

from 2015 which authorized dividend payments totaling this amount (Attachment BEL-5).

Q. What is the significance of this dividend obligation upon Petitioner?

A. With the holding company's 86.2% debt ratio, this dividend requirement imposed on Westfield Gas makes these payments more like debt service payments than dividends. Thus, Petitioner's capital structure does not reflect the economic reality of the required dividend payments.

V. THE PROXY GROUP USED FOR DCF AND CAPM ANALYSES

Q: Please describe your approach to establish a cost of equity estimate for Petitioner.

A: I relied primarily on the DCF model and CAPM to estimate Petitioner's cost of equity.

Q: Can you apply the DCF model and CAPM directly to Petitioner?

A: No. Petitioner is not publicly traded. Consequently, much of the data that would be available for publicly traded companies is not available for Petitioner. This fact makes it impractical to apply the DCF and CAPM directly to Petitioner. Therefore, I calculated cost of equity for Petitioner based on a proxy group of publicly traded companies. This is a well-established approach.

Q: Please describe how you derived the proxy group for your DCF and CAPM studies.

A: I used the same proxy group as Mr. McKenzie. These companies are included among natural gas utility companies listed in the latest Standard Edition of the

Value Line Investment Survey (September 2, 2016) and in AUS Utility Reports ("AUS") (September, 2016).

Q: What companies are in this proxy group?

A: There are eight companies in Mr. McKenzie's proxy group. They are: Atmos Energy Corporation, Chesapeake Utilities Corporation, New Jersey Resources Corporation; Northwest Natural Gas Company; South Jersey Industries, Incorporated; Southwest Gas Corporation; and WGL Holdings, Incorporated.

VI. DISCOUNTED CASH FLOW ANALYSIS

Q: Please describe DCF Analysis.

A: DCF analysis helps investors determine the appropriate price to pay for particular assets, such as utility stocks. The model has been adapted for regulatory proceedings in order to determine the cost of utility equity capital. The DCF model holds that the price of an asset today should equal the sum of all the cash flows that the asset will generate, discounted by the appropriate rate back to the present. This discount rate equals the cost of capital. With utility stocks, dividends are the relevant cash flows.

Q: Please describe the "Constant Growth" DCF Model.

A: The underlying principle of the "Constant Growth" DCF Model is that the price of a firm's stock reflects the *expected* cash flows (i.e., dividends) associated with that stock, discounted at a rate equal to the cost of equity capital. This can be expressed mathematically with the following equation:

$$P_0 = D_1/(K - g)$$

In this equation, the current price, P_0, can be calculated by dividing the expected annual dividend for the next year, D_1, by the term $K - g$, where K represents the cost of equity capital and g equals the expected, long-run annual growth rate in dividends per share ("DPS"). This model relies on the assumption that investors *expect* earnings per share ("EPS"), book value per share ("BPS"), and stock price per share to also grow at a constant long-run rate (g).

By rearranging the algebraic terms, it becomes possible to solve for the cost of equity capital. The resulting formula is the DCF model most familiar in utility regulation:

$$K = (D_1/P_0) + g$$

Here, the cost of equity capital, K, equals the "forward dividend yield," D_1/P_0, plus the expected growth rate in dividends per share, g. The DCF model, therefore, requires estimates of the forward dividend yield and the expected growth rate.

Q: Is the "Constant Growth" DCF Model considered a reliable method for estimating cost of equity for public utilities?

A: Yes. This model, when combined with reasonable judgment, provides a realistic and reliable method of estimating a utility's cost of equity. It also formulates the cost of equity as "yield plus growth," which accurately defines the incentive for investors to purchase stocks.

The DCF model is also relatively simple in that it states cost of equity in terms of just two components, and only one of these involves any significant controversy. The calculation of dividend yield generally involves few disputes.

Most of the controversy in DCF calculations focuses on the growth rate, *g*. This should not be surprising since the growth rate projects into the future, and disagreements will always arise regarding such projections. However, a reasonable estimate for *g* can be developed by evaluating variables such as dividends, earnings, and book value per share. (Note: for the balance of my testimony, the "Constant Growth DCF Model" will simply be referred to as the "DCF model.")

Q: What is the difference between current and forward dividend yields?

A: The current yield, D_0/P_0, equals the current annual dividend rate, D_0, divided by the current stock price, P_0. The current annual dividend rate, D_0, equals the most recent quarterly dividend multiplied by four -- it does not include any projection into the next year. Dividend yields published by *The Wall Street Journal* and *AUS Utility Reports* are current dividend yields, D_0/P_0.

The forward yield, D_1/P_0, adjusts the current yield D_0/P_0 to reflect likely dividend growth in the subsequent year. The forward yield replaces the current dividend rate, D_0, with a prospective dividend rate, D_1. D_1 is the rate expected during the following year, and the forward yield will then be calculated by dividing D_1 by the current price, P_0. This adjustment is frequently accomplished by increasing the current dividend yield for one-half of a year's growth in dividends. This method is often referred to as the "half-year method," and is recognized as valid and reasonable by the Commission. I use this method in my DCF analysis to convert current dividend yields (D_0/P_0) into forward dividend yields (D_1/P_0).

Q: What is the result of your forward dividend yield calculation?

A: My calculation resulted in a 2.9% forward dividend yield for the Gas Utility Proxy Group. This calculation applies the "half year method" to the average current yield calculated from *AUS Utility Reports* data. Page 2 of Attachment BEL-6 indicates my calculation.

Q: Did you compare your forward dividend yield calculation with any other published data?

A: Yes. I compared the results to an average of the Value Line dividend yields for the Gas Utility Proxy Group. Value Line publishes forward dividend yield estimates that reflect anticipated dividend growth in the coming year. My calculations and the Value Line forward yields are shown in Attachment BEL-6, p. 2. The average Value Line Forward yield was 2.9% for the proxy group. However, the 12 month average of *AUS Utility Reports* actual dividend yields resulted in an average of 2.9% for the dividend yield. I arrived at a forward yield of 3.1% for the proxy group, based on application of the half-year method to the 12 month average calculated from *AUS* data.

Q: What did you conclude with respect to the Dividend Yield term of the DCF model?

A: I concluded that a 3.1% dividend yield is reasonable for my DCF calculations. This is equal to the Value Line average dividend yields for the proxy group.

Q: Please describe the results of your growth calculations.

A: I concluded that 5.7% is a reasonable growth rate for the Gas Utility Proxy Group. (See page 3 of Attachment BEL-6 for Value Line Growth Rate data and averages.) This rate results from analyzing both historical and projected EPS,

DPS and BPS growth rates for the proxy group. I emphasize that 5.7% is well above the 5.2% average projected growth rate of the proxy group companies.

Q: What have you concluded based on your DCF analysis?

A: My DCF calculations result in a cost of equity of 8.8%. This combines the 3.1% forward yield and the 5.7% growth rate. (Attachment BEL-6, p. 1.)

VII. CAPITAL ASSET PRICING MODEL

Q: Please describe the CAPM.

A: The underlying assumption of CAPM is that the stock market compensates investors for risk that cannot be eliminated by means of a diversified stock portfolio. In CAPM, the required return on a stock equals the sum of a risk free rate of return (R_f) plus a risk premium [$\beta*(R_m - R_f)$], which is proportional to the level of market risk. Market risk cannot be eliminated through diversification.

The CAPM formula is:

$$K = R_f + \beta*(R_m - R_f)$$

where,

β = Beta, a measure of risk for the company,

K = Required return (i.e., cost of equity) on the stock of the company,

R_f = Risk-free rate of return,

R_m = Market equity return,

$(R_m - R_f)$ = Market equity risk premium.

The "beta" is considered the measure of risk most relevant in CAPM. A stock with a beta below 1.0 is considered less volatile and less risky than the stock

market. If beta exceeds 1.0, the stock is considered more volatile and more risky than the stock market as a whole. By definition, the stock market has a beta of 1.0. The market is usually represented by a large and highly diversified portfolio of stocks such as the Standard & Poor's 500.

Q: Were you able to perform a CAPM analysis directly for Petitioner?

A: No. Petitioner is not a publicly traded company. Consequently, the necessary data does not exist to perform a CAPM analysis directly for Petitioner. Therefore, I have used the proxy group to perform a CAPM analysis.

Q: How did you determine beta for purpose of your analysis?

A: I used betas from the *Value Line Investment Survey*. (Attachment BEL-7, p. 3.) For this analysis I used the average of the *Value Line* adjusted betas, 0.73, as the beta estimate in my CAPM analysis.

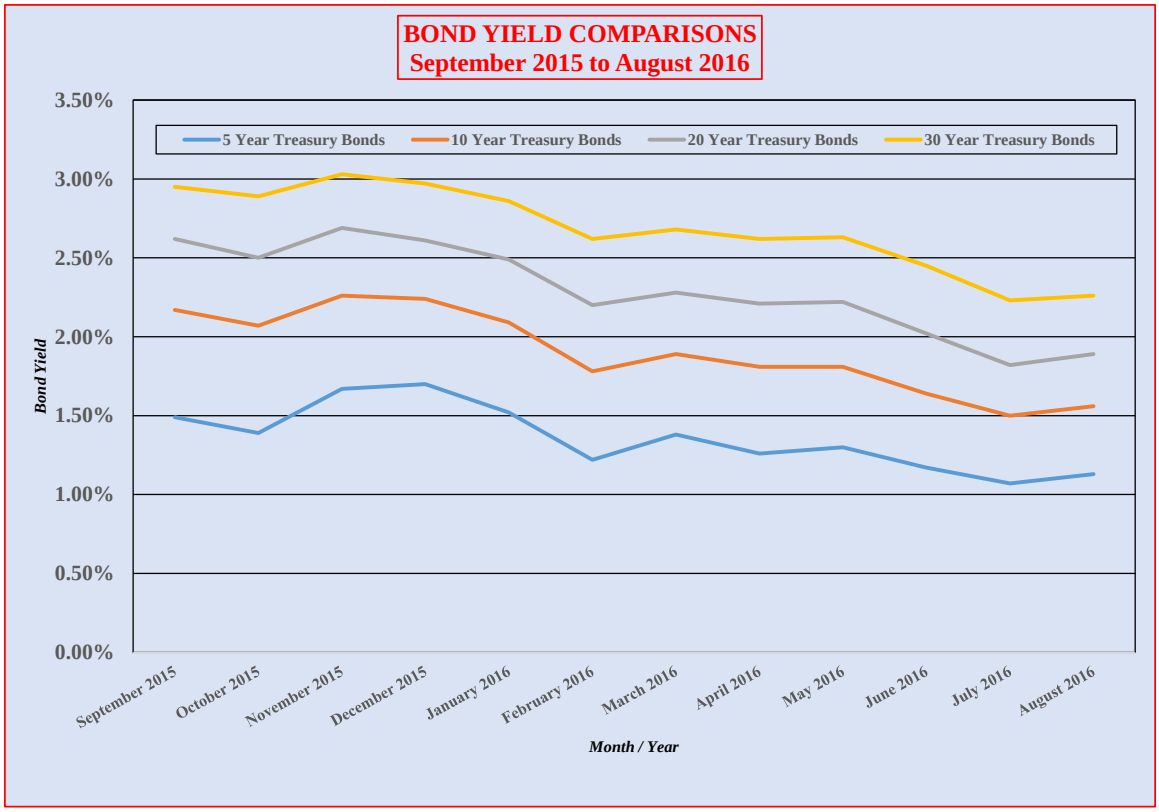
Q: What risk free rate (R_f) did you use for your CAPM calculations?

A: I used 3.75% for my risk free rate.

Q: Please describe how you determined the risk free rate of 3.75%.

A: I examined recent term trends in yields on 5-year, 10-year, 20-year, and 30-year Treasury Bonds from data available from the Federal Reserve (www.federalreserve.gov). I calculated averages for the 3 month, 6 month and 12 month periods ending in August, 2016. (Attachment BEL-7, p. 2.) Graph 2 displays the 12 month trend of the bond yields examined.

GRAPH 2



Twenty-year treasury yields averaged 1.89% in August 2016, falling from 2.61% in December 2015, the month of the Fed's last rate action. However, by considering 30 Year Treasuries and current Utility bond yields, I estimated a risk free rate of 3.75%. I believe this to be fair and reasonable. This risk free rate will tend to be higher since it takes into account bonds with traditionally higher yields than the 20 Year Treasury that was used in many CAPM analyses during the period from 2000 to 2010.

I also examined the economic projections from the Congressional Budget Office ("CBO") in *The Budget and Economic Outlook: Fiscal Years 2016-2026*, published in January, 2016. The latest CBO projection for 10-year Treasuries in

2016 is 2.8%, and 3.5% in 2017. (Congressional Budget Office, *The Budget and Economic Outlook: Fiscal Years 2016-2022, January, 2016*. www.cbo.gov.) However, the 10 Year Treasury bond is underperforming, finishing August 2016 at an average of 1.56%. Downward adjustments of the CBO estimates appear justified.

The above research and analysis leads me to conclude that 3.75% is a reasonable risk-free rate to use in my CAPM analysis, considering both recent experience and future projections.

Q: How did you estimate the Market Risk Premium (R_m - R_f)?

A: I calculated long-term market risk premiums based on historical data from *Stocks, Bonds, Bills and Inflation, 2015 Yearbook*, by Morningstar, Inc. (formerly Ibbotson Associates). The Morningstar database covers the period between 1926 and 2014. There are two methods of calculating historical holding period returns: the geometric mean (or compound annual return) and the arithmetic mean, which is a simple average of one year holding period returns.

The geometric mean return measures the average compound annual rate of return from an investment over a period of more than one year. The arithmetic mean measures the average of one year holding period returns. Unless the investment provides a constant return year after year, the arithmetic mean rate of return *always* exceeds the geometric mean rate of return. The arithmetic mean approach also produces higher estimates of the market risk premium, and higher overall CAPM results.

The Commission has consistently expressed its preference for considering both the geometric mean and arithmetic mean approaches in several Causes. For instance, in its final order in the Indiana-American Water rate case (Cause No. 42520), the Commission once again expressed this preference:

> In past rate cases this Commission has given weight to both the arithmetic and the geometric mean risk premiums. This position was reaffirmed in our 1996 Rate Order, when we stated "[t]he debate over the proper use of the arithmetic and geometric means is one we consider resolved. As we stated in Indianapolis Water Company, Cause No. 39713-39843 [*sic*], each method has its strengths and weaknesses, and neither is so clearly appropriate as to exclude consideration of the other." (*1996 Rate Order*, Cause No. 40103, p. 41.) Also, in the 2002 Rate Order, we stated ". . . that, while the debate over the proposed use of the arithmetic and geometric means continues, however, each method has its strengths and weaknesses, neither is so clearly appropriate as to exclude consideration of the other. (*2002 Rate Order*, Cause No. 42029, p. 32.) . . .
>
> . . . We will continue to give both the geometric and arithmetic mean risk premiums substantial weight. Neither the arithmetic nor geometric mean risk premiums should be excluded in favor of the other.

(November 18, 2004 Order, Cause No. 42520, p. 59)

Following this well-established directive, I calculated market risk premiums giving equal weight to both the geometric and arithmetic mean approaches. I used the resulting market risk premium of 5.20% in my CAPM calculations. (See Attachment BEL-7, p. 4.)

Q: Please describe the results of your CAPM analysis.

A: Here again, I emphasize that my CAPM analysis results in an estimate that is higher than it might otherwise be. I have used only the adjusted betas from *Value Line* and a risk free rate higher than recent yields on 20-year Treasury Bonds. I have also

balanced the weight given to the geometric mean and arithmetic mean approaches. This results in a CAPM estimate of 7.52%. (Attachment BEL-7, p. 1.)

Q: Please summarize your CAPM conclusions.

A: The CAPM analysis that I performed indicates a cost of equity for the proxy group of 7.52%. (Attachment BEL-7, p. 1.)

Q: Do you believe that a small stock premium is justified?

A: No. The applicability of a small stock adjustment to regulated public utilities is questionable. Regulation reduces the financial risks faced by Petitioner.

Inserting an additional premium for company size is a questionable adjustment when analyzing public utilities. Annie Wong of Western Connecticut State University writes in *Utility Stock and the Size Effect: An Empirical Analysis*:

> The fact that the two samples show different, though weak results indicates that utility and industrial stocks do not share the same characteristics. First, given firm size, utility stocks are consistently less risky than industrial stocks. Second, industrial betas tend to decrease with firm size, but utility betas do not. These findings may be attributed to the fact that all public utilities operate in an environment with regional monopolistic power and regulated financial structure. As a result, the business and financial risks are very similar among the utilities regardless of their size. Therefore, utility betas would not necessarily be related to firm size.
>
> The object of this study is to examine if the size effect exists in the utility industry. After controlling for equity values, there is some weak evidence that firm size is a missing factor from the CAPM for industrial but not utility stocks. This implies that although the size phenomenon has been strongly documented for industrials, findings **suggest that there is no need to adjust for the firm size in utility regulation**. (Emphasis added.)
>
> (Annie Wong, *"Utility Stock and the Size Effect: An Empirical Analysis,"* Journal of the Midwest Finance Association, 1993, p. 98.)

Further, Michael Paschall and George B. Hawkins, authors of *Do Smaller Companies Warrant a Higher Discount Rate for Risk?: The "Size Effect" Debate*, state that:

> A size premium does not automatically apply in every case. Each privately held company should be analyzed to determine if a size premium is appropriate in its particular case. There can be unusual circumstances where a small company has risk characteristics that make it far less risky than the average company, warranting the use of a very low risk premium. One possible example of this is a private water utility (monopoly situation, very low risk, near-guarantee of payments). (Paschall and Hawkins, *Do Smaller Companies Warrant a Higher Discount Rate for Risk?: The "Size Effect" Debate,* CCH Business Valuation Alert, December, 1999.)

Moreover, the Commission has found direct application of Ibbotson's small company adjustment is questionable:

> We are familiar with the Ibbotson-derived 400 basis point small company risk premium used by Mr. Beatty. The rationale behind this approach is that, all other things being equal the smaller the company, the greater the risk. However, to blindly apply this risk premium to Petitioner is to ignore the fact that Petitioner is a regulated utility. The risks from small size for a regulated water utility are not as great as those small companies facing competition in the open market. *(South Haven Sewer, Cause No. 40398,* Order of May 28, 1997, pp. 30-31.)

Also, more recently in an Indiana-American rate case Order, Cause No. 43680, on April 30, 2010, the Commission stated:

> The Commission rejects Petitioner's equity size premium adjustment because it cannot be directly applied to regulated water utilities. Regulated water utilities do not experience the same risks as other small companies. (*Indiana-American Water,* Cause No. 43680, Order, p. 47.*)*

The same principle can be applied to regulated natural gas companies, particularly those with risk reduction mechanisms such as, Petitioner's own Normal

Temperature Adjustment ("NTA"), authorized by the Commission in its February 28, 2007 order in Cause No. 43202.

VIII. MACROECONOMIC TRENDS

Q: Do macroeconomic factors and trends influence the cost of equity?

A: Yes. The most noteworthy of these factors are interest rates, economic growth, and inflation.

Q: Do you have economic forecast data to support 8.8% as a reasonable ROE for Petitioner?

A: Yes. Another indication of the reasonable nature of my recommendation comes from the *CFO Magazine Business Outlook Survey*, First Quarter 2016, from Duke University (*http://www.cfosurvey.org/*) (the "CFO Survey"). This survey of Chief Financial Officers ("CFOs") from major corporations observed that "[o]n February 15, 2016 the annual yield on 10-yr treasury bonds was 1.7%," and showed an expected return on the S&P 500 of 5.7%, while it was only 5.1% for companies in the Energy industry. (Attachment BEL-8.) This places my recommended ROE of 8.8% for Petitioner at 310 basis points above the expectations of respondents to the CFO Survey. It is also 200 basis points above the highest expected return for the next ten years of 6.8%, which the CFO Survey gives only a 1-in-10 chance of realizing. (Attachment BEL-8.) I emphasize that these return estimates apply to companies in the S&P 500, which includes many industrial companies considered more risky than regulated utilities.

The CFO Survey also reveals that over the next 10 years, CFOs expect a return in the Transportation and Public Utilities industry of only 7.2%. The Survey also shows only an expectation of 1 chance in 10 that ROEs will exceed 10.1% for this industry during the next ten years.

In contrast to the CFO Survey rate of return of 5.7% for S&P 500 companies, and 7.2% for the Transportation and Public Utilities industry, Petitioner suggests a 10.7% cost of equity should apply to a regulated public utility with protections not available to firms in competitive markets. The OUCC's proposed cost of equity of 8.8% is more than sufficient to attract capital.

Q: Please discuss bond yields as factors influencing cost of equity.

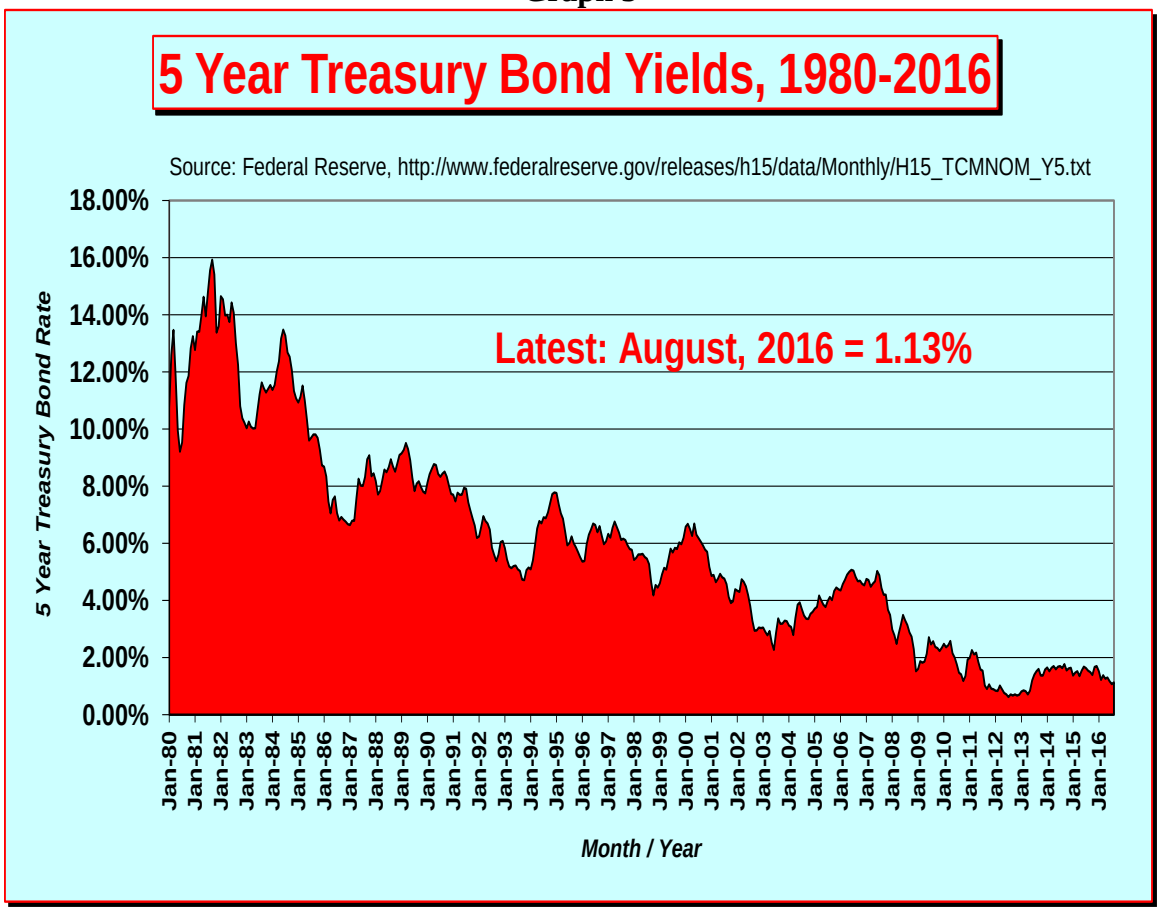
A: Bond yields are extremely important factors influencing cost of equity. Yields on U.S. Treasury Bonds are commonly used to establish the risk-free rate of return in CAPM and other risk premium analyses. Moreover, changes in bond yields and interest rates affect investor expectations.

Q: Please compare current and historical trends in bond yields.

A: Recent years have continued the long period of "low cost capital." Lower interest rates and bond yields have been the main indicator of this trend. The trend toward low cost capital has taken place over two decades; it is a long run phenomenon, and not simply a result of the recent recession. Graph 3 indicates the monthly interest rate trend on 5-year Constant Maturity Treasury Bonds, reported by the Federal Reserve. Graphs 3, 4, 5 and 6 indicate the American economy is in a period with rates well below those of the 1980s and 1990s. In July, 2016, long term bond yields remained near historical lows. On July 27, 2016, the spot yield

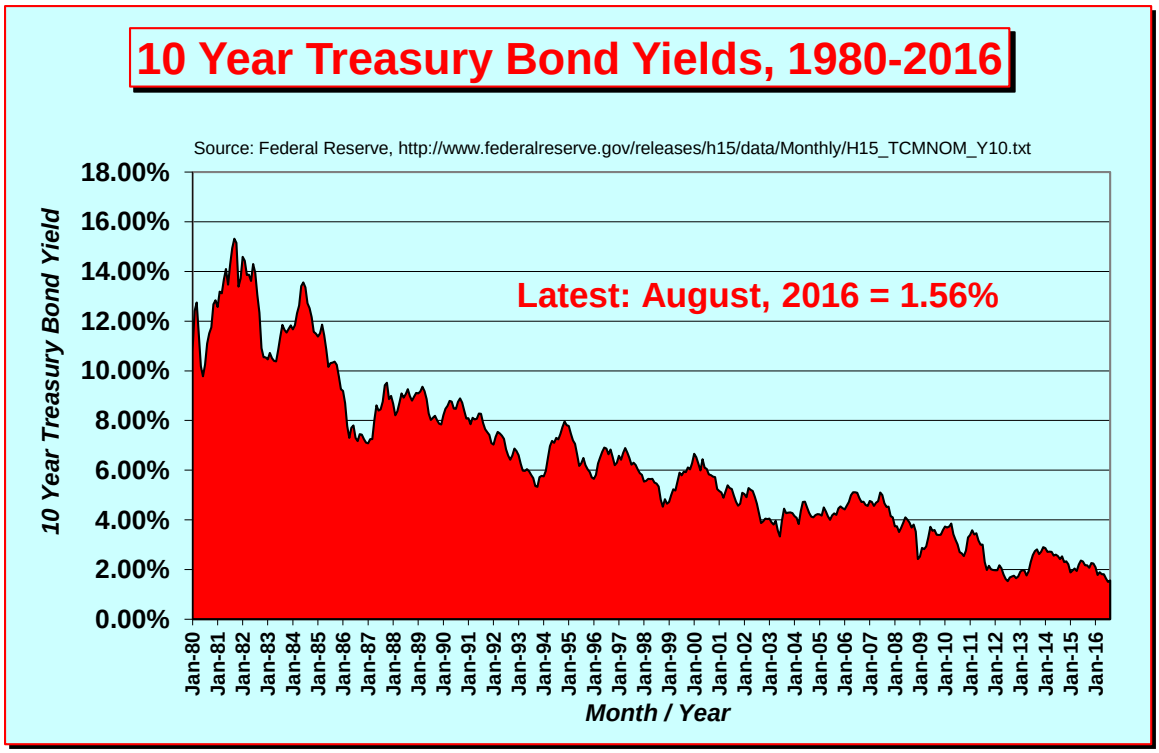
on the bellwether 10 Year Treasury bond stood at 1.52%, and the 5 Year Treasury stood at 1.10%. The 20 Year Treasury closed at 1.84%, and the 30 Year Treasury stood at 2.23% (http://www.federalreserve.gov/releases/h15/update/.)

Graph 3

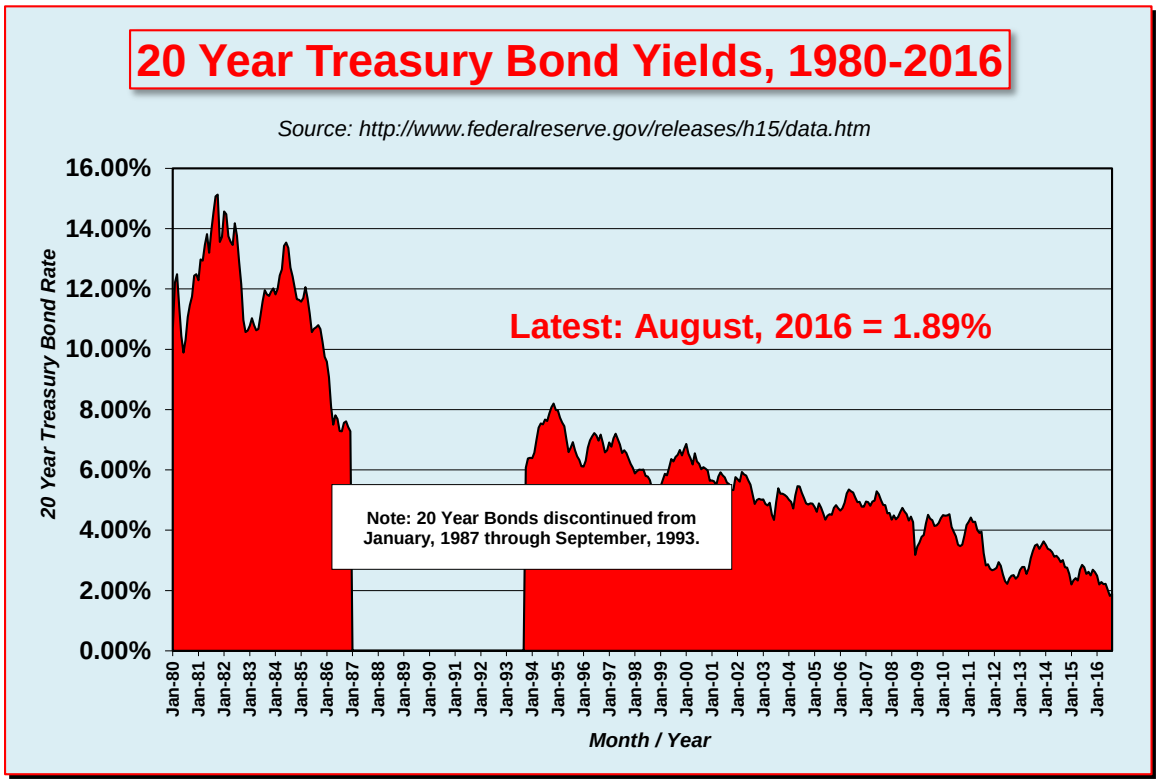


Graphs 4, 5 and 6 reveal similar trends for 10-year, 20-year and 30-year Treasuries.

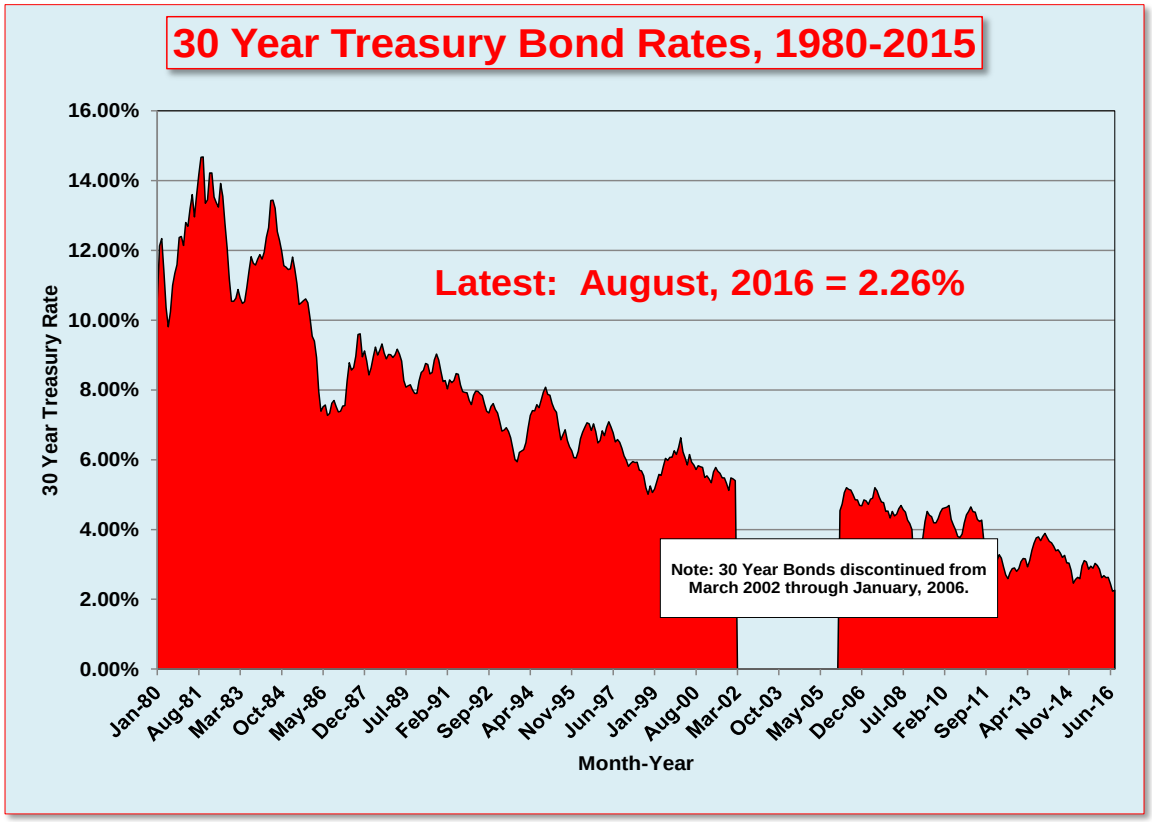
GRAPH 4



GRAPH 5



GRAPH 6



Q: How does economic growth influence cost of equity?

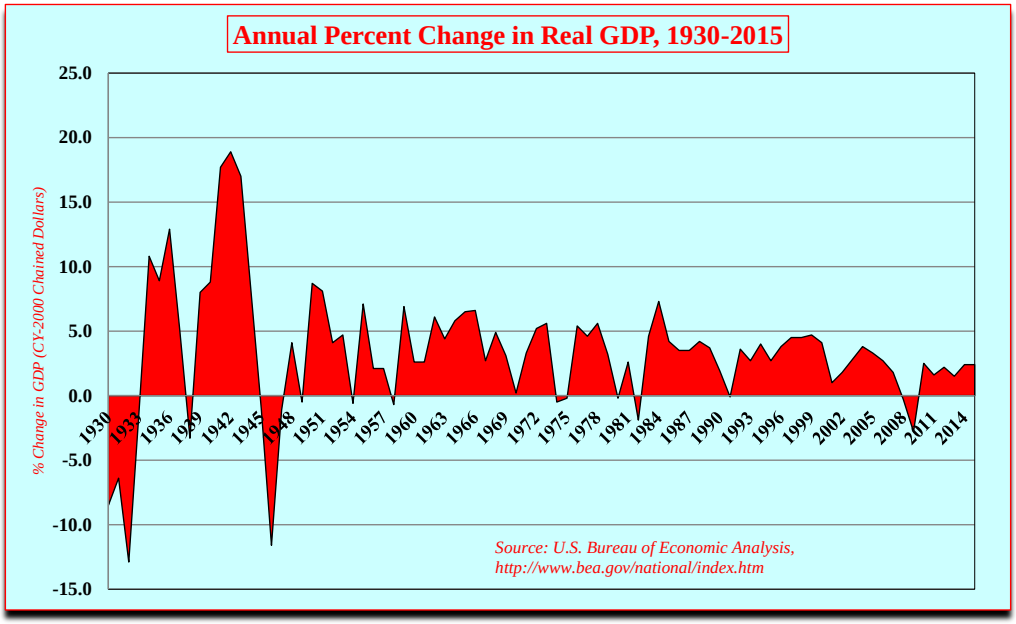
A: The most important influence that economic growth has on cost of equity is through economic growth's impact on interest rates and investor expectations. A booming, high-growth economy tends to put upward pressure on interest rates. A lackluster or recessionary economy tends to lead to stagnant or falling interest rates.

Data from the U.S. Department of Commerce, Bureau of Economic Analysis ("BEA") (U.S. Department of Commerce, Bureau of Economic Analysis, www.bea.gov), and from the Congressional Budget Office ("CBO"), provides historical perspectives. The CBO, using BEA data, projects 4.1% nominal growth (growth measure in current dollars – not adjusted for inflation) in

2016, and 4.4% nominal growth in 2017. CBO projections indicate a 4.0% rate of nominal growth in the period 2018-2020 and 4.1% in the period 2021-2026. (Congressional Budget Office, *The Budget and Economic Outlook: Fiscal Years 2016-2026, January, 2016*.)

Real economic growth, that is growth measured in constant (i.e., inflation adjusted) dollars, reveals a more sobering comparison with the recent past. BEA projects 2.5% real growth in 2016, and 2.6% real growth in 2017. Moreover, CBO forecasts only 2.5% real growth in 2016, 2.6% in 2017, 2.0% in the period 2018-2020, and 2.0% in 2020-2026. (*Id., p. 33*.) Graph 7 indicates annual percent changes in real GDP in the period 1930 through 2015, as published by BEA.

GRAPH 7



Prior to the 1990's, economic expansion periods included at least one or more years above 5% real growth. The U.S. economy has not experienced that level of real GDP growth on an annual basis since 1984.

Thus, recent data indicates the U.S. economy is in a mature, but slow recovery, and still struggling to achieve robust growth. The first quarter of 2016 saw a real annual growth rate of 1.1%. (U.S. Department of Commerce, Bureau of Economic Analysis, http://www.bea.gov.) Such a growth rate is very modest even for a mature recovery from a deep recession.

Q: In your analysis, have you taken into account current and projected inflation?

A: Yes. I examined historical and projected rates of inflation from both government and private sector sources, including the Bureau of Labor Statistics, the Congressional Budget Office and Morningstar, Inc. For an original cost rate base, estimates of ROE include compensation for historical inflation. Spikes or long-term increases in inflation can affect the prospective real return, but I found no reason to believe that inflation will experience such increases in the near term.

Q: Please describe the trends in the rate of inflation.

A: The U.S. economy remains in a relatively low inflation period. In her *Semiannual Monetary Policy Report to the Congress* before the U.S. House of Representatives' Committee on Financial Services on June 21, 2016, Federal Reserve Chairperson Janet L. Yellen stated:

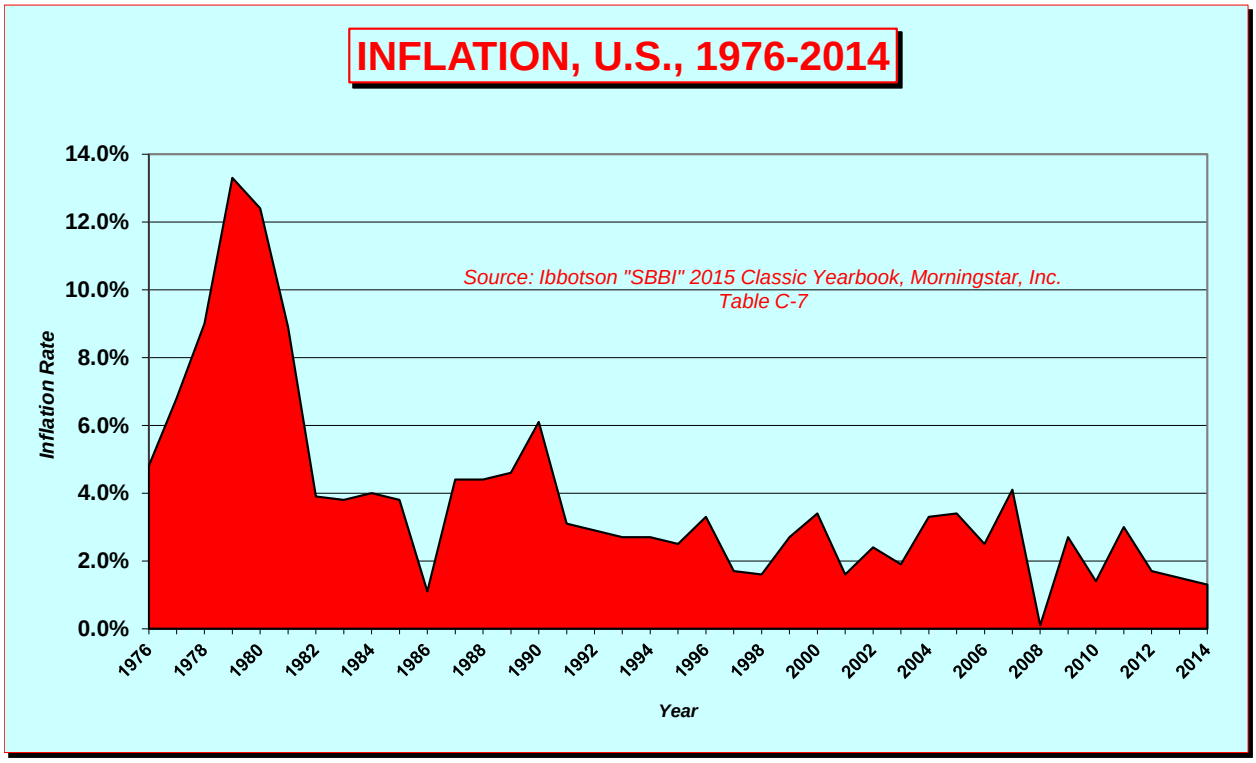
> Turning to inflation, overall consumer prices, as measured by the price index for personal consumption expenditures, increased just 1 percent over the 12 months ending in April, up noticeably from its pace through much of last year but still well short of the Committee's 2 percent objective. Much of this shortfall continues to reflect earlier declines in energy prices and lower prices for imports. Core inflation, which excludes energy and food prices, has been running close to 1-1/2 percent. As the transitory influences holding down inflation fade and the labor market strengthens further, the Committee expects inflation to rise to 2

> percent over the medium term. Nonetheless, in considering future policy decisions, we will continue to carefully monitor actual and expected progress toward our inflation goal.
>
> (http://www.federalreserve.gov/newsevents/testimony/yellen20160621a.htm.)

The overall (also called "headline") Consumer Price Index ("CPI") has fluctuated over the past two years, but has remained relatively low in spite of the high volatility of energy prices. (CPI data from U.S. Department of Labor, Bureau of Labor Statistics, *www.bls.gov*.) As of June 2016, the CPI for "All Urban Consumers" was 1.0% higher than its March 2015 level. (http://www.bls.gov/news.release/cpi.t01.htm.) Core inflation, which removes the impact of energy and food price volatility, remains low. The CBO estimates core inflation in 2016 at 2.0% and 2.2% in 2017. (Congressional Budget Office, *The Budget and Economic Outlook: Fiscal Years 2016-2026, p. 33.*)

The United States remains in a long term period of low inflation. Data from Morningstar, Inc. indicates that inflation evaporated in 2008, falling from 4.1% in 2007 to 0.1%. Inflation rebounded slightly in 2009 to 2.7%, retreated to 1.4% in 2010, and was 3.0% in 2011. However, inflation fell to 1.7% in 2012, 1.5% in 2013 and 1.3% in 2014. This compares to an annual average of 3.0% between 1990 and 2000, and 5.2% between 1980 and 1990. (Morningstar Inc., *2015 Classic Ibbotson SBBI Yearbook*, Table C-7.) Graph 8, which shows the annual inflation rates from 1976 through 2014, indicates the United States remains subject to low inflation, despite recent volatile energy costs, and nowhere near levels experienced in earlier decades.

GRAPH 8



Moreover, the latest forecast from the CBO projects modest increases in both the overall CPI and the Core CPI (which excludes highly volatile commodities such as energy) over the next decade. The CBO projects only a 1.3% increase in the overall CPI for 2016, followed by 2.3% in 2017, with increases in the period 2018-2020 averaging only 2.4%, and increases from 2021-2026 averaging 2.4% per year. (Congressional Budget Office, *The Budget and Economic Outlook: Fiscal Years 2016-2026, January, 2016, p. 33.*) The Federal Reserve Bank of Philadelphia projects core inflation at 2.2% for 2016, 2017 and 2018. Philadelphia Fed also projected continued low headline inflation: "Measured on a fourth-quarter over fourth-quarter basis, headline inflation is expected to average 1.5 percent in 2016, 2.1 percent in 2017, and 2.3 percent in

2018." (Federal Reserve Bank of Philadelphia, *Survey of Professional Forecasters, Second Quarter 2016*, May 13, 2016, p. 4.) Inflation remains low by historical standards. Low inflation rates tend to support lower interest rates and lower costs of financing capital investment, including investments in utility plant.

Q: Are you arguing that there should be a decrease to ROE because of low levels of headline and core inflation?

A: No. I have made no reduction to my ROE recommendation due to inflation. I use inflation data projections merely to illustrate that inflation, which remains low and stable, is not likely to put pressure on interest rates and ROE in the near future.

Q: What are your conclusions about the macroeconomic trends that influence cost of equity?

A: Recent trends in interest rates, inflation and economic growth do not reveal an inflationary economy. Instead, recent trends point to a continuing slow recovery from the financial crisis and recession that started in 2008. So far there is no indication that macroeconomic trends are fueling any significant increase in capital costs. Moreover, the *CFO Magazine* survey demonstrates that Petitioner's proposed 10.7% cost of equity exceeds market expectations, even for a more risky stock portfolio like the S&P 500 containing many industrial companies. Consequently, my recommended ROE for Petitioner to apply to its original cost of 8.8% is much more in line with current economic conditions than Petitioner's proposal.

IX. PETITIONER'S RECOMMENDED RETURN ON FAIR VALUE DOES NOT REMOVE HISTORICAL INFLATION

Q: What role does inflation play in the determination of a fair rate of return to apply to a utility's fair value rate base?

A: Inflation should not be included in both the rate base and the fair rate of return. By definition, an *original cost* rate base does not reflect the effects of inflation on the value of the plant. In such a case, the fact of inflation is reflected in the rate of return. Petitioner's witness Mr. McKenzie reflects this principle when he states that "Under an original cost framework, implicit in the nominal cost of equity is compensation for expected inflation." (Pet. Exh. 5, p. 63, lines 5 – 6). But he also added that "In contrast, with the current cost rate (*i.e.*, fair value) base there is no loss of purchasing power in the original investment as it is presumably kept whole by price level adjustments to rate base." (*Id.*, lines 10—12).

Unlike a net original cost rate base, an Reproduction Costs New Less Depreciation ("RCNLD") study, such as the Umbaugh Accounting Report Petitioner has used to estimate its fair value, indicates a current value of assets by determining what it would cost to replace the assets today, less an amount to reflect depreciation of the assets. Such RCNLD estimates of fair value rate base reflect historical inflation. In such case, it is neither necessary nor appropriate to apply rates of return that will again include an upward adjustment to reflect inflation. Applying a rate of return designed to be applied to an original cost rate base will result in double recovery or double counting.

Q: How may such double recovery or double counting be avoided?

A: To avoid a double counting of the inflationary impact, the return on fair value, therefore should be reduced by historical inflation. In Principles of Public Utility Rates, (Second Edition, 1988, pp. 348-349), Bonbright, Danielsen and Kamerschen discuss the possibility for such a double counting:

> If adjustment is to be made for inflation (and its long dormant kin deflation) whether as a matter of experiment or as a matter of general policy, the question arises whether it should be made in the rate base or in the rate of return. Bonbright (1961, pp. 274-276) preferred the former alternative as a means of avoiding the false appearance of an excessive rate of return during a period of inflation, but stressed that this does not mean the adoption of a fair value rule of ratemaking. Instead, he proposed the acceptance of a rate base measured by depreciated original cost restated in terms of dollars equal to the purchasing power of the original capital contributions. Moreover, the restatement would be confined to common equity capital since the objective is that of maintaining the integrity of stockholders' investment. The index number by which to measure price changes should be the Bureau of Labor Statistics Consumer Price Index, since it approximates, at least to some extent, the cost of living of shareholders and it is exogenously determined, as opposed to say an index of inputs purchased by utilities, over which utilities have some endogenous control making it susceptible to creative regulation. While we find his suggestion probative, but not dispositive, at a minimum, this would require that the return be in real and not nominal terms as the rate base adjusted for inflation together with a rate of return adjusted for inflation would be double counting.
>
> (Emphasis added).

The Commission has long recognized the potential for double counting in applying a rate of return to a fair value rate base.

> It is inappropriate to apply the fair value of Petitioner's used and useful property its weighted cost of capital because the weighted cost of capital contains both historic and prospective inflationary factors. We have accounted for the historic inflationary factors in determining the fair value of Petitioner's property. Therefore, to

> arrive at a fair return to be applied to the fair value of Petitioner's property the historical inflationary consideration must be removed, lest they be double counted.
>
> (Indiana Michigan Power Company, Cause No. 38728, Order at p. 28, August 24, 1990).

Q: Did Mr. McKenzie remove inflation from his estimate of Petitioner's fair rate of return?

A: Yes. However, Mr. McKenzie removed inflation from his proposed fair rate of return based on *prospective* inflation rates and not *historical* inflation rates, which are higher. (Pet. Exh. 5, pp. 70-71). The effect of this is to allow some double recovery or double counting of the effects of inflation.

Q: How does this allow some double counting of inflation?

A: The higher value of the assets shown in the RCNLD study include the results of historical inflation. The Commission has consistently determined that, when considering the historical effects of inflation on the value of assets, the *historical* inflation rate should be removed from the cost of equity. By removing inflation based on lower *prospective* inflation rates, Petitioner's cost of equity is overstated to the extent of the difference in inflation rates.

Q: Is there a difference in the historical and prospective rates of inflation?

A: Yes. Historical inflation over the past two decades is higher than the projections for future years that both Mr. McKenzie and I have found.

Q: What inflation rate did Mr. McKenzie remove from his ROE?

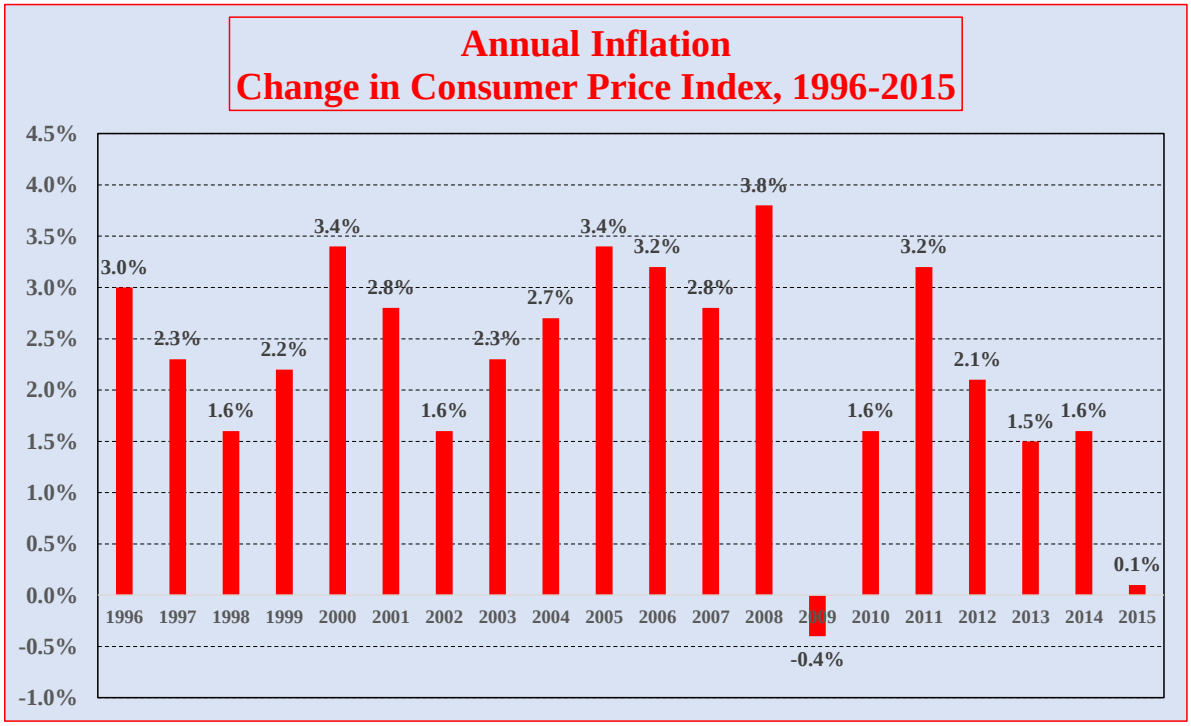
A: Mr. McKenzie recommended the use of a 1.7% inflation rate based on "investors' expectations of future inflation." (Pet. Exh. 5, p. 70, line 24). He recommends the removal of 1.7% from ROE to calculate his return on fair value, and points out

that this is the low end of a range of 1.7% to 2.7% he characterized as the range of investors' inflation expectations.

Q: What did you determine to be the historical inflation rate?

A: I considered the change in the Consumer Price Index from January, 1996 to December, 2015 to arrive at an historical inflation rate of 2.66%. (In January, 1996 the CPI for All Urban Consumers stood at 154.400, according to the Bureau of Labor Statistics. In December, 2015 the same index stood at 236.525.) Over a 20 year period this represents an annual change in the CPI of 2.66%. Graph 9 depicts historical inflation according to annual changes in the CPI over the same period.

GRAPH 9



Q: What rate of return on Petitioner's proposed fair value do you recommend?

A: I proposed an ROE of 8.8% on Petitioner's original cost rate base. If the Commission deems the use of a fair value or current cost rate base appropriate, 2.66% should be removed from the 8.8% cost of equity I calculated to prevent double counting of inflation. Therefore, I would recommend a fair rate of return of 6.14% (8.8% - 2.66% = 6.14%) to be applied on any fair value amount that reflects historical inflation costs.

X. SUMMARY AND RECOMMENDATIONS ON COST OF EQUITY

Q: Please summarize your testimony regarding Mr. McKenzie's outlook for capital costs.

A: Mr. McKenzie encourages the Commission to consider forecasts for higher public utility bond yields into account when assessing the level of ROE it deems reasonable for Petitioner. His analysis counts on prospects for an end to the Federal Reserve's policy of "easing." However, even after the Fed's modest 25 basis point increase in the Federal Funds rate of December, 2015, bond yields, including public utility bonds, have continued to fall. I also observe that the economic recovery, which began in 2009 and is now in its seventh year, has cut the unemployment rate in half, and has yet to exert significant upward pressure on inflation and interest rates. Simply put, Mr. McKenzie's projected increases in capital costs are not realistic.

Q: Please summarize your testimony on capital structure.

A: In considering an appropriate ROE, the Commission should note that Petitioner is *required* to pay dividends to a parent company that is 86.2% debt financed. Thus, Ratepayers will be paying for an ROE that is necessarily being used to pay the debt expense of the parent company.

Q: Please summarize your testimony on DCF calculations for the proxy group.

A: Using a proxy group developed from *Value Line* and *AUS Utility Reports* data, I calculated a 3.1% forward dividend yield. I also calculated a DCF growth rate, *g*, of 5.7%. This estimate was made using historical and projected growth rates from *Value Line*. Overall, my DCF calculations resulted in an 8.8% cost of equity.

Q: Please summarize your testimony on CAPM calculations for the proxy group.

A: Based on *Value Line* betas and using the same proxy group, I calculated an average beta for the proxy group of 0.73. As the beta is less than 1.0, it also describes a relatively low-risk industry. I estimated a risk-free rate of 3.75% based primarily on the recent and long term experience with rates on U.S. Treasury and utility bonds. I reviewed 5 Year, 10 Year, 20 Year and 30 Year bond yield data from July 2015 through June 2016 in making this estimate. I also reviewed utility bond yields published by *Value Line*. Giving equal weight to both the geometric mean and arithmetic mean approaches, I calculated a market risk premium of 5.20%. This results in a CAPM cost of equity for the proxy group of 7.52%.

Q: Please summarize your testimony on macroeconomic and capital market trends influencing cost of equity.

A: In contrast to the market expectations described in *CFO Magazine* of a 5.7% anticipated return on the S&P 500, Petitioner proposes a rate of 10.7% for a regulated public utility. In today's capital market, a proposal that high is simply not in accord with current conditions.

I examined three macroeconomic variables that can influence the cost of equity capital. First, I examined interest rates. There appears to be no trend indicating a period of sustained higher interest rates. Interest rates on 5-year, 10-year and 20-year bonds remain low, and will remain low as long as the U.S. and world economies struggle. Second, CBO forecasts real GDP growth over the next 10 years to range from 2.5% in 2016, declining to 2.0% in the period 2018-2026. Growth in this range is not likely to drive up interest rates.

Third, the United States is currently experiencing an extended period of low inflation. Even with energy price volatility in recent years, both "headline" inflation and core inflation remain low compared to earlier periods. While inflation fears are always a policy consideration for the Federal Reserve, recent experience and projections by the CBO tend to indicate that inflation is under control in spite of volatility in energy prices.

Nothing in these macroeconomic trends imply any major upward pressure on interest rates, growth and inflation in the near term.

Q: Please summarize your testimony on the rate of return on fair value.

A: I testified that inflation should not be included in both the rate base and the fair rate of return, as it would amount to a double counting of the inflationary impact. The potential for double counting inflation has long been recognized by the Commission. Fair value ratemaking allows the inclusion of inflationary impact on the rate base. Consequently, the Commission has also held that historical inflation should be removed from the rate of return on fair value. Mr. McKenzie did not remove the impact of historical inflation from his estimate of the rate of return on fair value. Rather he reduced that rate by a 1.7% estimate of prospective inflation. Based on historical data from the Consumer Price Index, I calculated that historical inflation over the past two decades averaged 2.66%. I recommended that if a fair value rate base is used, the rate of return should be reduced by 2.66%.

Q: Please summarize your recommendation for Petitioner's ROE.

A: For purposes of application to an original cost rate base, I recommend the Commission authorize an 8.8% cost of equity for Petitioner. This recommendation reflects a risk premium of more than 600 basis points over recent yields on 30 year Treasury bonds, which have fallen below 2.5%. This recommendation is made using the high end of the range of my DCF and CAPM calculations. Given current economic conditions, and my DCF and CAPM calculations, I believe that my recommendation is both fair and reasonable. I further recommend that if a fair value rate base is used by the Commission that

the rate of return on fair value be 6.14%, based on my ROE estimate of 8.8% and 2.66% historical inflation.

Q: When your recommended cost of equity is applied to Petitioner's capital structure what is the resulting weighted average cost of capital?

A: According to the testimony of OUCC Witness Mark Grosskopf, (Pub. Exh. No. 1, Attachment MHG-1, Schedule 8), applying my recommended cost of equity of 8.8% to Petitioner's stated capital structure results in a weighted average cost of capital ("WACC") of 8.732%.

Q: Is 8.732% a reasonable WACC for Petitioner?

A: Yes. With no long term debt, Westfield Gas's capital structure is very close to 100% common equity. Therefore, Petitioner has no financial risk at the level of the operating company.

Q: Do other factors specific to Petitioner further support the reasonableness of the proposed WACC?

A: Yes. Petitioner has dividend obligations to its holding company parent, Westfield Utilities, LLC. These obligations are not optional but are required by the operating agreement between Westfield Utilities, LLC, and Westfield Gas. The operating agreement specifically establishes that the dividend payments must be at least sufficient to allow the member (Westfield Utilities, LLC) to pay its obligations. With the holding company's 86.2% debt ratio, this requirement imposed on Westfield Gas makes these payments more like debt service payments than dividends. Thus, Petitioner's capital structure does not reflect the economic reality of the required dividend payments. A capital structure that recognized the holding company debt serviced by Petitioner's required dividend payments would

produce a lower WACC. Therefore, while I did not allow this relationship to affect the results I reached in my analyses and my estimated cost of equity, it does provide further support for these estimates being reasonable.

Q: Does this conclude your testimony?

A: Yes.

AFFIRMATION

I affirm, under the penalties for perjury, that the foregoing representations are true.

Bradley E. Lorton
Utility Analyst II
Indiana Office of Utility Consumer Counselor
Cause No. 44731
Westfield Gas, LLC

September 28, 2016
Date

APPENDIX BEL-1 TO TESTIMONY OF
OUCC WITNESS BRADLEY E. LORTON

Q: Please describe your educational background and experience.

A: My expertise is in economics and public utility regulation. I hold Bachelor of Science and Master of Science degrees in Economics from Indiana State University. I also completed additional courses in Economics, Mathematics and Labor Studies at Indiana University-Purdue University at Indianapolis. I have completed the Regulatory Studies Program sponsored by the National Association of Regulatory Utility Commissioners ("NARUC") at Michigan State University. I recently completed NARUC's Advanced Regulatory Studies Program: Ratemaking, Accounting and Economics.

I have over thirty-five years of experience in government and private industry. My career in public utility regulation began in 2001 when I accepted my current position with the OUCC. Prior to that, I served in management and business analyst positions with the U.S. Department of the Navy at the Naval Air Warfare Center in Indianapolis, and its privatized successor organizations. I also served as an Economist at the Bureau of Labor Statistics, United States Department of Labor, and as a Statistician for the Indiana Division of Labor.

I have been awarded the professional designation Certified Rate of Return Analyst ("CRRA") by the Society of Utility and Regulatory Financial Analysts. This designation is awarded based upon experience and successful completion of a written examination.

Q: Have you previously testified before the Indiana Utility Regulatory Commission?

A: Yes. I have previously testified before this Commission addressing economic and financial issues over the past fourteen years, including rate cases in which I testified on cost of common equity.

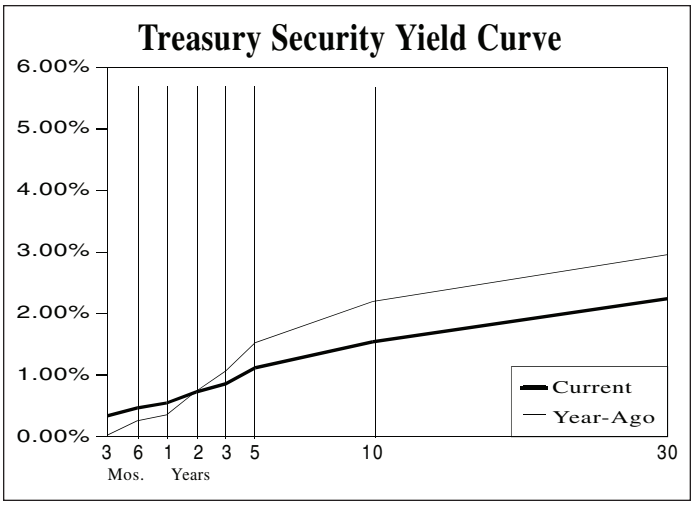
Q: Please describe the review and analysis you conducted in order to prepare your testimony.

A: I reviewed Community's Petition, Case-in-Chief and exhibits, prepared data requests, and reviewed Petitioner's responses. I researched Petitioner's previous rate case from 2008. I participated in several meetings of the OUCC Case Team in this Cause. I also researched economic data and analysis from government and authoritative private sector sources. I used the results of this research to run my cost of equity models and support my analyses.

Attachment BEL-1
Cause No. 44731
Page 1 of 1

Selected Yields

TAXABLE	Recent (9/07/16)	3 Months Ago (6/08/16)	Year Ago (9/09/15)
Market Rates			
Discount Rate	1.00	1.00	0.75
Federal Funds	0.25-0.50	0.25-0.50	0.00-0.25
Prime Rate	3.50	3.50	3.25
30-day CP (A1/P1)	0.44	0.40	0.16
3-month LIBOR	0.84	0.66	0.33
U.S. Treasury Securities			
3-month	0.34	0.24	0.03
6-month	0.47	0.42	0.26
1-year	0.55	0.57	0.36
5-year	1.12	1.23	1.53
10-year	1.54	1.70	2.20
10-year (inflation-protected)	0.02	0.16	0.69
30-year	2.24	2.51	2.96
30-year Zero	2.32	2.64	3.09
Common Stocks			
VL Stocks (Median)	2.20	2.20	2.30
DJ Industrials (12-mo. est.)	2.60	2.70	2.80
VL Utilities	3.40	3.40	4.05



TAXABLE	Recent (9/07/16)	3 Months Ago (6/08/16)	Year Ago (9/09/15)
Mortgage-Backed Securities			
GNMA 5.5%	1.46	1.78	1.77
FHLMC 5.5% (Gold)	1.50	1.83	2.04
FNMA 5.5%	1.34	1.52	1.75
FNMA ARM	1.85	1.85	1.80
Corporate Bonds			
Financial (10-year) A	2.82	3.08	3.71
Industrial (25/30-year) A	3.54	3.82	4.33
Utility (25/30-year) A	3.60	3.87	4.40
Utility (25/30-year) Baa/BBB	4.05	4.36	4.80
Foreign Bonds (10-Year)			
Canada	1.01	1.20	1.49
Germany	-0.12	0.06	0.70
Japan	-0.05	-0.10	0.37
United Kingdom	0.68	1.25	1.87
Preferred Stock			
Utility A	5.79	5.93	5.98
Financial BBB	5.53	5.78	6.18
Financial Adjustable A	5.53	5.53	5.54

TAX-EXEMPT			
Bond Buyer Indexes			
20-Bond Index (GOs)	2.84	3.26	3.82
25-Bond Index (Revs)	3.06	3.48	4.25
General Obligation Bonds (GOs)			
1-year AAA	0.62	0.55	0.30
1-year A	1.14	0.91	0.82
5-year AAA	0.94	1.04	1.43
5-year A	1.62	1.75	2.01
10-year AAA	1.46	1.56	2.28
10-year A	2.33	2.52	3.12
25/30-year AAA	2.10	2.31	3.17
25/30-year A	3.39	3.59	4.11
Revenue Bonds (Revs) (15 Years)			
Education AA	2.11	2.37	3.17
Electric AA	2.16	2.32	3.00
Housing AA	2.48	2.85	3.15
Hospital AA	2.26	2.42	2.86
Toll Road AA	2.14	2.45	2.83

Source: Bloomberg Finance L.P.

Federal Reserve Data

BANK RESERVES *(Two-Week Period; in Millions, Not Seasonally Adjusted)*

	Recent Levels			Average Level Over the Last...		
	8/31/16	8/17/16	Change	12 Wks.	26 Wks.	52 Wks.
Excess Reserves	2239421	2266006	-26585	2245334	2288441	2366071
Borrowed Reserves	213	200	13	175	112	128
Net Free/Borrowed Reserves	2239208	2265806	-26598	2245158	2288329	2365943

MONEY SUPPLY *(One-Week Period; in Billions, Seasonally Adjusted)*

	Recent Levels			Annual Growth Rates Over the Last...		
	8/22/16	8/15/16	Change	3 Mo.	6 Mo.	12 Mo.
M1 (Currency+demand deposits)	3291.6	3264.0	27.6	7.2%	14.2%	8.0%
M2 (M1+savings+small time deposits)	13021.2	12993.5	27.7	8.5%	8.4%	7.4%

Source: United States Federal Reserve Bank

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CITIZENS WESTFIELD UTILITIES, LLC

CONSOLIDATED STATEMENTS OF FINANCIAL POSITION
FOR THE YEAR ENDED SEPTEMBER 30, 2015 AND 2014
(In Thousands)

ASSETS	**2015**	**2014**
PROPERTY PLANT AND EQUIPMENT:		
Utility plant	$ 167,518	$ 163,307
Accumulated depreciation	(41,824)	(37,967)
Construction work in progress	6,552	2,266
Total property and equipment	132,246	127,606
CURRENT ASSETS:		
Cash and cash equivalents	6,241	5,587
Accounts receivable, less allowance for doubtful accounts of $124 and $75, respectively	2,337	2,599
Accrued utility revenue	887	680
Natural gas in storage	500	615
Materials & supplies	33	-
Recoverable gas costs	-	127
Prepayments and deposits	196	231
Total current assets	10,194	9,839
NONCURRENT ASSETS:		
Bond issuance cost — net	1,360	1,752
Other deferred charges	515	241
Total noncurrent assets	1,875	1,993
TOTAL ASSETS	$ 144,315	$ 139,438
CAPITALIZATION AND LIABILITIES		
CAPITALIZATION AND NON-CURRENT LIABILITIES:		
Member's equity	$ 14,103	$ 11,324
Long-term debt	88,695	90,998
Contributions in aid of construction	30,848	30,514
Non-current liabilities	1,985	520
Total capitalization and noncurrent liabilities:	135,631	133,356
CURRENT LIABILITIES:		
Current maturities of long term debt	2,303	1,727
Short-term borrowings	2,000	2,000
Accounts payable and accrued expenses	3,163	2,008
Accrued taxes	1,097	265
Customer deposits and advance payments	121	82
Total current liabilities	8,684	6,082
COMMITMENTS AND CONTINGENCIES (see Note 9)		
TOTAL CAPITALIZATION AND LIABILITIES	$ 144,315	$ 139,438

The accompanying notes are an integral part of these consolidated financial statements.

FitchRatings

33 Whitehall Street
New York, NY 10004

T 212 908 0500 / 800 75 FITCH
www.fitchratings.com

Mr. John Brehm, Chief Financial Officer
Citizens Energy Group
2020 North Meridian Street
Indianapolis, IN 46202

February 2, 2016

Dear Mr. Brehm,

Re: Fitch rating action affecting the rating of Indiana Finance Authority, IN (Citizens Westfield Utilities, LLC) utility dividends revenue bonds, series 2014

Fitch (see definition below) has affirmed the rating described below:

--$67 million Indiana Finance Authority, IN (Citizens Westfield Utilities, LLC) utility dividends revenue bonds, series 2014 at 'BB'. The Rating Outlook is Stable.

The rating on the bonds is based on the following Key Rating Drivers:

Structural Risks Drive the Rating: Citizens Westfield Utilities, LLC's (the holding company) rating is based primarily on the priority of payment of the dividends received, as well as the credit quality of the operating companies: Citizens Wastewater of Westfield, LLC (Wastewater, rated 'BBB' Stable Outlook by Fitch), Citizens Water of Westfield, LLC (Water, rated 'BBB' Stable Outlook by Fitch) and Citizens Gas of Westfield, LLC (not rated, together, the operating companies). Each operating company is required to pay dividends to the holding company in amounts that are sufficient to pay the obligations of the holding company, although dividend payments from Water and Wastewater are subordinate in payment to these entities' own bonds.

Bond Structure Increases Risk: While the series 2014 bonds have a stated maturity of up to 30 years, the bonds are structured with a five-year mandatory tender, which adds risk to the bondholders. Management anticipates that the debt will be refinanced. Fitch believes that low cost market access may be limited given the credit quality of the holding company's debt. The rating also considers the additional risks of the bonds having a variable interest rate and a swap in order to fix-out the rate.

Dividends Adequately Meet Debt Service: While each operating company is able to support its proportionate share of dividend payments, under certain stress scenarios dividend payments would pressure operations and capital spending of the operating companies.

Collateral Assignment Adds Bondholder Protection: The holding company's pledge of its membership interests in each operating company provides additional bondholder security.

Strong Service Area: A strong service area with high wealth levels provides some rate flexibility. Unemployment within the service area is also favorable.

FitchRatings

The bond rating is sensitive to the following:

Additional Leverage: Additional leveraging would place pressure on the credit and could result in negative rating action by Fitch.

Deterioration in Operating Company Credit Quality: Any Significant declines in the credit quality of the operating companies could have a negative effect on the rating.

Successful Refinancing of Debt: Citizens Energy Group's ability to successfully refinance the series 2014 bonds prior to the mandatory tender date will be viewed positively by Fitch and important to the rating.

In issuing and maintaining its ratings, Fitch relies on factual information it receives from issuers and underwriters and from other sources Fitch believes to be credible. Fitch conducts a reasonable investigation of the factual information relied upon by it in accordance with its ratings methodology, and obtains reasonable verification of that information from independent sources, to the extent such sources are available for a given security or in a given jurisdiction.

The manner of Fitch's factual investigation and the scope of the third-party verification it obtains will vary depending on the nature of the rated security and its issuer, the requirements and practices in the jurisdiction in which the rated security is offered and sold and/or the issuer is located, the availability and nature of relevant public information, access to the management of the issuer and its advisers, the availability of pre-existing third-party verifications such as audit reports, agreed-upon procedures letters, appraisals, actuarial reports, engineering reports, legal opinions and other reports provided by third parties, the availability of independent and competent third-party verification sources with respect to the particular security or in the particular jurisdiction of the issuer, and a variety of other factors.

Users of Fitch's ratings should understand that neither an enhanced factual investigation nor any third-party verification can ensure that all of the information Fitch relies on in connection with a rating will be accurate and complete. Ultimately, the issuer and its advisers are responsible for the accuracy of the information they provide to Fitch and to the market in offering documents and other reports. In issuing its ratings Fitch must rely on the work of experts, including independent auditors with respect to financial statements and attorneys with respect to legal and tax matters. Further, ratings are inherently forward-looking and embody assumptions and predictions about future events that by their nature cannot be verified as facts. As a result, despite any verification of current facts, ratings can be affected by future events or conditions that were not anticipated at the time a rating was issued or affirmed.

Ratings are not a recommendation or suggestion, directly or indirectly, to buy, sell, make or hold any investment, loan or security or to undertake any investment strategy with respect to any investment, loan, security or any issuer. Ratings do not comment on the adequacy of market price, the suitability of any investment, loan or security for a particular investor (including without limitation, any accounting and/or regulatory treatment), or the tax-exempt nature or taxability of payments made in respect of any investment, loan or security. Fitch is not your advisor, nor is Fitch providing to you or any other party any financial advice, or any legal, auditing, accounting, appraisal, valuation or actuarial services. A rating should not be viewed as a replacement for such advice or services. Ratings are based on established

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Fitch will continue to monitor the credit quality of and maintain ratings on the Issuer/Securities. It is important that you promptly provide us with all information that may be material to the ratings so that our ratings continue to be appropriate. Ratings may be raised, lowered, withdrawn, or placed on Rating Watch due to changes in, additions to, accuracy of or the inadequacy of information or for any other reason Fitch deems sufficient.

Nothing in this letter is intended to or should be construed as creating a fiduciary relationship between Fitch and you or between us and any user of the ratings.

A record has been made of this rating in our permanent files, but it is our current intention that the rating will not be released publicly as the issue has been placed privately. Notwithstanding the foregoing, nothing in this letter shall limit our right to publish, disseminate or license others to publish or otherwise to disseminate the ratings or the rationale for the ratings. Investors may find Fitch's ratings to be important information, and that if you have legitimately shared the rating with a third party per the terms of the fee agreement, please note that you are responsible for communicating the contents of this letter, and any changes with respect to the rating, to any such party as well.

In this letter, "**Fitch**" means Fitch Ratings, Inc. together with any successor in interest.

We are pleased to have had the opportunity to be of service to you. If we can be of further assistance, please contact me at 212-908-0833.

Sincerely,

By: Michael Rinaldi

Michael Rinaldi
Senior Director
Fitch

FitchRatings

ARTICLE VI

ALLOCATIONS AND DISTRIBUTIONS

Section 6.01. Allocation of Net Income, Net Loss or Capital Gains. The net income, net loss, or capital gains of the Company for each fiscal year of the Company shall be allocated 100% to the Member.

. Section 6.02. Distributions. Cash or other property shall be distributed to the Member at such time or times as the Board of Directors shall determine. To the extent permitted by law, the Company shall pay dividends to the Member which are at least sufficient to allow the Member to pay its obligations.

ARTICLE VII

TRANSFERS OF INTERESTS

The Member may Transfer all or any portion of its Interest to another Person at any time. If the Member Transfers its entire Interest to another Person and such Person is admitted as an Additional Member of the Company in accordance with Section 3.05, the Member shall cease to be a Member and shall not have any power to exercise any rights of a Member.

ARTICLE VIII

DISSOCIATION OF A MEMBER

The Member ceases to be a Member upon the occurrence of either of the following events: (a) the Member voluntarily withdraws from the Company; or (b) the Member Transfers its entire Interest to another Person and such Person is admitted as an Additional Member of the Company in accordance with the terms of Section 3.05 (each, an "Event of Dissociation").

ARTICLE IX

DISSOLUTION AND WINDING UP

Section 9.01. Dissolution. The Company shall be dissolved and its affairs wound up on the first of the following to occur (a) a determination by the Member that the Company shall be dissolved; or (b) at such earlier time as may be required by applicable law. Notwithstanding any other provision of this Agreement or the Act, the Member hereby agrees that the business of the Company shall be continued upon the occurrence of an Event of Dissociation and that the Company shall not be dissolved upon the occurrence of an Event of Dissociation other than pursuant to the terms of Section 9.01(a).

Section 9.02. Winding Up. Upon dissolution, the Member shall proceed to wind up and liquidate the business and affairs of the Company, and the Company may only carry on business that is appropriate to wind up and liquidate the business and affairs of the Company. The Member shall follow the procedure for disposing of known claims set forth in Ind. Code § 23-18-

MINUTES OF THE MEETING OF THE BOARD OF DIRECTORS OF CITIZENS GAS OF WESTFIELD, LLC HELD ON FEBRUARY 16, 2015

A Regular Meeting of the Board of Directors of Westfield Gas, LLC dba Citizens Gas of Westfield, LLC (CGW), held in conjunction with the Boards of Directors of Citizens Wastewater of Westfield, LLC (CWWW), Citizens Water of Westfield, LLC (CWW), Citizens Westfield Utilities, LLC, Kinetrex Energy Liquefaction Company, LLC, Kinetrex Energy Exploration & Production Company, LLC (KEEP), and Southern Madison Utilities, LLC dba Citizens of South Madison, LLC, convened at 3:00 p.m. EST, Monday, February 16, 2015, at the principal offices of the Corporation, 2020 North Meridian Street, Indianapolis, Indiana.

Board members present: John R. Brehm, Jennett M. Hill, and Michael D. Strohl.

Others present: Aaron D. Johnson, President of the Company and Craig Moore, Vice President of the Company.

The meeting was called to order by John Brehm, who was designated as Chairman of the Board.

Mr. Johnson then recommended the Board authorize CGW to approve a dividend payable to Citizens Westfield Utilities, LLC of $245,000 from CGW based on financial review and performance of the Gas subsidiary. The Board approved and authorized approval of the dividend.

There being no further business, the meeting adjourned at 5:00 p.m.

Craig Moore, Secretary

MINUTES OF THE MEETING OF THE BOARD OF DIRECTORS OF CITIZENS GAS OF WESTFIELD, LLC HELD ON MAY 19, 2015

A Regular Meeting of the Board of Directors of Westfield Gas, LLC dba Citizens Gas of Westfield, LLC (CGW) (the Board), held in conjunction with the Boards of Directors of Citizens Westfield Utilities, LLC (CWU), Citizens Wastewater of Westfield, LLC (CWWW), Citizens Water of Westfield, LLC (CWW), Kinetrex Energy Exploration & Production Company, LLC (KEEP), and Kinetrex Energy Liquefaction Company, LLC (Kinetrex) convened at 10:00 a.m. EST, Tuesday, May 19, 2015, at 2020 North Meridian Street, Indianapolis, Indiana.

Board members present: Carey B. Lykins, Jeffrey A. Harrison, John R. Brehm, Jennett M. Hill, and Michael D Strohl.

Others present: Aaron D. Johnson, President and Chief Executive Officer and Craig Moore, Vice President.

The meeting was called to order by Mr. Lykins, who was designated as Chairman of the Board.

Mr. Johnson recommended the Board authorize direction for CGW to approve a dividend payable to Citizens Westfield Utilities, LLC of $145K based on financial review and performance of the Gas subsidiary. The Board approved and authorized approval of the dividend.

There being no further business, the meeting adjourned at 12:00 p.m.

Craig Moore, Secretary

CONSENT OF THE MEMBERS AND BOARD OF DIRECTORS
OF CITIZENS GAS OF WESTFIELD, LLC
TO ACTION WITHOUT A MEETING

The undersigned, being the sole member of and all the members of the board of directors (the "Board") of Citizens Gas of Westfield, LLC, an Indiana limited liability company (the "Company"), hereby consent and agree that the following action may be and the same hereby is taken without a meeting of either the sole member or the Board:

RESOLVED, that a dividend in the amount of One Hundred Ninety Five Thousand Dollars ($195,000) is hereby declared as of the date hereof and payable to Company's sole member, Citizens Westfield Utilities, LLC, no later than September 15, 2015.

Dated this 28th day of August, 2015.

Sole Member:

CITIZENS WESTFIELD UTILITIES, LLC

By: _____
Aaron Johnson, President

Board of Directors:

_____
Jeff A. Harrison

_____
John R. Brehm

_____
Jennett M. Hill

_____
Michael D. Strohl

CONSENT OF THE MEMBERS AND BOARD OF DIRECTORS
OF CITIZENS GAS OF WESTFIELD, LLC
TO ACTION WITHOUT A MEETING

The undersigned, being the sole member of and all the members of the board of directors (the "Board") of Citizens Gas of Westfield, LLC, an Indiana limited liability company (the "Company"), hereby consent and agree that the following action may be and the same hereby is taken without a meeting of either the sole member or the Board:

RESOLVED, that a dividend in the amount of One Hundred Ninety Thousand Dollars ($190,000) is hereby declared as of the date hereof and payable to Company's sole member, Citizens Westfield Utilities, LLC, no later than December 15, 2015.

Dated this 1st day of December, 2015.

Sole Member:

CITIZENS WESTFIELD UTILITIES, LLC

By: _____
Aaron Johnson, President

Board of Directors:

_____
Jeff A. Harrison 11-30-15

_____
John R. Brehm

_____
Jennett M. Hill

_____
Michael D. Strohl

Summary of
Discounted Cash Flow Analysis (DCF)

DCF formula: $K = (D_1/P_0) + g$

Gas Utility Proxy Group:

Dividend Yield (D_1/P_0):	**3.1%**	**see page 2 and 3**
Dividend Growth (g):	**5.7%**	**see page 4 and 5**

DCF Cost of Equity *(K)*:	**8.8%**

AUS and Value Line Dividend Yield Data

(October 2015 through September 2016 publication dates)

Proxy Group Companies:	**Last 3 months Average**	**Last 6 months Average**	**Last 12 months Average**	**Value Line Forward Yield D_1/P_0 (September 2, 2016)**
Atmos Energy Corp (ATO)	2.2%	2.2%	2.4%	2.4%
Chesapeake Utilities (CPK)	2.0%	1.9%	2.0%	1.9%
Spire, Inc. (formerly Laclede Group) (SR)	2.9%	2.9%	3.1%	2.9%
New Jersey Resources (NJR)	2.6%	2.8%	2.9%	2.7%
Northwest Natural Gas (NWN)	3.0%	3.4%	3.6%	3.4%
South Jersey Industries (SJI)	3.4%	3.6%	3.9%	3.9%
Southwest Gas (SWX)	2.4%	2.8%	2.8%	2.6%
WGL Holdings (WGL)	2.9%	2.9%	3.0%	3.0%
Gas Utility Proxy Group Overall Average	**2.7%**	**2.8%**	**3.0%**	**2.9%**

Forward Dividend Yields:

Average Dividend Yield, adjusted for growth by (1 + 0.5g)

$D_1/P_0 = D_0/P_0 * (1 + 0.5g) = 3.0\% * [1 + 0.5(0.056)] =$ **3.1%**

Value Line Forward Yield (D_1/P_0) = **2.9%**

Use for forward yield (D_1/P_0):	**3.1%**

Value Line Growth Rates

STANDARD VALUE LINE COMPANIES

	Annual Growth - Past 10 Years			Annual Growth - Past 5 Years			Annual Growth - Value Line Projected			Average Growth Rates		
Company Name	Earnings Per Share	Dividends Per Share	Book Value Per Share	Earnings Per Share	Dividends Per Share	Book Value Per Share	Earnings Per Share	Dividends Per Share	Book Value Per Share	Past 10 Years	Past 5 Years	Value Line Projected
Atmos Energy Corp (ATO)	5.5%	2.0%	5.0%	7.0%	2.5%	5.0%	6.5%	6.5%	3.5%	4.2%	4.8%	5.5%
Chesapeake Utilities (CPK)	8.0%	3.5%	9.0%	10.0%	5.0%	8.0%	8.5%	6.0%	6.5%	6.8%	7.7%	7.0%
Spire, Inc. (formerly Laclede Group) (SR)	3.0%	2.5%	7.5%	-1.0%	3.0%	8.0%	9.0%	3.5%	4.5%	4.3%	5.5%	5.7%
New Jersey Resources (NJR)	7.5%	7.0%	8.0%	6.5%	7.0%	6.5%	1.0%	3.0%	6.5%	7.5%	6.7%	3.5%
Northwest Natural Gas (NWN)	1.0%	3.5%	3.0%	-5.0%	3.0%	2.5%	7.0%	2.0%	2.5%	2.5%	2.8%	3.8%
South Jersey Industries (SJI)	7.0%	9.0%	8.0%	4.0%	9.5%	8.5%	3.0%	6.5%	8.0%	8.0%	7.3%	5.8%
Southwest Gas (SWX)	8.5%	6.0%	5.5%	10.0%	9.0%	5.5%	7.0%	8.5%	3.0%	6.7%	8.2%	6.2%
WGL Holdings (WGL)	2.5%	3.0%	4.0%	2.5%	3.5%	2.5%	3.5%	2.5%	6.0%	3.2%	2.8%	4.0%
Group Average	**5.4%**	**4.6%**	**6.3%**	**4.3%**	**5.3%**	**5.8%**	**5.7%**	**4.8%**	**5.1%**	**5.4%**	**5.7%**	**5.2%**

Source: *Value Line Investment Survey, September 2, 2016.*
Note: *Negative growth rates removed from calculations.*

Summary of
Discounted Cash Flow Analysis (DCF)
Growth Estimates

Gas Utility Group:

From Standard Edition Value Line:

Average of Value Line forecasted growth rates	**5.2%**
Average of 5 year historical growth	**5.7%**
Average 10 year historical growth:	**5.4%**

Use DCF Growth Rate	**5.7%**

Averages are the average earnings, dividends, and book value per share growth for the applicable periods.

AUS Utility Reports Dividend Yield Data

(October 2015 through September 2016 publication dates)

Company Name	Value Line Forward Yields (September 2, 2016)	Oct-15	Nov-15	Dec-15	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16	**Last 3 months Average**	**Last 6 months Average**	**Last 12 months Average**
Atmos Energy Corp (ATO)	2.4%	2.8%	2.6%	2.7%	2.7%	2.7%	2.4%	2.3%	2.3%	2.3%	2.2%	2.1%	2.2%	2.2%	2.2%	2.4%
Chesapeake Utilities (CPK)	1.9%	2.4%	2.2%	2.2%	2.1%	2.0%	1.8%	1.9%	1.9%	1.9%	2.1%	1.9%	1.9%	2.0%	1.9%	2.0%
Spire, Inc. (formerly Laclede Group) (SR)	2.9%	3.5%	3.1%	3.2%	3.4%	3.4%	3.0%	3.0%	2.9%	3.0%	N/A	2.9%	2.9%	2.9%	2.9%	3.1%
New Jersey Resources (NJR)	2.7%	3.4%	3.1%	3.2%	3.2%	2.9%	2.8%	2.7%	2.7%	3.2%	2.6%	2.5%	2.8%	2.6%	2.8%	2.9%
Northwest Natural Gas (NWN)	3.4%	4.2%	3.9%	4.0%	3.8%	3.8%	3.6%	3.7%	3.6%	3.7%	3.1%	2.9%	3.1%	3.0%	3.4%	3.6%
South Jersey Industries (SJI)	3.9%	4.2%	3.7%	4.2%	4.4%	4.6%	4.0%	3.9%	3.8%	3.5%	3.5%	3.3%	3.4%	3.4%	3.6%	3.9%
Southwest Gas (SWX)	2.6%	3.0%	2.6%	3.0%	3.1%	2.9%	2.8%	2.8%	2.8%	3.9%	2.4%	2.3%	2.5%	2.4%	2.8%	2.8%
WGL Holdings (WGL)	3.0%	3.4%	3.0%	3.1%	2.9%	3.0%	2.9%	2.8%	2.8%	2.8%	2.9%	2.8%	3.1%	2.9%	2.9%	3.0%
Group Average	**2.9%**	**3.4%**	**3.0%**	**3.2%**	**3.2%**	**3.2%**	**2.9%**	**2.9%**	**2.9%**	**3.0%**	**2.7%**	**2.6%**	**2.7%**	**2.7%**	**2.8%**	**3.0%**

CAPM Cost of Equity Summary

CAPM Formula: $K = R_f + \beta(R_m - R_f)$

Risk Free Rate (R_f)	3.75%
Beta (β)	0.73
Risk Premium *(Geometric Approach - Long Term Bonds)*	4.40%
Risk Premium *(Arithmetic Approach - Long Term Bonds)*	6.00%
Risk Premium *(Long Term Bonds)*	**5.20%**
Required Return (K) *(Long Term Bonds)*	7.52%

Yields on U.S. Treasury Securities
Recent Months

Month	5 Year Treasury Bonds	10 Year Treasury Bonds	20 Year Treasury Bonds	30 Year Treasury Bonds
September 2015	1.49%	2.17%	2.62%	2.95%
October 2015	1.39%	2.07%	2.50%	2.89%
November 2015	1.67%	2.26%	2.69%	3.03%
December 2015	1.70%	2.24%	2.61%	2.97%
January 2016	1.52%	2.09%	2.49%	2.86%
February 2016	1.22%	1.78%	2.20%	2.62%
March 2016	1.38%	1.89%	2.28%	2.68%
April 2016	1.26%	1.81%	2.21%	2.62%
May 2016	1.30%	1.81%	2.22%	2.63%
June 2016	1.17%	1.64%	2.02%	2.45%
July 2016	1.07%	1.50%	1.82%	2.23%
August 2016	1.13%	1.56%	1.89%	2.26%
Average Last 3 months	**1.12%**	**1.57%**	**1.91%**	**2.31%**
Average Last 6 months	**1.22%**	**1.70%**	**2.07%**	**2.48%**
Average Last 12 months	**1.36%**	**1.90%**	**2.30%**	**2.68%**

Source: *www.federalreserve.gov.*

Utility Bond Yields

Utility Bond	August 31, 2016	June 1, 2016	September 2, 2015
Utility (25-30 Year) A	3.58%	3.94%	4.42%
Utility (25-30 Year) Baa/BBB	4.07%	4.42%	4.83%

Source: *Value Line Selection and Opinion, September 9, 2016.*

Risk Free Rate (R_f) Range and Estimate

	Yield Calculations
Range	**2.30% to 4.07%**
Risk Free Rate (R_f)	**3.75%**

Beta for Proxy Group

Company Name	**Value Line Forward Betas (September 2, 2016)**
Atmos Energy Corp (ATO)	0.75
Chesapeake Utilities (CPK)	0.60
Spire, Inc. (formerly Laclede Group) (SR)	0.70
New Jersey Resources (NJR)	0.80
Northwest Natural Gas (NWN)	0.65
South Jersey Industries (SJI)	0.80
Southwest Gas (SWX)	0.75
WGL Holdings (WGL)	0.75
Group Average	**0.73**

Market Risk Premiums

Total Returns, 1926-2014

	Stocks	Long-term Bonds
Geometric Mean	10.10%	5.70%
Arithmetic Mean	12.10%	6.10%

Market Risk Premiums (R_m - R_f)

		Long-term Bonds
Geometric Mean		4.40%
Arithmetic Mean		6.00%
Average Market Risk Premium		**5.20%**

Source: *Morningstar, SBBI Classic Ibbotson Yearbook, 2015, p. 40.*

Duke / CFO magazine Global Business Outlook survey - U.S. - First Quarter, 2016

10. On February 15, 2016 the annual yield on 10-yr treasury bonds was 1.7%. Please complete the following:

N=629	Totals	Industry											
Number Mean Median		Retail/ Whole-sale	Bank/Fin Insur Real Estate	Mining Construc-tion	Trans-portation Pub. Util	Energy	Service Consult-ing	Commun-ications Media	Tech Soft-Hardware Bio	Manufac-turing	Health-care Pharm	Agr, Pub Admin	Other Industry
Number	629	59	80	24	20	14	96	10	55	116	50	19	80
Percent	100.0%	9.5%	12.8%	3.9%	3.2%	2.2%	15.4%	1.6%	8.8%	18.6%	8.0%	3.0%	12.8%
Over the next 10 years, I	557	51	73	22	19	13	84	8	47	107	47	17	67
expect the average annual	8.8	7.6	9.4	8.7	10.1	8.5	8.3	8.3	10.1	9.2	7.3	9.2	8.8
S&P 500 return will be:	-9.9	3.0	3.5	3.8	2.8	2.0	3.3	3.5	4.5	3.0	2.0	2.0	3.0
There is a 1-in-10 chance it will be greater than:													
Over the next year, I	554	51	73	22	19	13	83	8	47	107	47	17	65
expect the average annual	6.8	5.8	7.2	7.1	8.3	5.3	6.2	6.9	8.6	7.1	5.1	5.3	7.2
S&P 500 return will be:	0.8	8.0	8.0	9.5	10.0	5.9	8.0	8.0	9.0	8.0	7.0	7.8	8.0
There is a 1-in-10 chance it will be greater than:													
Over the next 10 years, I	568	53	74	22	19	13	87	9	47	109	47	17	69
expect the average annual	5.7	5.2	5.6	5.5	7.2	5.1	5.5	6.3	6.7	6.0	4.4	5.6	5.8
S&P 500 return will be:	0.0	2.0	2.0	2.0	3.0	1.5	2.0	2.5	2.0	2.0	1.0	1.4	2.0
Expected return:													
Over the next year, I	566	53	74	22	19	13	86	9	47	109	47	17	68
expect the average annual	3.1	2.5	3.5	4.0	3.2	1.3	3.2	3.4	4.8	2.7	1.9	1.5	3.3
S&P 500 return will be:	-2.5	5.0	6.0	5.8	7.5	4.0	5.0	7.0	8.0	6.0	5.0	5.0	6.0
Expected return:													
Over the next 10 years, I	558	51	72	21	20	13	86	8	47	107	47	17	67
expect the average annual	1.8	2.0	1.5	0.4	2.8	2.8	1.4	2.9	2.6	1.7	0.9	0.9	2.6
S&P 500 return will be:	1.1	0.0	0.3	0.0	0.0	0.0	0.0	0.5	-1.0	0.0	-0.5	-12.5	0.8
There is a 1-in-10 chance it will be less than:													
Over the next year, I	557	51	73	21	20	13	85	8	47	107	47	17	66
expect the average annual	-3.3	-3.6	-2.9	-3.3	-3.7	-2.3	-3.4	-0.2	-3.0	-3.9	-4.1	-8.1	-1.5
S&P 500 return will be:	-5.9	5.0	5.0	5.0	7.0	3.5	5.3	6.0	6.0	5.0	4.5	5.0	5.0
There is a 1-in-10 chance it will be less than:													

CERTIFICATE OF SERVICE

This is to certify that a copy of the foregoing ***Indiana Office of Utility Consumer Counselor Public's Exhibit No. 5 Testimony of Bradley E. Lorton*** has been served upon the following counsel of record in the captioned proceeding by electronic service on September 26, 2016.

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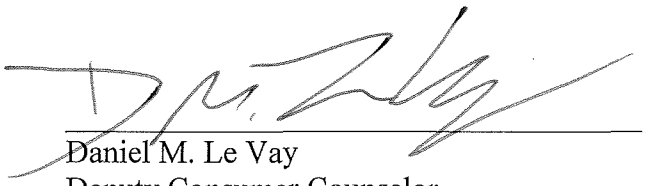

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